# ANNALES HISTORICO-NATURALES MUSEI NATIONALIS HUNGARICI Tomus 56. PARS ZOOLOGICA 1964.

# The Chrysopa Species (Neuroptera) of Hungary

By H. STEINMANN, Budapest

The investigation, becoming more and more extensive in recent years, of the Hungarian Chrysopid fauna set its aim to fulfill a long-felt want. The Neuroptera Collection of the Hungarian Natural History Museum perished in 1956. The material collected and worked out since that time is very considerable, further augmented by the captures of the extensive network of light traps. In the last two years, for instance, the 42 light traps operating in the country captured 114.000 Chrysopid insects, of which about 12.000 specimens were found valuable to be preserved in the Collection. This exceptionally great material highly assisted in the knowledge of our Hungarian lacewings; their identification solved a number of systematical, faunistical, phenological, etc. problems, and the study of the long series made possible a stricter demarcation of the respective species, subspecies and forms. Except for PONGRÁCZ's paper, published in 1912, the Hungarian Chrysopid fauna had not been revided. The volume on Neuroptera of the serial work Fauna Hungarian is partly in press; in the course of its properties nearly a subspecies made pos-

Except for PONGRÁCZ'S paper, published in 1912, the Hungarian Chrysopid fauna had not been revided. The volume on Neuroptera of the serial work Fauna Hungariae is partly in press; in the course of its preparation, seven species were found to be new for Hungary, while two other proved to be-new for science. Accordingly, the number of species shown for the Hungarian fauna rose to 21.

### Genus: Chrysopa LEACH, 1815

# BREWSTER'S Edinb. Encycl., 9, (1) p. 138.

# Type species: *vittata* WESMAEL, 1840

On the wings of the species comprising the genus, the subcostal vein is long, joining the costa only on the section beyond the stigma. A part of the species lack cross veins in the stigma and the section beyond it apically. There are, however, series of elongate cells between the sector radii and the posterior margin. On the fore wings, some 10-12 terminal bifurcations reach, between the radius and the median, the posterior margin. The cubital vein of the fore wings runs almost parallel with the subcubital vein, the cubital cell is directed towards the apex, it is triangular and the acuter angle looks toward the apex. In this section, there are two cells between the cubital cell and the base of the wing. The head is ornamented by extraordinarily varying marks, or it can be entirely patternless. On the basis of the markings, their position, or absence (characteristics of considerable usefulness in identifications), the species of the genus have long since been grouped in various kinds of aggregations. Such groupings had been done first by SCHNEIDER (1851), followed by RAMBUR, NAVAS, PONGRÁCZ, etc. One of the main stumbling blocks of these arrangements had always been the phenomenon that the majority of species form a number of varieties, some of which always break through the arbitrary delimitations of specific characters, and seem to have

17 Természettudományi Múzeum Évk. 1964. –

claims on assignations to other groups. For my part, emboldened by the study of an enormous number of specimens, I have so established the specific limits of the several taxa that they represent the presumably most natural systematic borders of the species, and, of the several features of equal values, I have so defined the confines of the cephalic pattern (or their possible absence) that they would relate also to sundry variations. On this basis, I have assessed the home species-groups as subgenera, grouped in a key as follows:

1 (2) Head without definite, well discernible and delimitable, black, colored, mostly rufous markings. Head unicolorous

Chrysopa s. str., subgen. n.

- 2 (1) Head with mostly black or rufous, sometimes red, markings and pattern beside mouth parts, or also on frons between antennae, that is, on vertex; pattern usually covering head or a major part of it; head thus bi- or multicolorous.
- 3(4)Black or rufous markings only around mouth parts; no confluent or dispersed markings below antennal bases, between antennae, or on vertex Chrysoperla subgen.n.
- Aside of black or rufous markings around oral organs, such spots present 4(3)also below antennal bases (on frons), or between antennae. Vertex without markings; or at most with paired spots or a more or less X-shaped pattern of greater expanse, usually extending from inferio-antennal frontal markings continued between antennae to vertex; posterior (occipital) part of such markings open or closed, in latter case posterior part of vertex with a closed, circular, or horseshoe-shaped pattern of basic color.
- 5 (6) Aside of spots around oral organs, head with black or rufous spots also below antennal bases or only between antennae. Vertex without markings Metachrysopa subgen. n.
- Aside of markings around mouth parts and below antennal bases (except 6 (5) for C. ventralis CURT.) as well as between antennae, also vertex with two isolated black or rufous spots, that is, vertex with extensive coloration, or ar X-shaped pattern evolved from markings of various locations (especially of those below and between antennal bases) being fused with spots on Nigrochrysopa subgen. n. vertex

# Chrysopa s. str., subgen. n.

Head usually without any spots; white or pale yellow, or dark greenish vellow. Costa slightly convex around middle of wings, weakly expanding around stigma, and semicircularly rounded apically. Upper portion of cellular series bordering sector radii nearly quadrangular inferiorly, hence sector radii almost straight.

# Type species: vittata WESMAEL, 1840

# Key of Hungarian species

- 1 (8) Vertex smooth behind antennal bases: not inflated (bulbous) between antennal bases, or at most with a slight swelling considerably surpassed by first antennal joint. Costa of wings with setous cilia consisting of short, rare hairs.
- Vertex smooth, no swelling behind antennae.
- 2(7)3(4)Costal area of fore wing with numerous (38-42 or more) antecubital cross veins. Costa strongly, conspicuously protuberant basally. Length of body: 14-16 mm, expanse of wings: 42-46 mm. — Central and Western Europe, North America flava Scop.
- Costal area of fore wing with less than 30, usually 22-24, antecubital cross veins. Costa of fore wing not protuberant basally, but evenly arching:nar-4(3)

row or wide. Head of a uniform pale yellowish or dark greenish yellow colour; thorax pale greenish yellow with violet brownish lateral margin, or deep yellowish, brown, marmoraceous. Anterior margin of prothorax narrow or broad when viewed from above.

- 5 (6) Costal area of fore wing narrow. Head pale yellow, thorax and abdomen pale greenish yellow, ornamented by violaceous margin. Anterior margin of prothorax, when viewed from above, considerably narrower than posterior one. Venation of wings pale greenish white, except for brownish antecubital cross veins, median, and basal section of main veins. Stigma yellowish brown. Length of body: 15—17 mm, expanse of wings: 46—50 mm. Central Europe
- 6 (5) Costal area of fore wing wide. Head and entire body covered with dark greenish yellow, marmoraceous spots. Prothorax wide, its anterior margin not or hardly broader than posterior one. Venation of wings dark, dirty green, except for ochreous anterior section of radius. Stigma grass-green. Length of body: 13 mm, expanse of wings: 36 mm — Hungary

ingens sp. n.

- 7 (2) Vertex behind antennae with a low swelling, considerably surpassed by antennal base (scape). Scape extremely long, nearly twice as long as wide. Costal area of wing narrow, Head, thorax, and abdomen pale yellowish. Venation of wings white, except for some brownish yellow cross veins near base Length of body: 14—16 mm, expanse of wings: 32—48 mm. Central Europe, North America, Japan
- 8 (1) Vertex behind antennae with a strong, bulbous inflation. Costa of wings with dense ciliation consisting of long hairs. Body pale yellowish to dirty whitish. Venation of wings whitish greenish-yellow, majority of cross veins dark, occasionally black. Length of body: 8—10 mm, expanse of wings: 12—15 mm. Central, Western, and North Europe (=alba L.) eiliata Wess.



Fig. 1. Chrysopa ingens sp. n., head anteriorly. – Fig. 2. Prothorax superiorly. – Figs. 3–4. C. zelenyi sp. n.; head anteriorly (3), and prothorax superiorly (4).

# Chrysopa (s. str.) flava (Scopoli, 1763)

Hemerobius flava Scopoli, 1763, Ent. Carn., p. 270. = subfalcata Stephens, 1835: III. Brit. Ent. Mand., p. 6; = integra BRAUER, 1853; Neuropt. Austr., p. 60;
= vittata Schneider, 1851: Monogr. Chrysop., p. 65.
Found in Hungary in Királyrét, Mts. Börzsöny; Hollóstető, Mts. Bükk; Ist-vánkút, Mts. Zemplén; Kőárok, Mts. Bakony; Fót—Somlóhegy; Dobogókő, Mts.

Pilis.

# Chrysopa (s. str.) pallida Schneider, 1845

Chrysopa pallida SCHNEIDER, 1845; Uebers. d. Arb. d. vaterl. Ges., I., p. 49. Found in Hungary in the sandy hills with Junipers around Agasegyháza.

# Chrysopa (s. str.) ingens sp. n. (Fig. 1, 2)

Body deep brown, with a marmoraceous, yellowish brown pattern. Head elongate, triangular in a superior view. Basal joints of antennae wide, triangular; width of scape thrice as great as greatest width of any subsequent joint. Vertex flat, evenly arching, except for neighbourhood of scapes, where vertex with slight impressions for scapes in ocular section of plate. Head without any definite pattern, displaying merely dispersed, irregular marmoration. Eves small; when viewed from above, section between eves of vertex wider than combined width of compound eves.

Prothorax wide and short in a superior view; anterior margin arcuately rounded, posterior margin strongly, semicircularly emarginate. Lateral margins nearly parallel, straight. Prothorax pallid grass green, medially with a wide, vellow stripe decurrent posteriorad; with some few, setiform hairs.

Meso- and metathorax vellowish green, i. e., yellow and green colors intermixed as irregular spots. Venation of wings green, except for ochreous basal section of radius. Number of antecubital cross weins 23-24. Basal portion of costal field much constricted, next basal third anteriorly arcuate, other portions straight, narrowing toward apex. First inferior cross vein of sector radii touching median in cubital cell. Field of sector radii with 17 cells. Dorsal side of abdomen green, ventral side vellowish brown. Legs pale greenish vellow.

Combined length of head, thorax, and abdomen: 13 mm; expanse of wings: 36 mm.

Holotype female: Tolna, Hungary, 26 May, 1963, light trap. Deposited in the Zoological Department of the Hungarian Natural History Museum.

#### Chrysopa (s. str.) ciliata WESMAEL, 1840

Chrysopa ciliata WESMAEL, 1840: Bull. de l'Acad. de Bruxelles, 8, p. 212; alba Auct. (L?)

Found in Hungary in Szombathely, Vasegerszeg, Kecskemét, Tanakajd, Püspökhatvan and Répáshuta in the Mts. Bükk.

# Chrysoperla subgen. n.

Head with black or rufous, well defined, or eventually slightly indefinitely margined spots only beside mouth parts. No single, paired, or grouped markings on front below antennal bases or between antennae.

Type-species: carnea Stephens, 1839

#### Key to Hungarian species

1 (2) Wings with three opalescent stripes extending from base to apex: first along costal area, second in middle of wing to cubital cell, third along dorsum usually to apical third. Spot at mouth parts small, usually not reaching antennal base. Vertex yellowish green. Wings extremely long and narrow; venation grass green. Length of body: 7-8 mm, expanse of wings: 20-22 mm. — Germany, Poland, Sweden, Hungary

tricolor BRAUER

V a r i e t y: Red spot around mouth parts extensive, covering major part of face and scapes, and extending between eyes and antennal bases posteriored to occiput. Vertex shiny green. Found in Hungary, in oak woods near Répáshuta, Mts. Bükk var. rubrocapitata var. n.

- 2 (1) No opalescent or whitish stripes on wings. These hyaline or slightly opaque; glittering in metallic red, green or iridescent colors in a slanted light. Cross vein I of side branch (sector radii) of radius on fore wing terminating either in vein emitted from cubital cell or in costal (upper )border of cubital vein.
- 3 (4) Cross vein I of side branch (sector radii) of radius on fore wing terminating in vein emitted from cubital cell, i.e., cross vein I decurrent outside of (beyond) cubital cell. Length of body: 8–10 mm; expanse of wings: 25–26 mm. Europe, Asia, North Africa, North America

Varieties:

carnea Stph.

- a (d) Head, thorax, and abdomen with a broad yellow band, or at least dorsal side of thorax with a conspicuous yellow stripe.
- b (c) Dorsal side of thorax with four dark spots. Kisvárda, Bakonybél in Hungary var. **quadrimaeulata** var. nov.
- c (b) Dorsal side of thorax without dark spots. A reddish discoloration beside black spot on lower part of face. — In forests of the plains in Hungary var. **rhodostigma** var. n.
- d (a) Head, thorax, and abdomen without longitudinal dorsal yellow band; thorax also without yellow stripe.
- e (f) Dorsal side of thorax, near lateral margins, with four black or depe brown spots; first pair triangular and larger, second pair nearly circular, and smaller. — Light-trap material from various points of the country var. tetrastigma var. n.
- f (e) Dorsal side of thorax without black spots.
- g (j) Dorsal side of abdominal segments with narrow or broad, brown, sometimes rufous transversal bands, near or on posterior margins of segmental plates.
- h (i) Discoloration narrow, not extensive; posterior margin of middle of abdominal segment I not excised. — Found in a number of localities in Hungary var. stenozona var. n.
- i (h) Discoloration broad, extensive, covering entire plate of segments except for anterior median section; posterior margin of middle of abdominal segment I semicircularly excised. Found in a number of localities in Hungary
- j (g) Dorsal side of abdominal segments without deep brown or rufous bands.
- k (l) A rufous discoloration, extending almost to scapes, beside black spot on lateral side of face. — In mixed forests near Budapest, in Hungary var. ruficapitata var. n.
- 1 (k) No rufous discoloration on lateral side of face. Found in a number of localities var. unipunetata var. n.
- 4 (3) Cross vein I of side branch (sector radii) or radius on fore wing terminating in costal (upper) border of cubital cell, i.e. cross vein I decurrent into cubital cell.
- 5 (12) Head, thorax, and abdomen green or greenish-yellowish-blue.
- 6 (11) Hooked tarsal claws sharply curved in a semicircle. Pro-, meso- and metathoracic dorsal surface with a wide, longitudinal, sharply defined ochreous

or pale yellow stripe medially, or mottled with grass green, rufous and yellow spots, or eventually unicolorous green. Posterior marginal vein (dorsum), especially basal area, conspicuously enamelled ochreous or grass green.

- 7 (10) Pro-, meso-, and metathoracic dorsal surface with a broad ochreous or pale yellowish longitudinal stripe medially; segments dark or light green laterally; prothorax, especially along lateral margins, with dense black and short, or sparsely spaced white and long, hairs. In latter case, no rufous markings medially of lateral parts.
- 8 (9) Pro-, meso-, and metathoracic dorsal surface with a broad longitudinal, ochreous, shiny and enamelled stripe medially. Basal section of dorsum of wings, as well as vertex, vivid ochreous. Antennae orange-red. Lateral margins of prothorax dark green; ornamented with extensive, sometimes yellow, spots; also covered with setiform, black hairs. Number of antecubital cross veins of fore wing 20 or more. Length of body: 8-9 mm; expanse of wings: 30-36 mm. Central and South Europe

flavifrons BRAUER

- 9 (8) Pro-, meso-, and metathoracic dorsal surface with a pale, whitish yellow stripe medially. Dorsum of fore wings green. Antennae whitish yellow. Lateral margins of prothorax pallid grass green, occasionally greenish blue; covered with pale, whitish yellow or white, long, sparse hairs. Number of antecubital veins of fore wing 18 or less. Length of body: 7-8 mm; expanse of wings: 25-28 mm. Hungary zelenyi sp. n.
- 10 (7) Pro-, meso-, metathoracic dorsal surface uniform grass green, ornamented, especially on prothorax, with rufous or brownish spots. Facial part of head with a dark brown spot (near mouth parts), topped by an extensive rufous to red mark or blood-red stripe, usually extending to antennal bases. Antecubital cross veins green or bluish green. Length of body: 11-12 mm; expanse of wings: 30-32 mm. — Switzerland, Hungary

nigricostata BRAUER

262

- a (b) Antecubital cross veins dark. —Found in Répáshuta, Mts. Bükk, Hungary var. discordia var. n.
- b (a) Antecubital cross veins light.
- c (d) Dorsal surface of prothorax unicolorous grass green; no rufous markings on dorsal plate. — Found in the Mts. Bükk and Sátoros, Hungary var. viridis var. n.
- d (c) Dorsal surface of prothorax brown and green; dorsal plate with extensive spots. — Found in Sopron, and the Mts. Bükk and Sátor, in Hungary var. maculata var. n.
- 11 (6) Hooked tarsal claws arching gradually. Pro-, meso-, and metathoracic dorsal surface unicolorous green. Colour of venation: longitudinal veins green, cross veins and antecubital cross veins black. Head and antennae yellowish brown. Prothorax smooth, flat; slightly wider than long, anterior corner flattened, ciliated margins deep brown. Legs green. Length of body: 8-9 mm; expanse of wings: 20-22 mm. - Circummediterranean

nigrovenosa Pong.

12 (5) Head and abdomen pale yellowish brown or yellow. Venation pale yellowish, eventually yellowish brown, except for dark brown or black termination of antecubital cross veins and cross vein II between cubitus and basal vein I. Length of body: 9—10 mm; expanse of wings: 28—32 mm. — Central, North and South Europe albolineata KILL. V a riet v:

Antecubital cross veins as well as cross vein I of first side branch of radius wholly or partly black. — Known in Hungary from several localities (Várgesztes, Sopron, Kunfehértó, Szarvas, Felsőtárkány, Pacsa)

var. ardor var. n.

#### Chrysopa (Chrysoperla) carnea Stephens, 1839

Chrysopa carnea STEPHENS, 1839: Ill. Brit. Ent. Med., p. 176; = vulgaris SCHNEIDER, 1851: Monogr. Chrysop., p. 68. Extremely common in Hungary.

Varieties:

# Chrysopa (Chrysoperla) tricolor BRAUER, 1851

Chrysopa tricolor BRAUER, 1851: Verh. zool.-bot. Ver. Wien. 1, p. 23; = stenoptila Schneider, 1851: Monogr. Chrysop., p. 73. Found in Hungary in Sopron, and Répáshuta in the Mts. Bükk.

#### Chrysopa (Chrysoperla) flavifrons BRAUER, 1850

Chrysopa flavifrons BRAUER, 1850: Haid. Abh., p. 6; = viridana SCHNEIDER, 1845: Stett. Ent. Ztg., 6, p. 345. The species, considered hitherto as rare in Hungary, was captured in light

The species, considered hitherto as rare in Hungary, was captured in light traps in several points of the country (Budapest, Gerla, Kecskemét, Tolna, Győr, Hódmezővásárhely, Makkoshotyka, Csopak, Tarhos, etc.).

# Chrysopa (Chrysoperla) zelenyi sp. n. (Fig. 3, 4.)

Head small, narrow, flat; nearly snow white or a very light yellowish green. When viewed from above, combined width of two compound eyes slightly less than distance between eyes. A black pair of spots on both sides near oral organs. Scape well developed, triangular, wide, thrice wider basally than width of median joints of antenna. Antenna pale vellowish.

Prothorax narrow in a superior view; grass green, ornamented by a wide, pale yellowish longitudinal stripe medially. Anterior margin narrowed, straight, posterior one curvately emarginate. Dorsal surface with medium long whitish yellow hairs, denser toward margins. Width of posterior margin of segment considerably greater than width of anterior margin. A dark brown spot visible laterally on anterio-lateral margin.

Meso- and metathorax wide, pale green; with a pale yellow median stripe decurrent posteriorad, extending also to dorsal plates of abdomen. Legs pale grass green, tarsi pale yellowish brown. Abdomen pale grass green, dorsal surface with a longitudinal, pale yellow stripe. Wings opalescent, opaque, venation pale green, except for dark basal section of antecubital cross veins, and that of cross vein between radius and sector radii, as well as basal section of one or more cross veins.

Measurements in mm	3	P
Length of body	7.2 - 7.5	9.8 - 10.4
Length of fore wing	11.1 - 11.8	14.5 - 15.2
Length of hind wing	10.4 - 10.6	13.2 - 13.6
Expanse of wings	25.1 - 25.4	29.6 - 30.3
Length of antenna	7.2 - 7.3	7.9 - 8.0

C. zelenųi sp. n.

Holotype male: Pénzpatak, Répáshuta, Mts. Bükk, Hungary, 21 July, 1963 (light trap). Allotype female: Kispest, Budapest, 1 June, 1960, leg. Dr. H. STEIN-MANN. Paratypes: Kispest, Budapest, 13 May, 1962, male, leg. Dr. H. STEINMANN; Makkoshotyka, Mts. Zemplén, 9 August, 1962, female; 25 August, 1962, male; 30 August, 1962, female; 1 Sept., 1962, male; 22 July, 1963, female (light traps); Hollóstető, Mts. Bükk, 26 July, 1962, male, leg. BENEDEK; Pénzpatak, Répáshuta, Mts. Bükk, 29 June, 1963, male; 21 July, 1963, female; 22 July, 1963, 2 females, 1 male; Budatétény, 14 July, 1962 (light trap); Mátraháza, 28 July, 1962, male (light trap); Galyatető, Mts. Mátra, 26 June, 1963, female, leg. Dr. H. STEINMANN, Várgesztes, Mts. Vértes, 5 June, 1963, female (light trap); Alsósáskalapos, Tompa, 13 August, 1963 (?), 1 exemplar (Light trap); Kállósemlyén, 29 August, 1962 female (light trap).

(In the Zoological Department of the Hungarian Natural History Museum). I dedicate the new species to Dr. JIRI ZELENY, my neuropterologist colleague in Prague, Czechoslovakia.

#### Chrysopa (Chrysoperla) nigricostata BRAUER, 1848

Chrysopa nigricostata BRAUER, 1848: Beschr. Oesterreich. Arten, Chrys., p. 6. Described from Switzerland; an alpine species, found in several mountainous districts in Hungary (Budapest, Mts. Vértes, Sátor, Bükk; Csopak, Sopron, etc). The Hungarian specimens slightly differ by their greater size from the nominate form.

#### Chrysopa (Chrysoperla) albolineata Killington, 1935

Chrysopa albolineata KILLINGTON, 1935: Soc. Br. Ent., 1, p. 87;=tenella SCHNEIDER, 1851: Monogr. Chrysop., p. 94. Several localities of the species are known from Hungary (Budapest, Kunfehértó,

Several localities of the species are known from Hungary (Budapest, Kunfehértó, Vasegerszeg, Répáshuta, Szarvas, Kecskemét, Tass, Pilisvörösvár, etc); collected in a number of forms.

# Metachrysopa subgen. n.

Aside of markings near oral organs, a well discernible black or deep brown usually single pair of spots each on frons (below scapes). — On some other species, there is always an unpaired, extensive dark spot between the scapes, extending also onto the median part of the frons; or it is considerably smaller and is located exclusively between the scapes. Some forms lack the markings below the scapes, and only the one between the antennae is visible, but the vertex is invariably spotless.

Type-species: septempunctata WESMAEL, 1840

#### Chrysopa (Metachrysopa) abdominalis BRAUER, 1856

Chrysopa abdominalis BRAUER, 1856: Verh. zool.-bot. Ges., Wien, 9, 705. Found in Hungary in recent years in Tiszaug, Vasegerszeg, and Sopron.

## Chrysopa (Metachrysopa) aspersa WESMAEL, 1840

Chrysopa aspersa WESMAEL, 1840: Bull. de l'Acad. de Bruxelles, 8, p. 209.

# Chrysopa (Metachrysopa) septempunctata WESMAEL, 1840

Chrysopa septempunctata WESMAEL, 1840: Bull. de l'Acad. de Bruxelles, 8, p. 210;=pallens HAGEN, 1866: Stett. Ent. Ztg., p. 298; =nobilis BRAUER, 1850: Haid. Abh., p. 7; =angustipennis STEPHENS, 1836: Ill. Brit. Ent. Mand., 6, p. 104. With a number of its forms, common in Hungary.

# Nigrochrysopa subg. n.

Aside of markings near oral organs, below scapes (except for *C. ventralis* CURT.), and between scapes, two single black or rufous (*C. ventralis* CURT.) spots present also on vertex, i. e. vertex with extensive coloration. In latter case, black or deep brown markings of various location, but especially those below and

between scapes, as well as those on vertex, fused into an X-shaped design. Segregation of former and latter groups of species impossible, due to considerable amount of varieties embracing also several transitional forms.

Type-species: formosa BRAUER, 1848.

# Chrysopa (Nigrochrysopa) ventralis Curtis, 1834

Chrusopa ventralis CURTIS, 1834: Brit. Ent., V. XI, p. 520. A number of localities known in Hungary: Sopron, Répáshuta, Márkó, Bai. Mátraháza, Makkoshotyka, etc.

#### Chrysopa (Nigrochrysopa) formosa BRAUER, 1848

Chysopa formosa BRAUER, 1848: Beschr. Oesterreich. Art., Chrysop., p. 10; = =burmeisteri Schneider, 1851: Monogr. Chrvsop., p. 123. With a number of forms, frequent in Hungary.

# Chrysopa (Nigrochrysopa) phyllochroma WESMAEL, 1840

Chrysopa phyllochroma WESMAEL, 1840: Bull. de l'Acad, de Bruxelles, p. 207; = pusilla BRAUER, 1850: Haid. Abh., p. 7. A number of forms known from Hungary (Kéleshalom, Kecskemét, Bugac, Ráckeve, etc).

# Chrysopa (Nigrochrysopa) abbreviata CURTIS, 1834

Chrusopa abbreviata CURTIS, 1834: Brit. Ent., V, XI, p. 520: = immaculata STEPHENS, 1836: Ill. Brit. Ent. Mand. 6, p. 103.

Found in a number of localities in Hungary (Kéleshalom, Kiskunhalas, Ágasegyháza, Gyöngyös, Kecskemét, Tarhos, Velence, Kunfehértó, etc).

# Chrysopa (Nigrochrysopa) chrysops (LINNEUS, 1743)

Hemerobius chrysops LINNEUS, 1743: Syst. Nat., II, p. 83; = perla (LINNEUS, 1761): Faun. Suec., p. 382 (Hemerobius); = cancellata WESMAEL, 1840: Bullet. de l'Acad. de Bruxelles, p. 208; = maculata STEPHENS, 1836: Ill. Brit. Ent. Mand., 6, p. 102; = reticulata BURMEISTER, 1839: Handb. d. Ent., II, p. 980. Everywhere common in Hungary.

### Chrysopa (Nigrochrysopa) hungarica KLAPALEK, 1899

Chrysopa hungarica KLAPALEK, 1899: Természetrajzi Füz., 22, p. 440. Hitherto the single known locality of the species was the Farkasvölgy in Budapest. In recent years, however, another locality became known: Királyrét, Mts. Börzsöny.

#### Chrysopa (Nigrochrysopa) walkeri McLachlan, 1893

Chrysopa walkeri McLachlan, 1893: Ent. Soc. Trans., p. 229. A number of localities are known in Hungary: Kelebia, Balatonlelle, Császártöltés, Kunfehértó, Tompa, Toponár, Vörs, Mánfa, Budapest, Pomáz, etc.

#### Chrysopa (Nigrochrysopa) dorsalis BURMEISTER, 1839

Chrysopa dorsalis BURMEISTER, 1839: Handb. d. Entom, II., p. 981. Found in Hungary in coniferous woods on sand: Fenyőfő., Mts. Bakony; Tompa, Szarvas, Kelebia.

**References:** 1. BRAUER, F.: Beschreibung und Beobachtung der oesterreichischen Arten der Gattung Chrysopa (Naturw. Abh. Haidinger., IV, 4, S. I., 1850, pp. 56). — 2. BRAUER, F.: Neuroptera austriaca, (Wien, 1857, pp. 89). — 3. EVANS, P.: Monographic of Chrysopidae (Transact. Ent. Soc. London, 5, 1868, pp. 78). — 4. KILLINGTON, F. J.: A monograph of the British Neuroptera I—II. (Roy. Soc. London, 122—123, 1936, p. 137—189). — 5. MEINANDER, M.: The Neuroptera and Mecoptera of Eastern Fennoscandia (Fauna Fennica, 13, 1962, pp. 96). — 6. Mjöberg, E.: Svensk Insektfauna 8. Neuroptera. 1. Planipennia (Ent. Tidskr., 30, 1909, p. 129—161). — 7. PONGRÁCZ, S.: Magyarország Chrysopái (Állatt. Közkem., 11, 1912, p. 161—261). — 8. STITZ, H.: Ordnung: Netzflügler, Neuroptera (Die Tierwelt Mitteleuropas, 6, [1] 1927, p. 1—27). — 9. TJEDER, B.: Revision of the Scandinavian Neuroptera (s. str.) and Mecoptera (Opuscula Ent., 2, 1937, p. 118— 124). —10. TJEDER, B.: Catalogus Neuropterum et Mecopterum Norvegiae (No. Ent. Tidsskr., 7, 1945, p. 93—98).