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Chrysogaster rondanii sp. n. from Western and Central Europe
(Diptera: Syrphidae)

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Chrysogaster rondanii sp. n. is described from material of Western and Central Europe. Morphological features of the new taxon are compared with those of *C. virescens* LOEW, a closely related species with which it could be confused, and for which a lectotype has been designated.

Keywords: Syrphidae, *Chrysogaster*, new species, description

INTRODUCTION

Morphological features of species, until recently classified under the genus *Chrysogaster* MEIGEN 1803, has been recently reviewed (MAIBACH *et al.*, 1994a,b). Based on both immature and adult stages, two distinct groups of species, in fact belonging to two genera, have been identified: *Chrysogaster* sensu stricto [type-species: *C. solstitialis* (FAL.)] and *Melanogaster* RONDANI 1857 [type-species: *M. nubilus* RDN. = *M. nuda* (MACQUART)]. Actually at least 7 species belong to *Chrysogaster* in the Palaearctic region, while 11 are now attributed to *Melanogaster*. On examined material from different origins in Europe, a new species of *Chrysogaster* was discovered. Description of this new species is presented below. It is compared with *C. virescens* LOEW, 1854, a closely related species with which it could be confused.

DESCRIPTION

Chrysogaster rondanii sp.n.

Male

Body length: 7.1–7.6 mm, wing length: 6.1–6.4 mm.

Body entirely black.

Eyes naked, holoptic. Face and frons rather shiny. Broad face (ratio width of the head [Whead]/width of the face [Wface] under the antennae = 2.6– 2.7), facial knob in side view indistinct and broad, almost absent. Presence of a narrow wedge of white dusting below the antennae reaching laterally to the eye margins. Face pilosity inconspicuous, sparse and whitish, except along the eye margins where it is much longer and black. Surface between the facial knob and the antennal basis very finely streaked. Gena yellow brownish covered with long and sparse hairs. Frons inflated with a median furrow; integument with a relatively coarse punctua-

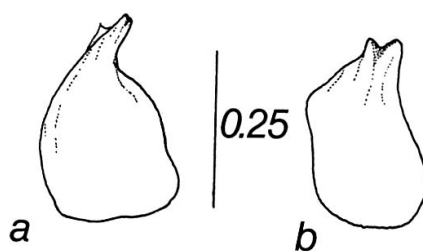


Fig. 1. *Chrysogaster* spp. (scale in mm): male genitalia, right surstyli; a: *C. rondanii* n.sp.; b: *C. virescens*.

tion. Pilosity black, rather long, upstanding and pointing anteriorly; a bit shorter in the median area above the antennae. Antennae: the basal segments are dark-brown, the flagellomere is small, roundish, orange at its base and brownish on the upper part. Arista naked, not more than twice the length of the flagellomere. Vertex protruding. The ocella are equidistant. Black hairs on the vertex as well as on the occiput pointing anteriorly.

Thoracic dorsum (mesoscutum of the mesonotum) and scutellum covered with long erected hairs, entirely brown-black, slightly reclined backwards; longer and present on the entire surface of the scutellum. Integument rather dull black but finely punctuated, with very faint and undistinct longitudinal stripes. Pleurites black, slightly dusted with long erected hairs mostly reclined backwards. Wings largely brownish, and entirely covered with microtrichia; pterostigma and veins brown. Venation usual for the genus *Chrysogaster* (MAIBACH *et al.*, 1994a) with the upper outer cross-vein closing the subapical cell R_5 distinctly not recurrent but turning immediately towards the base of the wing. Haltera blackish. Legs entirely black. Long black hairs on the posterior part of the femur 1 (f_1) and f_2 , the anterior margin is covered by much shorter and brownish hairs; anterior part of f_3 covered by long brownish hairs, presence of some rare small spinules beneath f_3 . Dense hairs on the internal side of the tibia 1 (t_1) distinctly goldish when seen in a dim light. Trochanters, especially on P_3 , with long black hairs.

Abdomen: black, rather dull on the top (abdominal segment 1 to 4) with the lateral margin shiny, except the first tergite which is entirely dull. Presence on tergite 2 of long light hairs almost entirely reclined backwards. Numerous long white hairs on the lateral sides of tergites 1 and 2, becoming shorter towards the end of

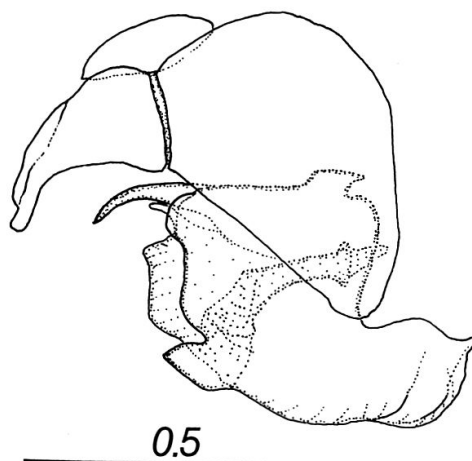


Fig. 2. *Chrysogaster rondanii* n.sp. (scale in mm): male genitalia in side view.

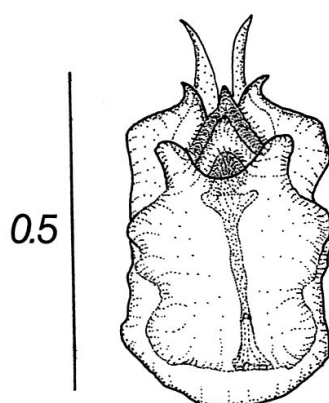


Fig. 3. *Chrysogaster rondanii* (scale in mm): male genitalia; sternite 9 (hypandrium) in ventral view.

the abdomen. Sternites entirely black, the first one dull, the next ones rather brilliant. Sternites 1 and 2 covered with long brownish hairs erected but reclined backwards; the next sternites covered with a shorter but dense pilosity much more reclined backwards. On the sternites 1 to 3, hairs longer than the width of f_3 . Genitalia: figs 1–3; surstyli (fig. 1) short, flat with a nick near the apex; hypandrium (figs 2, 3) (sternite 9): aedeagal envelope showing a strong notch along its apicoventral part corresponding to a lingula; superior lobes of the aedeagal envelope sharp, directed straight forwards with the extremity running slightly downwards; basal part of the superior lobes sharp, constituting a relatively large lateral blade surrounding the aedeagus which is not directly visible in side view; aedeagus showing a small sharp apicodorsal lobe and the absence of distinct lateral lobes.

Female

Body length: 6.6–7.5 mm, wing length: 6.5–7.7 mm.

General appearance resembling the male, but body with metallic green reflections. Abdominal margins more roundish and lighter.

Dichoptic eyes. Face narrower than by the male (ratio $W_{head}/W_{face} = 1.9–2.2$). Concave face under the antennae, without facial knob. Proboscis (mouth margins) protruded. Presence of a large wedge of white dusting below the antennae, reaching laterally the eyes. Face pilosity inconspicuous, sparse and whitish. Gena naked and shiny, the sides of the mouth margins have scarce light hairs. Frons with a distinct median furrow, 5 lateral furrows more or less visible; integument punctuated and shiny, covered with a short light pilosity. Antennae: the flagellomere is small, roundish and orange.

Thoracic dorsum covered with short light hairs, lying almost flat in the median part of the mesoscutum, generally upstanding and pointing anteriorly near the scutellum margin. Integument of the mesoscutum black, shiny to rather dull on the sides, finely punctuated; integument distinctly dull on the prothorax. Short light hairs on the margin of the scutellum as well as covering all of its surface. Pleurites black, shiny except for the proepimeron and the proepisternite of the propleure which are dull. Hairs light and long on the mesothoracic anepisternites as well as on the mesepimeron. Wings entirely covered with microtrichia; wings yellowish along the costal vein, otherwise translucent; pterostigma and veins brown. Legs entirely black with a short light pilosity; under f_3 presence of long white hairs (as long as $1/5–1/2$ width of f_3) but spinules undistinct. Dense hairs on the internal side of t_1 , which,

seen in a dim light, appear distinctly goldish. Coxae and trochanters, especially on P₃, with long white hairs.

Abdomen: black, rather dull on the top (abdominal segment 1 to 4), with the lateral margin shiny except on the first tergite, which is entirely dull. Pilosity on the tergites short and light. Hairs under the sternite 1 as long as the width of f₃; on the next sternites as long as half of the width of f₃.

Immature stages

Unknown.

Type material

Holotype: 1 ♂: Netherlands, Breda, 21.V.1972, B. v. AARTSEN leg. Allotype: 1 ♀: Netherlands, Breda, 21.V.1972, B. v. AARTSEN leg. Paratypes: 1 ♂: Netherlands, Breda, 16.V.1969, B. v. AARTSEN leg.; 1 ♀ same data as above, 21.V.1972.

Holotype and Allotype are housed in the Museum of Zoology Lausanne (Switzerland), both paratypes in the private collection of J.A.W. LUCAS, Rotterdam (The Netherlands).

Additional material examined

Chrysogaster rondanii sp. n. Germany: - Baden-Württemberg, Freiburg, Mooswald Umkirch, 12.05.1992, J.-H. STUKE leg. and coll.: 1 ♀. - BRD, SH LK Plön TK 1729/1, Hüttenholtz, leg. C. KASSEBEER, J.-H. STUKE coll., 14.5.1989: 1 ♀. Switzerland: - Vaud, Jorat, Mouille Saugeon, 22.VI.1987, coll. Museum of Zoology Lausanne (MZL): 1 ♀ - Vaud, Le Mont, Fontaine des Meules, 2.VI.1988; A. MAIBACH leg., coll. MZL: 1 ♀. - idem, 23.V.1990, P. GOELDLIN leg., coll. MZL: 1 ♀.

Chrysogaster virescens LOEW, 1854. Germany: - Berlin Ruthe, Coll. H. LOEW, 12915, Typus, *Chrysog. virescens* m. N. Beitr. 3, Zool. Mus. Berlin; Lectotypus *Chrysogaster virescens* ♀ Loew, 1854 Des. A. MAIBACH 1991: 1 ♀. Netherland: - Viodrop, 18.V.1973, B.VAN AARTSEN leg., J.A.W. LUCAS coll.: 1 ♂. - idem, Netherland-L., Venlo, 17.VI.1980: 1 ♀. Belgium: - Belgie, Luik 4 km NE Sourbrodt Valley of the Rur, 24.VI.1983, J.A.W. LUCAS leg.: 2 ♂♂. Great Britain: - England, Dorset, Sherford Br. SY9291, 4.VI.1980, M.C.D. SPEIGHT leg.: 2 ♀♀. - idem, 9.VI.1980: 1 ♂. - Dorset SY8785, 29.V.1980: 1 ♂. Eire: - Co. Wicklow, O.2610 Bellevue Wood, 11.VII.1979, M.C.D. SPEIGHT leg.: 1 ♀. - idem, Co. Wicklow, O.265/072, 26.V.1972: 1 ♂. - idem, Co. Westmeath, N.4259 Scragh Bog, 12.VII.1982: 1 ♂. - idem, Co. Kerry, V7755 Glanmore Lake, 6.V.1987: 1 ♂.

Etymology

This species is dedicated to the Italian entomologist Camillo RONDANI (1808–1879) who first (RONDANI, 1857) recognized the presence of two different taxa within the genus *Chrysogaster* MEIGEN.

DISCUSSION

Chrysogaster rondanii sp.n. closely resembles *C. virescens* which is generally more shiny.

C. virescens male differs mainly by the shape of the face which is narrower (ratio Whead/Wface = 1.9–2.3), and by a facial knob slightly more prominent

and distinct. The pruinosity of the face is a little more obvious, especially beneath the antennae. The pilosity on the face is shorter and darker. The punctuation of the integument of the frons is fine, whereas it is more coarse in *C. rondanii*. The hairs on frons are shorter, mostly present on the side and up along the eye margins, rather absent above the antennae. The thoracic dorsum is covered with much more reclined hairs. Legs: spinules more numerous and obvious under f_3 . Abdomen: the pilosity on the median part of the tergite 2 is darker than by *C. rondanii*; hairs extremely short, obliquely reclined. Sternites black; the first one dull, the next ones shiny; on sternite 1, hairs longer than the width of f_3 , on the other ones much shorter than the width of f_3 . Hairs on the lateral side of the tergites 1 and 2 quite long, becoming shorter towards the end of the abdomen but always less dense than those of the new species. Finally, the structures of the genitalia of *C. virescens* (see MAIBACH *et al.*, 1994a) are distinctly different, with the apex of the surstyli (fig. 1) distinctly bilobed; the aedeagal envelope showing no notch along its apicoventral part; superior lobes are similar to those of *C. rondanii* but without developed base overpassing the anterior margin of the aedeagal envelope; aedeagus: apicodorsal lobe large, with basally sharp lateral lobes (hooklike) running downwards.

C. virescens female differs from *C. rondanii* mainly in having a frons apparently totally naked with few very short light hairs. The hairs on the thoracic dorsum are virtually absent; integument shiny as well as on the mesopleura but punctuated more coarsely than by *C. rondanii*; proepimeron and proepisternum of the propleure slightly mat. Pilosity on the pleura very short and brownish. Presence of some black hairs on the hind margin of the scutellum, otherwise naked. Wings yellowish, yellow-brown along the costal vein; the pterostigma is darker, usually dark-brown. Legs: lack of long white hairs under f_3 but presence of black spinules distinctly visible; coxae and trochanters with much shorter hairs. Pilosity on the abdominal tergites extremely short, except on tergite 2 which bears long white reclined hairs. On the abdominal sternite 1, the hairs are distinctly shorter than the width of f_3 , on the other tergites shorter than half of the width of f_3 . On the other hand, we found no significant differences in the ratio between the width of the head and the width of the face under the antennae.

Usual keys (STACKELBERG, 1959; SÉGUY, 1961; SPEIGHT, 1980; VAN DER GOOT, 1981; STUBBS & FALK, 1983; TORP, 1994) for the identification of the adults of species belonging to the genus *Chrysogaster* (sensu COE 1953, see MAIBACH *et al.* 1994a,b) need to be completed with the following couplet:

*— ♂: facial knob indistinct and broad, almost absent; broad face; thoracic dorsum and scutellum covered with long erected hairs, entirely black, slightly reclined backwards, longer and present on the entire surface of the scutellum; genitalia: figs. 1–3
 — ♀: thoracic dorsum covered with short light hairs; light hairs on the margin of the scutellum as well as covering all of its surface; wings yellowish along the costal vein, otherwise translucent; hairs under the abdominal sternite 1 equal to width of the f_3 and equal to half of the width of f_3 on the other ones

Chrysogaster rondanii n.sp.

**— ♂: facial knob slightly more prominent and distinct; face narrower; thoracic dorsum covered with much more reclined hairs; genitalia (see MAIBACH *et al.*, 1994a, and fig. 1). — ♀: hairs on the thoracic dorsum virtually absent; presence of some black hairs on the hind margin of the scutellum, otherwise naked; wings yellowish

lowish, yellow-brown along the costal vein; on the abdominal sternite 1, hairs distinctly shorter than the width of f_3 , on the other tergites shorter than half of the width of f_3

Chrysogaster virescens LOEW, 1854

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RÉSUMÉ

Chrysogaster rondanii sp. n. est décrite sur la base de spécimens provenant de l'ouest et du centre de l'Europe. Les caractéristiques morphologiques de ce nouveau taxon sont comparées à celles de *C. virescens*, espèce avec laquelle elle a pu être confondue, et pour laquelle un lectotype a été désigné.

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