

# Redescription of *Epistrophella coronata* (Rondani, 1857), stat. rest., comb. nov., with first description of the male, and notes on the generic assignment (Diptera, Syrphidae)

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*Epistrophella coronata* (Rondani, 1857) is redescribed based on the ♀ type specimen from the southern edge of the Italian Alps and on two ♂ from the mountains of eastern Serbia. While the species has a distinctive pattern of characters its generic assignment is uncertain. We assign it provisionally to *Epistrophella* Dušek & Láska.

## Zusammenfassung

Auf der Grundlage des ♀ Typus vom Südrand der italienischen Alpen und zwei ♂ aus ostserbischen Gebirgen wird *Epistrophella coronata* (Rondani, 1857) erneut beschrieben. Während die Art eine unverwechselbare Merkmals-Kombination hat, ist ihre Stellung im System unklar. Wir ordnen sie provisorisch *Epistrophella* Dušek & Láska zu.

## Introduction

*Epistrophella coronata* was described by C. Rondani (1857) from a single ♀, in his genus *Lasiophthicus*. Subsequently, the name has appeared in a few publications, mostly catalogues. From a study of these publications there are grounds for supposing that few of the authors knew the taxon themselves. The only exception is the article of Dušek & Láska (1985). In a short note (p. 224) the authors mention that they (and J.R. Vockeroth) had seen the type. In their opinion *coronata* belongs to the genus *Ischyrosyrphus* Bigot. In Peck (1988) it is listed as a synonym of *Dasysyrphus albo-striatus* (Fallén). In the present account we shall give a redescription that shows that the taxon is quite distinct from all other known species. Discovery of the previously unknown ♂ necessitates revision of the generic assignment of this species.

The morphological terminology used here largely follows McAlpine (1981). All measurements have been carried out in such a way that both ends of the distance measured are situated in the same plane. The width of the face has been measured at

the level of the upper ends of the anterior tentorial sulci. Approximate values are given as fractions.

Except for those of the ♂ genitalia, the drawings have been made from dry specimens, with the aid of a drawing tube. In figs. 3, 6, 8 and 9 hairs have been omitted.

Abbreviations: p = leg(s); f = femur/femora; t = tibia(e); ta = tarsus/tarsi (e.g. ta<sub>3,2,5</sub> means 2nd to 5th tarsomeres of hind tarsus); cx = coxa; T = tergite(s), S = sternite(s). A<sub>2</sub>, C, Cup, and R<sub>n</sub> = veins; bm, br, c, cup, r<sub>1</sub> = cells (see McAlpine 1981: 30, figs. 68 and 69).

*Epistrophella coronata* (Rondani, 1857), **comb. nov.**

*Lasiophthicus coronatus* Rondani, 1857: 143.

*Syrphus coronatus*: Schiner, 1862: 313; Schiner, 1864: 104.

*Lagenosyrphus coronatus*: Mik, 1897: 64.

*Ischyrosyrphus coronatus*: Verrall, 1901: 323; Bezzi & Stein, 1907: 53; Kertész, 1910: 90; Sack, 1932: 164; Dušek & Láska, 1985: 224.

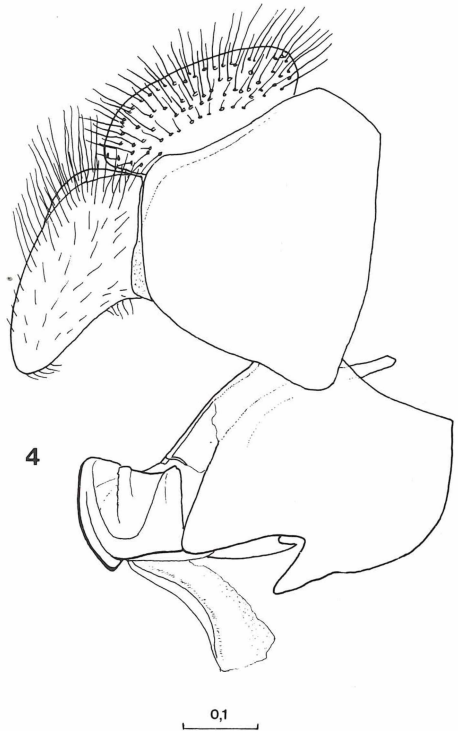
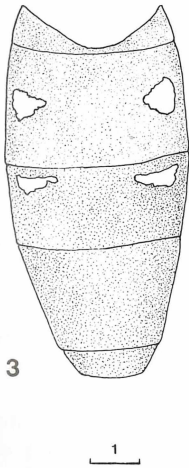
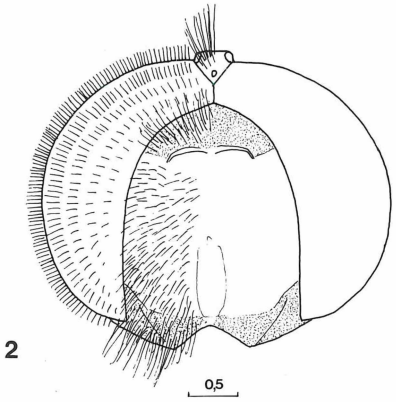
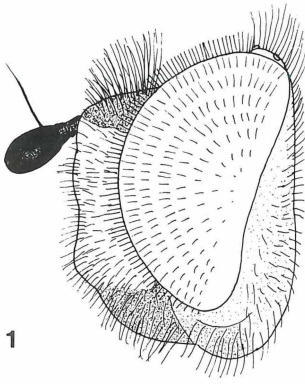
*Dasysyrphus coronatus*: Peck, 1988: 14 [as a synonym of *Dasysyrphus albostrigatus* (Fallén, 1817)].

Material examined: 1 ♀ (holotype) with a white oval label with the printed red number "237". According to the original description collected in Italy in "ditionis parmensis" (= region of Parma). Deposited in the collections of the Museo Zoologico dell'Università di Firenze (MZUF). – 1 ♂ Yugoslavia, Deli-Jovan, 500m, UTM EP99, 27th March 1989; 1 ♂ Yugoslavia, Malinik, Vidikovac, 800m, UTM EP77, 3rd May 1996, both leg. A. Vujić, coll. Institute of Biology, Novi Sad (NS).

The type specimen is in moderately good condition. The posterior margin of the subcranial cavity is slightly collapsed, the right eye has a dent, the left 3rd antennal segment has an apical hole, the right arista and the apex of the left are missing, the scutal and scutellar hair is largely rubbed off, as is the hair covering of large parts of T3-5 (especially T4). The lower part of the occiput, pleurae, coxae, femora and the sternites have sticky hair; the occiput, thorax, and legs are greasy; the left ta<sub>3,2,5</sub> is missing. The abdomen is moderately distorted, with the original pale markings almost invisible due to post-mortem darkening.

Diagnosis

In its overall appearance, the ♂ resembles *Epistrophe eligans* (Harris). The ♀ is also similar to *Epistrophe leiophthalma* (Schiner & Egger). Eyes with dense long hairs. Lateral corner of the mouth edge not developed. Face without median dark stripe. Tergites practically unmarginated, without black hairs. Distinct from all other known European species of the Syrphini by the entirely dusted facial tubercle (autapomorphy). The ♂ genitalia are most similar to those of *Epistrophella euchroma* (Kowarz). The differences between these two species are summarised in table 1.



Figs. 1-4: *Epistrophella coronata* (Rondani) ♂. – 1. head, lateral view; – 2. head, anterior view; – 3. abdomen, dorsal view; – 4. genitalia, lateral view. – Scales in mm.

**Table 1:** Morphological differences between adults of *Epistrophella coronata* (Rondani) and *E. euchroma* (Kowarz).

**coronata**

n = 2♂, 1♀

**Head**

eyes almost completely covered with dense long hairs (♀ 0.145 mm, ♂ 0.2 mm) (figs. 1, 2)

lateral corner of the mouth edge not developed, with an acute angle between the lateral mouth edge and the posterior margin of the head (fig. 1)

face dusted throughout

facial tubercle wrinkled, dull

♀: lateral upper limit of the frontal depression at the level of about 1/6 the distance from the anterior ocellus to the lunule

frons with predominantly yellow hairs

ocellar triangle pruinescent

♂: post-ocular orbit moderately broad, its minimum breadth 0.12 mm

antenna black (except for the reddish arista)

**Thorax**

upper and lower katepisternal hair patches joined posteriorly

♂:  $f_{1+2}$  black on their basal 2/3-3/4,  $f_3$  on basal 4/5-5/6; ♀:  $f_{1+2}$  basally with a diffuse brown spot,  $f_3$  with a diffuse brown ring in the middle, leaving about the basal 1/5 yellow (fig. 8)

♂  $t_3$  with a strong median dark ring,  $t_{1+2}$  with traces of dark median rings, ♀  $t_3$  with a weak dark ring

all legs almost completely with pale hairs

scutum completely dusted

**Abdomen**

tergites completely dusted

abdomen wider, X T2 2.5 times as wide (posteriorly) as long (mid-line)

all externally visible sternites entirely dusted

♀: pale markings on T2 larger than those on T3

**euchroma**

n = 26♂, 25♀

**Head**

eyes almost bare, with scattered very short hairs (< 0.05 mm)

lateral corner of the mouth edge well developed, with a right angle between the lateral mouth edge and the posterior margin of the head

facial tubercle undusted

facial tubercle almost smooth, ± shining

♀: lateral upper limit of the frontal depression between 1/3 and 1/2 the distance from the anterior ocellus to the lunule

frons with black hairs, a few yellow hairs may occur

ocellar triangle undusted

♂: post-ocular orbit narrow, its minimum breadth 0.06-0.08 mm

antenna light red, its upper part and arista usually darker

**Thorax**

upper and lower katepisternal hair patches separated throughout

colour of f variable,  $f_1 \leq 1/3$ ,  $f_2 \leq 2/5$ ,  $f_3 \leq 3/5$  brown to black, on average more extensively darkened in the ♂

all t of both sexes without dark rings

at least  $f_3$  anteriorly and dorsally on about distal half,  $t_3$  anteriorly and dorsally and  $ta_3$  dorsally, with black hairs

♀: scutum extensively undusted

**Abdomen**

♀: tergites extensively undusted

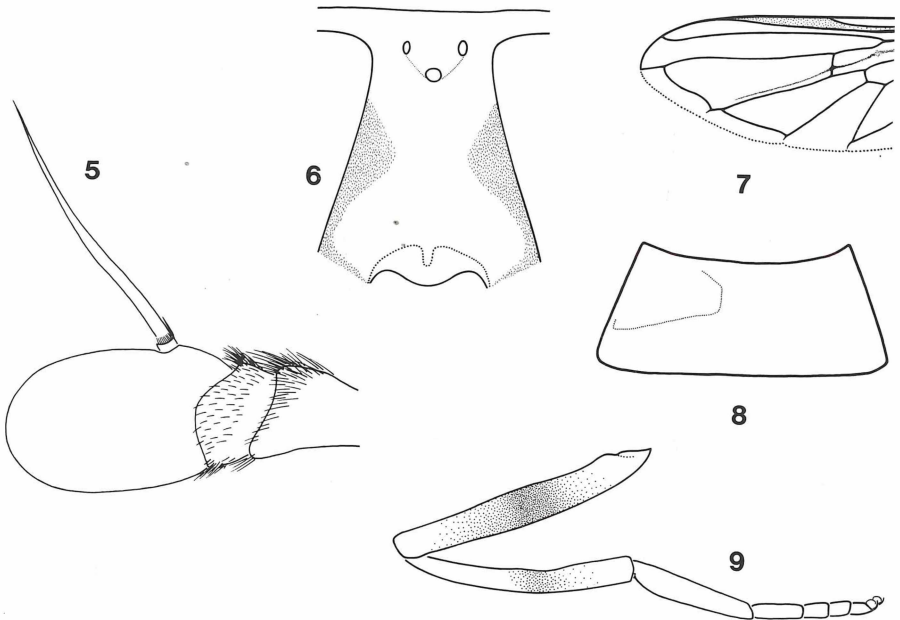
abdomen more slender, ♀ T2 1.7-2.1 times as wide as long

S2-4 (♂) or S2-5 (♀) largely bare of dusting

♀: pale markings on T2 smaller than those on T3

T4+5 without pale markings  
 T4-5 with very narrow reddish posterior margins  
 tergites without black hairs  
 hairs on T4 about 1½ (♀) or 2½ (♂) times as long as the maximum diameter of  $t_3$   
 ♂: the bare dorsomedian edge of surstylus wider  
 ♂: surstylus in its proximal half with a large patch of microtrichia dorsally  
 ♂: interior surface of gonostylus bare  
 ♂: ventral process of the basiphallus with a few small teeth

T4+5 with large reddish yellow spots  
 T4+5 with extensive translucent reddish posterior margins, occupying about 1/10-1/4 of the length of T4 (more extensive in the ♀)  
 T2-5 with extensive black hairs posteriorly  
 long hairs on T4 about as long as (♀) or 1½ times (♂) the maximum diameter of  $t_3$   
 ♂: the bare dorsomedian edge of surstylus narrower  
 ♂: surstylus dorsally without microtrichia  
 ♂: interior surface of gonostylus densely microtrichose  
 ♂: ventral process of the basiphallus with numerous fine teeth



**Figs. 5-9: *Epistrophella coronata* (Rondani), 5 ♂, 6-9 ♀ (type specimen).** – 5. right antenna, lateral view; – 6. frons, stippling showing pruinoscent areas; – 7. apical half of left wing; – 8. tergite 2, dotted line showing the visible margin of one of the pale markings; – 9. left hind leg, external view.

## Redescription

♀

Size: body length (without antennae) ca. 9 mm (as the abdomen is distorted the original body length was probably a little longer); wing length from the proximal end of the epaulet to the wing tip 9.0 mm.

Head. Width 3.3 mm; width of face 0.44 the width of the head; width of vertex (least distance between the eyes) 0.24 the width of the head. Subcranial cavity about two times as long as wide. Width of the anteclypeus about 0.4 the width of the subcranial cavity, nearly as wide as its shortest length (15:17). Width of the gena 0.63 the width of the subcranial cavity. Lower part of the face receding, i.e. lateral mouth corner not developed, with an acute angle between the lateral mouth edge and the posterior margin of the head (observed in lateral view) (as in fig. 1). Face yellow, from the dorsal end of the tentorial sulcus to the lateral mouth edge blackish with ill-defined margin. Facial tubercle little protruding, heavily chagreened, contrasting with the more glittering sides of the face. Face almost entirely covered with white pruinescence, with exception of small areas at the lateral corners of the mouth edge. Lunule bright yellow. Frons black, with long grey dust spots that leave about half of the frons bare, apart from that the frons and the vertex are undusted (fig. 6). The posteromedian margin of the frontal depression is at about 3/8 of the distance from the dorsal margin of the lunule to the anterior ocellus, distinctly differentiated at the dust spots (close to their upper margin), indistinctly demarcated in the median part. Frons with a short band of dark hairs crossing the anterior end of the ocellar triangle and with some dark hairs at the lateral margins immediately above the lunule. Black hairs extend ventrally from the lunule over about 2/5 of the depth of the face. Postocular orbits dorsally with a few black hairs at the anterior margin of the hair fringe. Apart from that face, frons, vertex, genae, and post-ocular orbits with whitish or yellowish hair. Face with a bare triangular stripe from the ventral ends of the lunule down to the anteromedian end of the subcranial cavity. Eyes hairy all over, except for posteriorly, where there is a broad bare stripe, and anteriorly, where, along the anterior margin, there is a stripe of 3-5 ommatidia bare. Eye hairs pale yellowish, their length in the central part 0.145 mm, on the lower part a little shorter. – Antenna (fig. 5) dark brown, the first flagellomere (antennal segment 3) basoventrally slightly lighter. Arista orange, densely covered with very short adpressed pale hairs, dull. Pedicel (antennal segment 2) very short. First flagellomere on the outer surface with a strong sensory pit. Scape (first antennal segment) dorsally with dense black hairs, ventrally with few short hairs. Pedicel with the distal rim completely hairy, on the outer surface with a single row of short but comparatively thick bristle-like hairs, on the inner surface more extensively covered with whitish hairs, the hairs on the dorsal and ventral corners black.

Thorax. Scutum black, the supra-alar area slightly lightened, entirely but faintly dusted, the notopleuron dusted only slightly more strongly, the hair covering yellowish brown, about 0.5-0.6 mm long, on the scutellar margin much longer. The ventral scutellar

fringe is complete and composed of several rows. Scutellum yellow with small black lateral corners. Anterior flat part of anepisternum, metasternum, and meron bare. Katepisternum with the upper and lower hair patches confined to the posterior half and posteriorly joined. Pleurae completely but lightly dusted. – Wing (fig. 7). C running to the apex of the wing, with two rows of setae, the epaulet with weak bristles and with a wide bare longitudinal stripe.  $R_{4+5}$  nearly straight. Veins of the basal half of the wing pale reddish brown, in the distal half dark brown. Wing margin beyond the marginal crossveins narrow, not undulated, without chitinous dots. Alula about three times as long as wide. Pterostigma pale yellow, wing otherwise not infuscated. Wings with the basal  $3/5$  of cell c, br anterior to the vena spuria and the larger part of  $r_1$  bare proximal to the fork of  $R_{2+3}/R_{4+5}$ , bm anterobasally for about  $3/5$  of its surface, cup in the proximal  $1/3$  immediately posterior to Cup, and the anal lobe with a stripe along  $A_2$  bare of microtrichia. Calypter yellow, including its marginal rim and hair fringe, dorsally without long hairs. Halteres pale brown. – Legs. Femora predominantly yellow,  $f_{1+2}$  basally with a diffuse brown spot,  $f_3$  with a diffuse brown ring in the middle, leaving about the basal  $1/5$  yellow,  $t_3$  with a weak dark ring (fig. 9). Legs with all hairs pale except for few black hairs on the dorsal side of the distal tarsomeres of  $ta_3$ .  $cx_3$  without a posteromedian hair tuft.  $f_3$  on basal half anterolaterally with long hairs, otherwise with short hairs (much shorter than half the width of  $f_3$ ). As far as visible all legs completely covered with pale dust. The ventral setulae of  $ta_2$  weak, pale yellow.  $p_3$ : ratio (length)  $t_3 : ta_{3:1} : ta_{3:2} : ta_{3:3} = 10:6:2:1$ .  $ta_{3:1}$  length : width = 5:1, as deep as the apex of  $t_3$ .

Abdomen. Tergites unmargined (very faint traces are present only on T2+5). Abdomen moderately narrow, T2-4 of equal length, T2 about 2.5 times as wide (posterior margin) as long (mid-line). Tergites and sternites entirely dusted, on T2-4 brown (except for the pale markings on T2+3 that are thinly dusted grey), on T5 and on the sternites grey. Pale markings almost invisible due to strong post-mortem darkening. T2 with large reddish lateral spots (fig. 8) that probably reach the anterior margin of T2 with their lateral halves. The spots are narrowed towards the middle, their posterior margins are moderately oblique. T3 close to the anterior margin with a pair of slightly oblique narrow triangular red spots. Whether or no the spots on T2+3 reach the lateral margins of the tergites is not clearly visible, but it seems as they do not. The posterior margins of T4+5 are very narrowly (T4: 0.07 mm) lightened (reddish). All tergites and sternites with exclusively pale yellowish erect hair, on T4 about  $1\frac{1}{2}$  times as long as the maximum width of  $t_3$ .

The ♂ differs from the ♀ in the following respects:

Head. Width of face 0.5 the width of the head (fig. 2). Subcranial cavity about  $1\frac{1}{2}$  times as long as wide. Width of the gena about 0.8 the width of the subcranial cavity. Anterior angle of approximation of eyes  $98^\circ$ . Length of eye hairs 0.2 mm. Black hairs on face more extensive, almost reaching the upper end of the anterior tentorial sulcus. Frons entirely covered with grey pruinescence, in one specimen the anterior half with

predominantly yellow hairs and the posterior half with black hairs, the second specimen with only black hairs. Minimum length of occiput in dorsal view 0.12 mm. Eyes without enlarged facets. Ocellar triangle and occiput entirely grey pruinose, with yellowish hairs, some black hairs present at the sides of the ocellar triangle.

Thorax. Lateral margin of the scutum dark. Pleurae with long pale hairs with heavily curled tips;  $f_{1+2}$  on the basal 2/3 - 3/4 and  $f_3$  on the basal 4/5 - 5/6 black;  $t_3$  with a strong, median, dark ring;  $t_{1+2}$  with traces of dark median rings.

Abdomen. T2+3 with small triangular pale spots (fig. 3) which are well separated from the lateral margins. Hairs on T4 about 2½ times as long as the maximum width of  $t_3$ . Genitalia fig. 4.

#### Distribution and biological data

Due to the fact that at present only three specimens are known, practically nothing is known about this species. It is found on the southern edge of the Alps in Italy and at two localities on the eastern Serbian mountains Malinik and Deli-Jovan. These mountains belong to the low Carpathians extending in Serbia as fragments of the Romanian Carpathians. These two recent (1989 and 1996) records come from slopes covered with relict Tertiary polydominant forest communities. It can be supposed that the species is a European relict, surviving only at isolated parts of its ancient range. The flight period is early spring, after melting of the snow.

### Discussion

#### Conspicuity of ♂ and ♀

Most of the differences between the studied specimens are within the Syrphini trivial differences between sexes. The only possibly important differences are the colour of the legs and the shape of the yellow spots on T2. The reasons why we regard the specimens as conspecific are:

1) In some taxa of the Syrphini the ♂ has more extensively dark legs than the ♀, e.g. *Syrphus ribesii* (Linnaeus) and *Parasyrphus annulatus* (Zetterstedt). Moreover, the leg colour is subject to considerable intraspecific variation in many species of the Syrphini, e.g. *E. euchroma* (Kowarz). Therefore a different leg colour is not indicative that different species are involved.

2) A strikingly different shape of the pale abdominal markings (especially on T2) occurs between the sexes of e.g. *E. eligans*, *Epistrophe flava* Doczkal & Schmid and *Epistrophe aeka* Kimura. Slight differences occur in nearly all species of the Syrphini.

3) The specimens share a number of character states that are unusual within the group of genera in question:

- face pruinose across full width (autapomorphy)
- facial tubercle heavily chagreened
- lateral corners of the mouth edge not developed
- abdominal hair entirely pale and erect

The specimens are very similar or appear identical in all other examined characters, too. There is no evidence that they might represent different species.



## Identification

Apart from the outdated Latin key in Rondani (1857) *coronata* is included only in the German key of Sack (1932). The latter allows for correct identification of the ♀, but leaves the ♂ unidentifiable. Using other keys the ♀ is likely to be misidentified as an *Ischyrosyrphus*, while the ♂ is again practically unidentifiable, even at generic level. With the key to genera in Vockeroth (1969) *coronata* (♀) runs to *Ischyrosyrphus* or (♂) to *Melangyna* Verrill s.s. if the very weakly margined T2+5 are disregarded (that may also be present in specimens of *Melangyna*). Within the European fauna *coronata* is readily distinguished from *Ischyrosyrphus* by e.g. the weakly dusted scutum, the yellow pterostigma, the partly bare basal cells of the wing, and from *Melangyna* s.s. by the yellow face (without median dark stripe), T4 without pale spots, ta<sub>3</sub> yellow, cx<sub>3</sub> without a posteromedian apical hair tuft. *Ischyrosyrphus* and *Melangyna* s.s. both have the lateral corners of the mouth edge well developed, and the tergites bear extensive black hairs. We propose to amend the key to the European genera in Vockeroth (1969) as follows:

- 16a Lateral corners of the mouth edge not developed, with a sharp angle between the lateral mouth edge and the posterior margin of the head. Face entirely pruinulent ..... *Epistrophella coronata*  
 Lateral corners of the mouth edge well developed, with a right or obtuse angle between the lateral mouth edge and the posterior margin of the head. At least facial tubercle undusted ..... 17

In its overall appearance *coronata* is somewhat similar to *E. eligans*. But *E. eligans* has almost bare eyes, antenna extensively reddish, facial tubercle undusted, lateral mouth corner well developed, scutum practically undusted, ta<sub>3:1-3/4</sub> ± black, the pale abdominal markings reach the lateral margins, T2-5 with ± extensive black hairs, ♀ S2-5 largely bare of microtrichia. *E. leiophthalma* and *E. aeka* are at first sight similar, too. These taxa have the pedicel about as long as deep, the arista black, the lateral corners of the mouth edge well developed, a densely dusted, dull scutum, a bicolourous pterostigma (base blackish, apex yellow), and the pale markings of at least T3 are overlain by thick silvery-grey dusting. The eyes of *E. leiophthalma* are almost bare, the ♀ frontal depression is entirely pruinulent, the metasternum is hairy, at least ta<sub>3</sub> dorsally ± black, T2-5 are distinctly margined, and the ♂ T2 has spots similar to those of the ♀. *E. aeka* has a black lunule, a dark median facial stripe, all ta (except for ta<sub>2:1</sub>) dorsally blackish, and differently shaped pale markings on the ♂ T2 (Kimura 1989: fig. 1a).

Due to the unknown intraspecific variation of *coronata*, one or two of the characters described here will probably not work properly. So identification requires special care.

## Generic assignment

In its external morphology *coronata* displays a confusing combination of characters that makes its generic assignment an intractable problem. Among the genera in which *coronata* was once placed, *Dasysyrphus* Enderlein, *Lasiophticus* Rondani (= *Scaeva* Fabricius) and *Syrphus* Fabricius are certainly inappropriate and do not need to be considered further. The genus *Lagenosyrphus* Mik was erected for "... *Syrphus* (resp. *Lasiophticus*) *liophthalmus* Schin. Egg., *laternarius* Müll., *glaucius* L. (und *coronatus* Rond.) ..." with *S. liophthalmus* as the type species (Mik 1897: 64). The latter is now regarded as an aberrant member of *Epistrophe* Walker. While it looks rather dissimilar in external characters, the ♂ genitalia are within intrageneric variation of *Epistrophe*. The ♂ genitalia of *coronata* are different. The only recent authors (Dušek & Láška 1985) who have studied *coronata* assigned it to *Ischyrosyrphus*. However, from the data now available this is untenable, too. Some of the reasons are:

1) The ♂ of *coronata* does not have the "typical" *Ischyrosyrphus* pattern of abdominal markings and whether the ♀ has is uncertain (due to strong post-mortem darkening of the type specimen). Furthermore, the "typical" *Ischyrosyrphus* pattern also occurs outside *Ischyrosyrphus*, namely in *E. leiophthalma*, so its significance as a definitive character of a genus is questionable.

2) The ♀ of *Ischyrosyrphus* and related genera (*Leucozona* Schiner, *Epistrophe* and others) have a shallow frontal depression with its upper limit situated close to the anterior ocellus. In other genera the depression ends closer to the lunule (e.g. *Epistrophella* Dušek & Láška). Certain genera are more or less intermediate (*Melangyna*, *Parasyrphus* Matsumura), or the depression is not developed (e.g. *Meligramma* Frey). From the outgroup comparison it is probable that the condition observed in *Ischyrosyrphus* is apomorphic. In *coronata* the posteromedian end of the depression is indistinct, but from its rather clear-cut posterolateral margin it is obvious that it is different from the condition observed in *Ischyrosyrphus*.

3) According to Hackman & Väisänen (1985) *Ischyrosyrphus glaucius* (Linnaeus) (as *Leucozona glaucius*) has three rows of costal setae (type  $B_1 \rightarrow A_1$  in their nomenclature). All species of *Ischyrosyrphus* known to us [*beybienkoi* Violovitsh (det. Mutin), *glaucius*, *laternarius* (Müller)] have more than two rows of costal setae. The presence of more than two rows is regarded as the primitive condition in Diptera by Hackman & Väisänen (1985) and in *Milesia* Latreille by Hippa (1990). From the outgroup comparison – with the other tribes of the Syrphinae used as outgroup – it seems likely that the presence of more than two rows is apomorphic in the Syrphini. Within the Syrphini this condition has been developed independently several times. Most species of the Syrphini (at least in Europe), including *Leucozona* s.s. (probably the sister group of *Ischyrosyrphus*) and *coronata*, have only two rows.

4) The gonostyli of *Ischyrosyrphus* and *Leucozona* have a common characteristic structure that is very probably a synapomorphy (described and figured in Vockeroth 1969). The gonostylus of *coronata* is different (fig. 4).

The current classification of the Syrphini is largely based on the structures of the ♂ genitalia. As correctly stated by Vockeroth (1969: 22) the basiphallus (= aedeagal base) and the gonostylus (= superior lobe) offer more useful taxonomic characters than any other part of the ♂ genitalia. The ♂ genitalia of *coronata* are almost indistinguishable from those of *E. euchroma* and *Epistrophella emarginata* (Say) [fig. 28 in Vockeroth (1969) (as *E. invigora*, according to Vockeroth (1992: 88) a synonym of *emarginata*)]. In particular, the shape of the gonostylus is virtually identical and the differences observed in the basiphallus are slight. The structure of the gonostylus is probably a synapomorphy of the species of *Epistrophella*, although we cannot offer the corresponding plesiomorph condition. It is unlikely that such intricate structures have been evolved independently. However, *coronata* lacks the dense layer of microtrichia on the median surface of the gonostylus observed in *euchroma*, apparently a synapomorphy of the *Meligramma* group (= *Epistrophella*, *Fagisyrrhus* Dušek & Láska, *Meligramma*). Not knowing any better solution we propose to assign *coronata* to *Epistrophella*.

There are many differences in external morphology between *coronata* and *euchroma*, summarised in table 1. The *Meligramma* group displays more variation than any other genus of the Syrphini in the Holarctic region. So it is likely that additional taxa of this group may also appear dissimilar. The different character states of the katapisternal hair patches have been given some weight in characterisation of genera. Concerning *Epistrophella* Vockeroth (1969: 58) refers to *E. horishana* (Matsumura) [according to Thompson & Vockeroth (1989) a misidentification of *E. shibakawae* (Matsumura)] that has these hair patches posteriorly connected. The present understanding of the taxon *Epistrophella* is still too much influenced by its original description, which is based on a single species (*euchroma*). Such problems are frequent whenever supraspecific taxa are erected for single species. However, a revision of the (sub-)genus *Epistrophella* is beyond the scope of the present account. Therefore, the assignment of *coronata* to *Epistrophella* is only provisional. A definite solution to the *coronata* problem requires a well-founded phylogenetic classification of the Syrphini that provides the necessary information on character polarity of both adult and larval morphology.

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