

# Steenstrupia

ZOOLOGICAL MUSEUM  
UNIVERSITY OF COPENHAGEN



Dr. J. R. Vockeroth.  
With the  
compliments of  
E. Torp Pedersen

Volume 1: 229-245

No. 21: June 25, 1971

## Some Syrphidae from Spain, with descriptions of two new species (Insecta, Diptera)

by E. Torp Pedersen

Jelling Statsseminarium,  
Denmark

*Abstract.* 79 species are recorded mainly from the Sierra Nevada area, Spain. Two species are new to science, viz., *Pipizella lyneborgi* and *Cheilosia andalusiaca*. The first description of the male of *Cheilosia limbicornis* Strobl is given. *Cheilosia paralobi* Malski and *Merodon spicatus* Beck are new to Europe. *Pipiza noctiluca* L., *Dasyrphus eggeri* Schin. and *Ischiodon aegyptium* Wied. are new to Spain. It is confirmed that *Pipizella annulata* Meig. (Collin, 1952) is a valid species. *Lathyrophthalmus quinquelineatus* auct., nec Fabr. is a synonym of *L. megacephalus* Rossi.

The paper reports on a material from three institutions. The major part (about 500 specimens) was collected in the Spanish provinces Almeria and Granada between the 5th of March and the 7th of May 1966 by Dr. Leif Lyneborg, Zoological Museum, Copenhagen, and his two assistants, Mr. Søren Langemark and Mr. Ole Martin. A smaller part (22 specimens) was collected by Dr. W Hackman, Helsinki, in the same period. Furthermore the paper includes a material (about 165 specimens) collected in 1960 by Dr. J. R. Vockeroth, Ottawa, Canada. A few specimens caught in 1963 by the author are also included.

I wish to express my thanks to the collectors and especially to Dr. Lyneborg and Dr. Vockeroth for giving me the opportunity to study this very interesting material. Further I thank Dr. V. S. van der Goot, Amsterdam, for determining some of the specimens of the genera *Merodon* and *Eumerus*, and Mrs. Grete Lyneborg for drawing the figures.

*Paragus albifrons* Fallén, 1817

*Material.* GRANADA: 1 ♂, N. slope of Veleta, Sierra Nevada, 2300-2550 m, 22.vii.1960; 2 ♀, Maitena, 900 m, 11.vii.1960.

*Paragus bicolor* Fabricius, 1794

*Material.* ALMERIA: 1 ♂, 1 ♀, 5 km W of Alhama, 28.iii.1966. - GRA-

NADA: 1 ♂, 1 ♀, Torrenueva, E of Motril, 14.iv.1966; 1 ♀, Rio Lanjaron near Lanjaron, 600 m, 28.iv.1966; 1 ♀, Sierra Nevada near Padul, 1300 m, 4.v.1966. – CADIZ: 4 ♂, 2 ♀, La Linea, 2.viii.1960.

*Remarks.* The male genitalia (figs. 1–4) show, that this species is not identic with Lundbeck's *bicolor* Fabr. from Denmark (1916:49). Unfortunately the type of Fabricius's *bicolor* in the Zoological Museum, Copenhagen has been lost, but as Fabricius described his species on the basis of material from the Mediterranean area, I think it most reasonable to give the name *bicolor* Fabr. to the Spanish species.

*Paragus pulcherrimus* Strobl, 1893

*Material.* GUIPUZCOA: 1 ♂, Irun, 6.vii.1960. – GRANADA: 2 ♀, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 16.iv.–5.v.1966; 1 ♀, Rio Guadalfeo, Orgiva, 300 m, 4.iv.1966. – CADIZ: 3 ♂, 3 ♀, La Linea, 2.viii.1960.

*Remarks.* It is much like *quadrifasciatus* Meig., also concerning the male genitalia, but *pulcherrimus* Strobl has 2–3 pairs of whitish dust spots on the thorax, while these are quite lacking in the other species. Maybe *pulcherrimus* Strobl is only a variety of *quadrifasciatus* Meig. The first known Spanish record is from 1957 (Leclercq, 1963:125).

*Paragus quadrifasciatus* Meigen, 1822

*Material.* ALMERIA: 1 ♂, Rioja, 25.iii.1966. – GRANADA: 1 ♂, 1 ♀, Rio Guadalfeo, Orgiva, 300 m, 2–21.iv.1966; 1 ♀, Rio Lanjaron near Lanjaron, 600 m, 26.iv.1966.

*Paragus strigatus* Meigen, 1822

*Material.* GRANADA: 2 ♂, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 23.iv.1966; 1 ♂, Rambla de Aculas, 10 km E of Orgiva, 400 m, 27.iv.1966; 1 ♂, Rio Lanjaron, 9 km NW of Orgiva, 1600 m, 15.iv.1966. – CADIZ: 1 ♂, La Linea, 2.viii.1960.

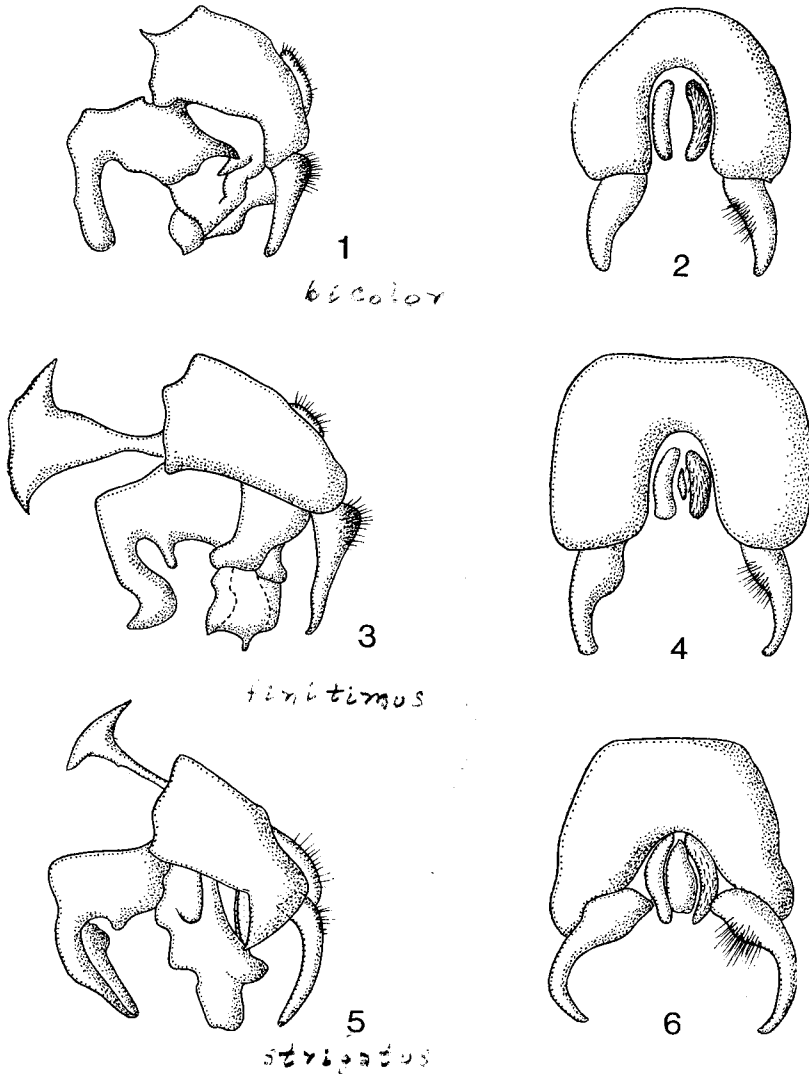
*Remarks.* In both sexes the first tergite is black with more or less reddish on the middle part. The male genitalia (figs. 5–6) are distinctly different from *bicolor* Fabr.

*Paragus sigillatus* Curtis, 1836

*Material.* GRANADA: 2 ♂, Granada, 700 m, 10–13.vii.1960; 1 ♂, Maitena, 900 m, 11.vii.1960; 1 ♂, Almunecar, 0–30 m, 16.vii.1960; 1 ♂, Rio Guadalfeo, Orgiva, 300 m, 3.v.1966; 1 ♂, Rio Lanjaron near Lanjaron, 600 m, 26.iv.1966.

*Remarks.* According to Sack's key (1932:131) two distinctly different species of the Spanish material run to *tibialis* Fall., the one with short superiorlobes (figs. 7–8) and the other with very long superiorlobes (figs. 9–10).

Dr. P. Goeldlin, Lausanne, who has studied all the existing types of the palaeartic species of *Paragus*, has been so kind to tell me (*i.l.*) that the species with short superiorlobes corresponds to *P. sigillatus* Curtis, and that the species with big genitalia is the real *tibialis* Fall.



Figs. 1-6. Hypopygium, lateral view (left), caudal view (right) of 1-2) *Paragus bicolor* Fabr., from Spain, 3-4) *P. bicolor* Lundb. nec Fabr. from Denmark, and 5-6) *P. strigatus* Meig.

*Paragus tibialis* Fallén, 1817

*Material.* ALMERIA: 1 ♂, Alhama, 28.iii.1966; 4 ♂, 5 km W of Alhama, 17-21.iii.1966. - GRANADA: 2 ♂, 1 ♀, Torrenueva, E of Motril, 0-50 m, 12-17.iv.1966; 1 ♀, Barranco de Algarrobo, 12 km SW of Orgiva, 25.iv.1966; 9 ♂, 3 ♀, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 16-23.iv.1966; 1 ♂, 1 ♀, Sierra de Contraviesa, 5 km SE of Orgiva, 500 m, 18.iv.1966; 1 ♂,

Rambla de Aculas, 10 km E of Orgiva, 27.iv.1966; 1 ♂, Granada, 700 m, 15.vii.1960; 1 ♂, Sierra Nevada Highway, 1400 m, 27.vii.1960; 2 ♂, N. slope of Veleta, Sierra Nevada, 2200–2550 m, 22–30.vii.1960. – CADIZ: 5 ♂, 6 ♀, La Linea, 2.viii.1960.

*Remarks.* The colour of the abdomen cannot be used to distinguish the two species *sigillatus* Curt. and *tibialis* Fall. as it is very variable in both of them. In the Spanish material some of the specimens have quite black abdomen, but often with red or orange markings on the third and the following segments, and in some specimens these segments are nearly quite yellowish red. The females of the two species are very much alike. The male genitalia, see figs. 9–10.

*Pipizella annulata* Macquart, 1827

*Material.* GRANADA: 1 ♂, N. slope of Veleta, Sierra Nevada, 2200 m, 30.vii.1960.

*Remarks.* As Collin states (1952:88),  $t_1$  and  $t_2$  are distinctly yellow at both ends. It has very distinctive male genitalia, quite different from those of *virens* Fabr. and *varipes* Meig., and it is not a synonym of these species as often supposed.

*Pipizella lyneborghi* sp. n.

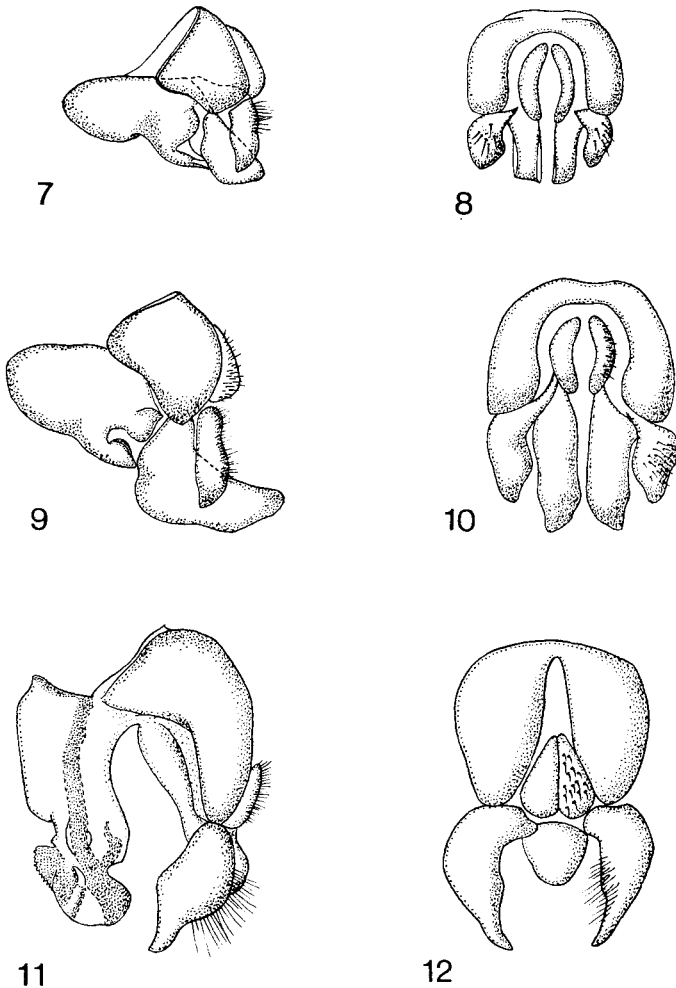
*Types.* Holotype ♂, GRANADA: Sierra de Contraviesa, Rabite, 1300 m, 2.v.1966. Paratypes, GRANADA: 1 ♀, Sierra Nevada near Padul, 1300 m, 4.v.1966; 1 ♂, Sierra de Contraviesa, Rabite, 1300 m, 8.iv.1966.

*Description.* Male. Head. Vertex, frons and epistoma aeneous black, a little pruinose especially at the sides of the epistoma and with rather long, whitish hairs. Over and at the sides of the antennae are some black hairs too. The eye-suture is about as long as the vertical triangle. Occiput aeneous black, a little pruinose and with whitish hairs, which are longest on the upper part and much shorter at the sides. Eyes densely hairy with rather long, brownish hairs, a little longer on the upper part. Angle of approximation in front nearly 90°. Antennae with the two basal joints black with black hairs. The third joint dark brown or blackish and rather broad, not more than one and a half times as long as broad. Arista as long as second and third joint together, a little lighter and thickened in the basal half.

Thorax aeneous black with long whitish and yellowish hairs, especially long on the hind half of the scutellum.

Wings with some of the veins light brown. The upper marginal cross-vein bent angularly outwards before the middle, but curved so that the upper angle is rectangular. Halteres yellowish or light brown.

Legs predominantly black. Femorae black with the apical  $\frac{1}{8}$ – $\frac{1}{10}$  yellow.  $t_1$  yellow on the basal  $\frac{2}{5}$ ,  $t_2$  on nearly the basal half and  $t_3$  only on the basal sixth.  $t_1$  and  $t_2$  very narrowly yellow at apical part. Middle metatarsus yellow, but for the rest the tarsi are nearly quite black. The legs with whitish hairs, on  $f_1$  and  $f_2$  increasing in length towards the base, but  $f_3$  also with rather long hairs on the apical part. There are also some long hairs on the middle and apical part of  $t_3$ .



Figs. 7-12. Hypopygium, lateral view (left), caudal view (right) of 7-8) *Paragus sigillatus* Curt., 9-10) *P. tibialis* Fall., and 11-12) *Pipizella lyneborgi* sp.n.

Abdomen aeneous black, rather coarsely punctate and with whitish hairs, which are rather short, but a little longer at the margin and longest on the basal corners of second segment. Venter blackish, shining and with long pale hairs. Genitalia, see figs. 11-12.

Female. Vertex, frons and epistoma aeneous black to black and more shining than in the male. The epistoma only very narrowly pruinose at the sides, and the frons with very small and inconspicuous dust spots confined to the sides. Occiput rather broad, shining black and quite undusted on the upper part. Eyes densely hairy, but the hairs are shorter and paler than in the

male. The third joint of the antennae is broader than in the male, only about one and a third as long as deep. For the rest it agrees with the description of the male.

Total length about 9 mm.

*Remarks.* It is a rather large *Pipizella* species with male genitalia distinctly different from the other species. Besides it has long and very pale hairs on thorax and abdomen, shorter and deeper third joint of antennae, long eye-suture and eyes with rather long hairs.

*Pipiza festiva* Meigen, 1822

*Material.* GRANADA: 1 ♀, Rio Lanjaron near Lanjaron, 600 m, 28.iv.1966.

*Pipiza noctiluca* Linné, 1758

*Material.* ALMERIA: 1 ♂, Alhama, 17–22.iii.1966.

*Remarks.* New to Spain.

*Orthonera frontalis* Loew, 1843

*Material.* GRANADA: 1 ♂, 1 ♀, Rio Guadalfeo, Orgiva, 300 m, 18–19.iv.1966.

*Orthonera nobilis* Fallén, 1817

*Material.* GRANADA: 1 ♂, 1 ♀, N. slope of Veleta, Sierra Nevada, 2300–2550 m, 22–30.vii.1960.

*Liogaster metallina* Fabricius, 1777

*Material.* GUIPUZCOA: 1 ♂, Irun, 6.vii.1960; 1 ♀, San Sebastian, 7.vii.1960. – GRANADA: 2 ♀, Sierra Nevada Highway, 1200 m, 27.vii.1960.

*Chrysogaster basalis* Loew, 1857

*Material.* GRANADA: 1 ♀, Maitena, 900 m, 11.vii.1960.

*Remarks.* Known from Spain and France. Séguy (1961:26) also indicates Central and North Europe.

*Cheilusia paralobi* Malski, 1962

*Material.* GRANADA: 4 ♂, Rio Lanjaron, 9 km NW of Orgiva, 1600 m, 22.iv.1966; 1 ♀, Rio Mulhacén, 5 km N of Capileira, 1500 m, 9.iv.1966.

*Remarks.* New to Europe. This species resembles *C. latifacies* Loew, but the male genitalia are of quite different shape. The Spanish males have black antennae and the halteres with the knob darkened. The female is new. In this sex the third joint of antennae is larger than in *latifacies* Loew and not longer than deep. 11.v.1971 the author caught 5 ♂ and 5 ♀ of this interesting species in Montes de Málaga near Viento, 10 km SW of Colmenar (1000 m above sea-level).

*Cheilosia intonsa* Loew, 1857

*Material.* GRANADA: 1 ♀, Pampineira, 900 m, 9.iv.1966; 1 ♂, 1 ♀, Rio Lanjaron, 9 km NW of Orgiva, 1600 m, 22.iv.–7.v.1966.

*Cheilosia variabilis* Panzer, 1798

*Material.* GRANADA: 1 ♂, 1 ♀, Rio Lanjaron, 9 km NW of Orgiva, 1600 m, 22.iv.–7.v.1966.

*Cheilosia andalusiaca* sp. n.

*Types.* Holotype ♂, GRANADA: Rio Lanjaron, 9 km NW of Orgiva, 1600 m, 22.iv.1966. Paratypes, 2 ♂, same locality, 15. and 22.iv.1966.

*Descriptions.* Male. Head. Eyes with dense, somewhat long, brown hairs. Frons slightly pruinose towards the sides, with a broad, longitudinal groove and with long black hairs intermixed with some pale ones. Vertex with black hairs on the foremost part, but pale hairs on the rest of it. Occiput grey pruinose with yellowish hairs and a row of some black hairs on the upper part. Epistoma slightly hollowed below the antennae, nearly straight from the antennal prominence to the central knob. It is pruinose below the antennae, for the rest very slightly pruinose and distinctly shining. The central knob rather small, but projecting and lying somewhat long downwards. Between the knob and the prominent mouth edge the epistome is hollowed (fig.13). Eye-margins rather broad with short, whitish hairs. Antennae with two basal joints black. The third joint roundish, scarcely longer than deep. It is dark brown to blackish on the upper and foremost part, but for the rest reddish brown. Arista thickened in about the basal third, almost bare.

Thorax bluish to aeneous black, a little pruinose but somewhat shining especially at the sides. It is clothed with long, whitish hairs, longest on the scutellum, which has no bristles. On the sides are some black hairs and a few black supraalar and postalar bristles.

Wings a little brownish tinged. Upper marginal cross-vein slightly curved, the upper angle rectangular. Squamulae yellowish white with yellow margin. Halteres pale brown with the knob darkened. Wing length 9 mm.

Legs black, the front and middle pairs with the knees very narrowly brown.

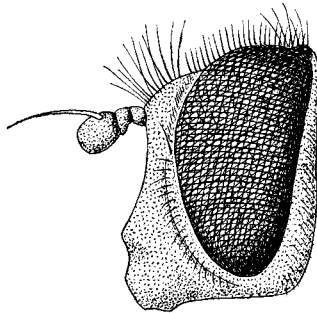


Fig. 13. *Cheilosia andalusiaca* sp.n., head, lateral view.

$f_1$  and  $f_2$  with many white and some black hairs, which are long especially on the basal part. On  $f_3$  the long hairs are more sparse.

Abdomen aeneous black with pale yellowish or whitish hairs, which are rather long at the margin, especially on second tergite, but short on the middle of the tergites. Venter somewhat shining with pale hairs, which are very long on the second sternite.

Total length, 9.5–10 mm.

*Remarks:* It belongs to group C according to Sack's division of the genus (eyes hairy, face bare and scutellum without bristles at margin). In his key (1932:46) the new species runs to *montana* Egg., but it is very different from this larger and more shining species with strongly brownish tinged wings. Besides *montana* has mainly black hairs on thorax and tawny hairs on abdomen, and its tibiae are more pale.

*Cheilosia limbicornis* Strobl, 1909

*Material.* GRANADA: 1 ♂, 2 ♀, Rio Mulhacén, 5 km N of Capileira, 1500 m, 9.iv.1966; 1 ♂, Rio Lanjaron, 9 km NW of Orgiva, 1600 m, 15.iv.1966.

*Description.* Male. Head. Eyes with rather short, whitish hairs, not very dense. Angle of approximation in front a little more than 90°. Frons with a broad, longitudinal groove and with long, black hairs. Vertex and occiput with yellowish hairs. Epistoma slightly hollowed below the antennae, a little pruinose but distinctly shining. The prominent central knob lying somewhat downwards. Between it and the mouth edge the epistoma is hollowed. Eye-margins rather broad with shorter whitish hairs. Antennae with the basal joint black, second joint black with upper and outer margin a little brownish. The third joint ovate, distinctly longer than deep (about 1½ times), blackish brown on the upper and outer part and lighter reddish brown for the rest. Arista black and distinctly thickened on the basal part. It is rather short, not more than about 1¾ times as long as the third joint.

Thorax blackish, a little shining. It is clothed with long, whitish hairs, longest on the scutellum, which has no bristles. Apart from a few small, black supraalar and postalar bristles, all the hairs on the thorax, including the pleurae, are whitish.

Wings distinctly brownish tinged. Upper angle of upper marginal cross-vein rectangular. Halteres light brown with the knob blackish brown.

Femora black,  $f_1$  and  $f_2$  with the apical ⅛–⅓ yellow, but  $f_3$  only very narrowly yellow at the knees. Tibiae yellow with small and faint blackish rings. Tarsi mainly yellow with the fifth joint and hind metatarsus black. The legs are a little darker than in the females. Femora with rather long hairs, longest on the basal part of front and middle pairs. The hairs are mainly pale, but at the apical part there are also black hairs.

Abdomen aeneous black with long, whitish or very pale yellow hairs, longest on the second segment.

*Remarks.* The male is new, and therefore a description of it is given above. It can be separated from *chloris* Meig. on the following characters:



	<i>limbicornis</i> Strobl	<i>chloris</i> Meig.
Eye-hairs	rather short, whitish	rather long, dark brown
Third joint of antennae	dark brown, venter a little lighter reddish brown; distinctly longer than deep	orange, about circular
Arista	shorter, less than two times as long as third joint	longer, about three times as long as third joint
Abdomen	narrower	oval

Strobl described the species on the basis of a single female, and till now only this specimen is known (taken in 1907 in Sierra Nevada).

*Cheilosia albitarsis* Meigen, 1822

*Material.* GRANADA: 1 ♂, Rio Lanjaron, 9 km NW of Orgiva, 1600 m, 7.v.1966.

*Cheilosia praecox* Zetterstedt, 1843

*Material.* GRANADA: 16 ♂, 5 ♀, Rio Lanjaron, 9 km NW of Orgiva, 1600 m, 6.iv.–7.v.1966.

*Platyichirus albimanus* Fabricius, 1781

*Material.* GRANADA: 1 ♂, 2 ♀, Rio Guadalfeo, Orgiva, 300 m, 3.–19.iv.1966; 4 ♂, Sierra de Contraviesa near Rabite, 1300 m, 2.v.1966; 5 ♂, 2 ♀, Rio Lanjaron near Lanjaron, 600 m, 26–28.iv.1966; 1 ♀, Rio Sucio, 5 km NW Orgiva, 700 m, 3.iv.1966; 2 ♂, 8 ♀, Rio Lanjaron, 9 km NW Orgiva, 1600 m, 6.iv.–7.v.1966; 1 ♂, Sierra Nevada near Padul, 1300 m, 4.v.1966; 1 ♀, N.slope of Veleta, Sierra Nevada, 2200 m, 30.vii.1960.

*Platyichirus clypeatus* Meigen, 1822

*Material.* GUIPUZCOA: 4 ♀, Irun, 5–6.vii.1960; 1 ♀, San Sebastian, 7.vii.1960.

*Platyichirus scutatus* Meigen, 1822

*Material.* ALMERIA: 1 ♀, Almeria, 1–10.iv.1966. – GRANADA: 1 ♀, Rio Lanjaron near Lanjaron, 600 m, 28.iv.1966.

*Melanostoma ambiguum* Fallén, 1817

*Material.* ALMERIA: 3 ♀, 5 km W of Alhama, 17–22.iii.1966.

*Melanostoma mellinum* Linné, 1758

*Material.* ALMERIA: 1 ♂, 1 ♀, Pechina, 5.iii.1966; 1 ♂, 1 ♀, Rioja, 28.iii.–20.iv.1966. – GRANADA: 1 ♂, 1 ♀, Rio Guadalfeo, Orgiva, 300 m, 11–21.iv.1966; 1 ♂, N. slope of Veleta, Sierra Nevada, 2400 m, 30.vii.1960; 1 ♂, 1 ♀, Granada, 700 m, 10–13.vii.1960. – GUIPUZCOA: 2 ♂, 6 ♀, 5–6.vii.1960.

*Melanostoma scalare* Fabricius, 1794

*Material.* ALMERIA: 1 ♀, Rioja, 7.iii.1966. – GRANADA: 1 ♀, Rio Guadalfeo, Orgiva, 300 m, 11.iv.1966.

*Scaeva albomaculata* Macquart, 1842

*Material.* ALMERIA: 1 ♀, Cabo de Gata, 26.iii.1966. – GRANADA: 4 ♀, N. slope of Veleta, Sierra Nevada, 2550 m, 24.vii.1960; 3 ♀, same locality, 2400 m, 25–30.vii.1960; 3 ♀, Sierra Nevada Highway, 1800 m, 27.vii.1960.

*Scaeva pyrastris* Linné, 1758

*Material.* GRANADA: 1 ♂, Barranco de Algarrobo, 12 km SW of Orgiva, 300 m, 25.iv.1966; 1 ♂, 2 ♀, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 16–20.iv.1966; 1 ♀, Pinus Puente, 15 km NW of Granada, 500–1000 m, 27.iv.1966.

*Scaeva selenitica* Meigen, 1822

*Material.* GRANADA: 1 ♂, 1 ♀, Sierra Nevada near Padul, 1300 m, 1–4.v.1966.

*Syrphus ribesii* Linné, 1758

*Material.* GRANADA: 1 ♂, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 16.iv.1966; 1 ♂, Rio Guadalfeo, Orgiva, 300 m, 11.iv.1966; 6 ♂, Rio Lanjaron near Lanjaron, 600 m, 26–28.iv.1966.

*Syrphus vitripennis* Meigen, 1822

*Material.* ALMERIA: 1 ♀, Alhama, 17–22.iii.1966. – GRANADA: 1 ♂, Rio Guadalfeo, Orgiva, 300 m, 4.iv.1966.

*Dasysyrphus albostrigatus* Fallén, 1817

*Material.* ALMERIA: 1 ♂, Rioja, 28.iii.1966; 1 ♀, 5 km W of Alhama, 17.iii.1966. – GRANADA: 1 ♂, Rio Sudio, 5 km NW of Orgiva, 700 m, 3.iv.1966; 1 ♂, Granada, 700 m, 9.vii.1960.

*Dasysyrphus eggeri* Schiner, 1862

*Material.* GRANADA: 2 ♀, Sierra Nevada Highway, 1800 m, 27.vii.1960.

*Remarks.* New to Spain. In 1955 van der Goot (1958:95) caught it in Andorra. A Central and South European Species.

*Epistrophe ochrostoma* Zetterstedt, 1849

*Material.* ALMERIA: 1 ♂, 5 km W of Alhama, 28.iii.1966. – GRANADA: 1 ♂, Rio Guadalfeo, Orgiva, 300 m, 11.iv.1966.

*Metasyrphus corollae* Fabricius, 1794

*Material.* GUIPUZCOA: 1 ♂, 1 ♀, Irun, 5–6.vii.1960. – ALMERIA: 1 ♀, Almeria, 4–10.iii.1966; 1 ♂, Albufera, 8.iii.1966; 1 ♀, Rioja, 11.iii.1966; 1 ♀,

Tabernas, 14.iii.1966; 1 ♂, 8 km N of Tabernas, 14.iii.1966; 1 ♂, 1 ♀, Alhama, 22.iii.1966; 1 ♂, Rio Andarax, Fondon, 18.iii.1966. – GRANADA: 1 ♂, 1 ♀, Torrenueva, E of Motril, 10–12.iv.1966; 1 ♂, Barranco de Algarrobo, 12 km SW of Orgiva, 25.iv.1966; 1 ♂, 2 ♀, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 16–23.iv.1966; 1 ♀, Sierra de Contraviesa, 5 km SE of Orgiva, 500 m, 18.iv.1966; 1 ♂, Rambla de Aculas, 10 km E of Orgiva, 27.iv.1966; 3 ♂, 1 ♀, Rio Lanjaron near Lanjaron, 600 m, 26–28.iv.1966; 4 ♂, 8 ♀, Rio Lanjaron, 9 km NW of Orgiva, 1600 m, 6.iv.–7.v.1966; 1 ♂, 2 ♀, Rio Mulhacén, 5 km N of Capileira, 1500 m, 9.iv.1966.

*Metasyrphus luniger* Meigen, 1822

*Material.* ALMERIA: 1 ♀, 5 km W of Alhama, 19.iii.1966. – GRANADA: 1 ♂, 1 ♀, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 16–20.iv.1966; 1 ♀, Rio Guadalfeo, Orgiva, 300 m, 14.iv.1966; 1 ♀, 4 km SE of Orgiva, 15.iii.1966; 1 ♂, Rio Lanjaron near Lanjaron, 600 m, 28.iv.1966; 1 ♀, N. slope of Veleta, Sierra Nevada, 2400 m, 25.vii.1960.

*Episyrphus balteatus* Degeer, 1770

*Material.* GUIPUZCOA: 1 ♀, San Sebastian, 7.vii.1960. – ALMERIA: 2 ♂, 3 ♀, Pechina, 5–9.iii.1966; 6 ♂, 5 ♀, Rioja, 7.iii.–9.iv.1966; 1 ♂, Alhama, 17–22.iii.1966; 5 ♂, 1 ♀, 5 km W of Alhama, 21–28.iii.1966; 1 ♂, Rio Andarax, Fondon, 18.iii.1966. – GRANADA: 1 ♀, Torrenueva, E of Motril, 10.iv.1966; 3 ♂, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 16–20.iv.1966; 15 ♂, 4 ♀, Rio Guadalfeo, Orgiva, 300 m, 4–18.iv.1966; 1 ♂, Sierra de Contraviesa, Rabite, 1300 m, 2.v.1966; 3 ♂, 1 ♀, Rio Lanjaron near Lanjaron, 600 m, 26–28.iv.1966; 3 ♂, Rio Sucio, 5 km NW of Orgiva, 700 m, 3.iv.1966; 2 ♂, 1 ♀, Granada, 700 m, 9–19.vii.1960.

*Meliscaeva auricollis* Meigen, 1822

*Material.* GRANADA: 3 ♂, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 16–20.iv.1966; 1 ♂, 4 km SE of Orgiva, 15.iii.1966; 1 ♂, 1 ♀, Rio Guadalfeo, Orgiva, 300 m, 11.iv.1966; 1 ♂, 1 ♀, Rio Lanjaron near Lanjaron, 600 m, 28.iv.1966.

*Sphaerophoria ruepelli* Wiedemann, 1830

*Material.* GUIPUZCOA: 1 ♂, Irun, 6.vii.1960; 1 ♀, San Sebastian, 7.vii.1960. – ALMERIA: 1 ♀, Almeria, 14.iv.1966; 1 ♂, Cabo de Gata, 24.iii.1966; 5 ♂, Pechina, 5–9.iii.1966; 2 ♂, 2 ♀, Rioja, 7.iii.–9.iv.1966. – GRANADA: 1 ♂, Rio Guadalfeo, Orgiva, 300 m, 18.iv.1966; 3 ♂, Almunecar, 0–30 m, 16.iv.1960; 1 ♂, 4 ♀, Granada, 700 m, 10–13.vii.1960.

*Sphaerophoria scripta* Linné, 1758

*Material.* GUIPUZCOA: 2 ♂, 6 ♀, Irun, 5–6.vii.1960; 2 ♂, 3 ♀, San Sebastian, 7.vii.1960. – CUENCA: 1 ♂, Hostal del Sol near Motilla del Palancar, 10.vii.1963. – ALMERIA: 1 ♂, 1 ♀, Pechina, 5.iii.1966; 2 ♂, 1 ♀, Rioja, 7.iii.–20.iv.1966. – GRANADA: 3 ♂, 6 ♀, Maitena, 900 m, 11.vii.1960; 1 ♂, 1 ♀, Almunecar, 0–30 m, 16.vii.1960; 2 ♂, 3 ♀, Granada, 10–18.vii.1960; 1 ♀,

Barranco de Algarrobo, 12 km SW of Orgiva, 25.iv.1966; 5 ♂, 5 ♀, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 16–23.iv.1966; 1 ♂, 6 ♀, Rio Guadalfeo, Orgiva, 300 m, 3–21.iv.1966; 2 ♂, 6 ♀, Sierra de Contraviesa, 5 km SE of Orgiva, 500 m, 18.iv.1966; 2 ♂, 1 ♀, Rambla de Aculas, 10 km E of Orgiva, 27.iv.1966; 4 ♂, 2 ♀, Rio Lanjaron near Lanjaron, 600 m, 26.iv.1966; 3 ♂, Rio Sucio, 5 km NW of Orgiva, 700 m, 3.iv.1966; 1 ♂, Pinus Puente, 15 km NW of Granada, 27.iv.1966; 2 ♀, Rio Lanjaron, 9 km NW of Orgiva, 1600 m, 7.v.1966; 1 ♀, N. slope of Veleta, Sierra Nevada, 2550 m, 30.vii.1960. – MALAGA: 1 ♂, Torremolinos, in a garden, 1.vi.1965.

*Sphaerophoria taeniata* Meigen, 1822

*Material.* GUIPUZCOA: 1 ♂, San Sebastian, 7.vii.1960.

*Remarks.* As shown by Vockeroth (1963:32) this is a good species, not a synonym of *menthastri* L. If Vockeroth's opinion of the two names is correct, *menthastri* L. sens. Bankowska is a synonym of this species.

*Sphaerophoria* sp.

*Material.* GUIPUZCOA: 1 ♀, Irun, 6.vii.1960. – ALMERIA: 1 ♀, Pechina, 5.iii.1966; 1 ♀, Rioja, 7.iii.1966. – GRANADA: 3 ♀, Rio Guadalfeo, Orgiva, 300 m, 11–21.iv.1966; 1 ♀, Sierra de Contraviesa, 5 km SE of Orgiva, 500 m, 18.iv.1966; 1 ♀, Rio Mulhacén, 5 km N of Capileira, 1500 m, 9.iv.1966.

*Remarks.* At the moment females of the *menthastri*-group cannot be identified with certainty.

*Xanthogramma marginale* Loew, 1854

*Material.* ALMERIA: 1 ♀, Rioja, 28.iii.1966; 1 ♂, same locality, 12–20.iv.1966; 3 ♂, 1 ♀, 5 km W of Alhama, 17–28.iii.1966. – GRANADA: 1 ♂, Barranco de Algarrobo, 12 km SW of Orgiva, 25.iv.1966; 2 ♂, Rio Guadalfeo, Orgiva, 300 m, 18–19.iv.1966; 1 ♂, Sierra de Contraviesa, Rabite, 1300 m, 2.v.1966; 1 ♀, Rio Lanjaron near Lanjaron, 600 m, 28.iv.1966; 1 ♂, Pinus Puente, 15 km NW of Granada, 27.iv.1966.

*Remarks.* Besides Spain this species is known from France (Pyrénées-Orientales), Portugal, Morocco and Algeria.

*Xanthogramma pedisequum* Harris, 1776

*Material.* GRANADA: 3 ♂, 1 ♀, Barranco de Algarrobo, 12 km SW of Orgiva, 300 m, 25.iv.1966; 2 ♂, 4 ♀, Rio Guadalfeo, Orgiva, 300 m, 4–21.iv.1966; 1 ♂, 1 ♀, Rio Lanjaron near Lanjaron, 600 m, 28.iv.1966.

*Ischiodon aegyptium* Wiedemann, 1830

*Material.* CADIZ: 1 ♀, La Linea, 2.viii.1960.

*Remarks.* Known from the Canary Islands, but hitherto not found in the Spanish mainland. Distributed throughout Africa and known from Asia Minor.

*Baccha obscuripennis* Meigen, 1822

*Material.* GRANADA: 3 ♂, Pampineira, 900 m, 9.iv.1966; 1 ♂, 1 ♀, Granada, 700 m, 18–19.vii.1960.

*Chamaesyrrhus lusitanicus* Mik, 1898

*Material.* GRANADA: 1 ♂, Sierra Nevada near Padul, 1200 m, 8.iv.1966; 2 ♂, 3 ♀, same locality, 1300 m, 1–4.v.1966.

*Remarks.* This species is not only known from Central and South Europe, but also from the Northwestern part of European U.S.S.R.

*Sphagina limbipennis* Strobl, 1909

*Material.* GRANADA: 1 ♂, Rio Lanjaron near Lanjaron, 600 m, 26.iv.1966; 1 ♂, Maitena, 900 m, 11.vii.1960.

*Remarks.* Described on the basis of a female caught about 1.v.1907 in Sierra Nevada (Upper Genital). Later Becker (1921:35) caught both sexes in Eastern Pyrenees near Vernet.

*Neoscasia podagrica* Fabricius, 1775

*Material.* GUIPUZCOA: 1 ♂, Irun, 5.vii.1960. – GRANADA: 2 ♀, Rio Guadalfeo, Orgiva, 300 m, 18–19.iv.1966; 1 ♂, 1 ♀, Rio Lanjaron near Lanjaron, 600 m, 26.iv.1966.

*Volucella elegans* Loew, 1862

*Material.* GRANADA: 1 ♂, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 20.iv.1966.

*Remarks.* Besides Spain the species is known from Corsica (France).

*Volucella zonaria* Poda, 1761

*Material.* CASTELLON DE LA PLANA: 1 ♀, Benicarlo, N of Castellon, 11.vii.1963.

*Eristalodes taeniops* Wiedemann, 1818

*Material.* ALMERIA: 1 ♂, Rioja, 7–14.iii.1966. – GRANADA: 1 ♂, Barranco de Algarrobo, 12 km SW of Orgiva, 300 m, 25.iv.1966; 9 ♂, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 16–20.iv.1966.

*Remarks.* A Mediterranean and Ethiopian species, but also known from the southwestern part of Asia.

*Eristalinus sepulchralis* Linné, 1758

*Material.* GUIPUZCOA: 2 ♂, 4 ♀, Irun, 5.vii.1960; 3 ♂, San Sebastian, 7.vii.1960.

*Lathrophthalmus aeneus* Scopoli, 1763

*Material.* ALMERIA: 1 ♂, Rioja, 22–26.iv.1966.

*Lathrophthalmus megacephalus* Rossi, 1794

*Material.* ALMERIA: 1 ♂, Albufera, 8.iii.1966.

*Remarks.* Several authors have used the name *quinquelineatus* Fabr. for this species, but as pointed out by Collin (1949:197) *quinquelineatus* Fabr. is an

*Eristalodes* species with banded eyes and not a *Lathyrrophthalmus* species with spotted eyes. The genitalia of a male *megacephalus* Ross., which Dr. Kenneth G. V. Smith has been so kind to send from the British Museum, are quite identical with the genitalia of the Spanish specimen. The first Spanish record is a male and a female from Albaterra near Alicante (Andréu, 1926:114), and Gil Collado (1930:210) mentions three more localities (Granada, Fuencaliente and Valencia).

Besides in the Mediterranean area it has a wide distribution in the Ethiopian and Oriental regions.

*Eristalis arbustorum* Linné, 1758

*Material.* GUIPUZCOA: 3 ♂, 2 ♀, Irun, 5.viii.1960. – GRANADA: 1 ♂, Sierra Nevada Highway, 2300 m, 27.vii.1960; 1 ♂, 1 ♀, Maitena, 900 m, 11.vii.1960; 1 ♂, 2 ♀, Granada, 700 m, 13–14.vii.1960; 2 ♂, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 16–20.iv.1966; 5 ♂, 1 ♀, Rio Guadalfeo, Orgiva, 300 m, 14–21.iv.1966.

*Eristalis pertinax* Scopoli, 1763

*Material.* GRANADA: 2 ♂, Rio Lanjaron, 9 km NW of Orgiva, 1600 m, 6.iv.–7.v.1966.

*Eristalis pratorum* Meigen, 1822

*Material.* ALMERIA: 1 ♀, Alcazaba, 8.iv.1966; 2 ♂, Rioja, 11.iii.1966. – GRANADA: 3 ♂, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 16.iv.1966; 1 ♀, Pinus Puente, 15 km NW of Granada, 27.iv.1966; 2 ♂, 1 ♀, Rio Lanjaron, 9 km NW of Orgiva, 1600 m, 15–22.iv.1966.

*Eristalis tenax* Linné, 1758

*Material.* GUIPUZCOA: 1 ♂, Irun, 5.vii.1960. – ALMERIA: 1 ♂, Albufera, 8.iii.1966; 1 ♂, 1 ♀, Pechina, 5.–9.iii.1966; 1 ♀, Rioja, 7–14.iii.1966; 1 ♀, 5 km W of Alhama, 17.iii.1966. – GRANADA: 2 ♀, Salobrena, 6 km W of Motril, 24.iv.1966; 1 ♂, 1 ♀, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 16.iv.1966; 1 ♀, Rio Guadalfeo, Orgiva, 300 m, 14.iv.1966; 1 ♂, Sierra de Contraviesa, Rabite, 1300 m, 2.v.1966; 3 ♂, 2 ♀, Rio Lanjaron near Lanjaron, 600 m, 26–28.iv.1966; 1 ♂, 1 ♀, Rio Lanjaron, 9 km NW of Orgiva 1600 m, 22.iv.1966; 5 ♂, 2 ♀, Sierra Nevada near Padul, 1200–1300 m, 8.iv.–4.v.1966; 1 ♂, 2 ♀, N. slope of Veleta, Sierra Nevada, 2550 m, 20–24.vii.1960; 1 ♂, 1 ♀, Granada, 700 m, 14.vii.1960.

*Myiatropa florea* Linné, 1758

*Material.* ALMERIA: 2 ♂, 5 km W of Alhama, 19–28.iii.1966. – GRANADA: 1 ♂, 1 ♀, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 16–23.iv.1966; 1 ♀, Sierra de Contraviesa, Rabite, 300 m, 2.v.1966; 1 ♂, Pampineira, 900 m, 9.iv.1966; 1 ♀, Rio Lanjaron, 9 km NW of Orgiva, 1600 m, 22.iv.1966.

*Platynochaetus setosus* Fabricius, 1794

*Material.* ALMERIA: 1 ♀, Pechina, 5.iii.1966. – GRANADA: 1 ♂, 1 ♀,

Barranco de Miranda, 8 km SW of Orgiva, 300 m, 20.iv.1966; 1 ♂, 4 km SE of Orgiva, 15.iii.1966.

*Remarks.* Other Spanish localities are: Algeciras (Cadiz), Ronda (Málaga), Madrid and Barcelona. It is a West Mediterranean species known also from the Southern France, Morocco and Algeria.

*Merodon aeneus* Meigen, 1822

*Material.* GRANADA: 4 ♂, 1 ♀, Sierra Nevada near Padul, 1300 m, 4.v.1966.

*Merodon clavipes* Fabricius, 1781

*Material.* GRANADA: 1 ♂, Rio Lanjaron near Lanjaron, 600 m, 28.iv.1966; 4 ♂, 2 ♀, Sierra Nevada near Padul, 1300 m, 4.v.1966.

*Merodon equestris* Fabricius, 1794

*Material.* GRANADA: 10 ♂, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 16–20.iv.1966.

*Remarks.* Seven of the males belong to the colour-variety *narcissi* Fabr. The remaining three are typically *equestris*.

*Merodon spicatus* Becker, 1907

*Material.* GRANADA: 1 ♂, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 23.iv.1966.

*Remarks.* New to Europe. Till now known only from North Africa. The length of the specimen is about 7 mm.

*Xylota segnis* Linné, 1758

*Material.* GRANADA: 1 ♀, Barranco de Algarrobo, 12 km SW of Orgiva, 300 m, 25.iv.1966; 1 ♂, Rio Guadalfeo, Orgiva, 300 m, 11.iv.1966; 1 ♀, Rio Lanjaron near Lanjaron, 600 m, 28.iv.1966; 1 ♂, Granada, 700 m, 10.vii.1960.

*Syritta flaviventris* Macquart, 1841

*Material.* ALMERIA: 1 ♂, 1 ♀, Adra, 23.iii.1966; 1 ♂, 2 ♀, Albufera, 29.iii.1966. – GRANADA: 1 ♂, Almunecar, 0–30 m, 16.vii.1960.

*Remarks.* *S. spinigera* Loew, 1848, is a synonym of this species. It is known from South Europe, Africa, Asia Minor and Syria.

*Syritta pipiens* Linné, 1758

*Material.* CUENCA: 1 ♀, Hostal del Sol near Motilla del Palancar, 10.vii.1963. – ALMERIA: 1 ♀, Albufera, 29.iii.1966. – GRANADA: 1 ♂, 1 ♀, Torrenueva, E of Motril, 10.iv.1966; 1 ♂, 1 ♀, Rio Guadalfeo, Orgiva, 300 m, 5–11.iv.1966; 1 ♂, Rio Lanjaron near Lanjaron, 600 m, 28.iv.1966; 2 ♀, Maitena, 900 m, 11.vii.1960; 1 ♀, N. slope of Veleta, Sierra Nevada, 2400 m, 25.vii.1960; 6 ♂, Granada, 700 m, 10–13.vii.1960. – MALAGA: 1 ♂, Torremolinos, on flowers on the slopes at the sea, 8.vi.1965.

*Eumerus amoenus* Loew, 1848

*Material.* ALMERIA: 1 ♀, Almeria, 14.iii.1966; 1 ♂, 5 km W of Alhama, 28.iii.1966. – GRANADA: 1 ♂, Rio Guadalfeo, Orgiva, 300 m, 21.iv.1966; 1 ♂, 1 ♀, Rio Lanjaron near Lanjaron, 600 m, 26–28.iv.1966; 1 ♂, Sierra Nevada near Padul, 1200 m, 8.iv.1966.

*Remarks.* Known from South Europe, North Africa, Asia Minor and Central Asia.

*Eumerus argyropus* Loew, 1848

*Material.* GRANADA: 1 ♂, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 21.iv.1966.

*Remarks.* The first Spanish record is a female caught 5.viii.1965 near Albarra-cin (Teruel) (v.d. Goot and Lucas, 1967:118). The species is known from South Europe and Asia Minor.

*Eumerus nudus* Loew, 1848

*Material.* ALMERIA: 1 ♂, 5 km W of Alhama, 28.iii.1966.

*Eumerus pulchellus* Loew, 1848

*Material.* ALMERIA: 1 ♂, 5 km W of Alhama, 28.iii.1966. – GRANADA: 1 ♂, Barranco de Miranda, 8 km SW of Orgiva, 300 m, 20.iv.1966.

*Remarks.* Known from South Europe, North Africa and Asia Minor.

*Eumerus sabulorum* Fallén, 1817

*Material.* GRANADA: 1 ♂, N. slope of Veleta, Sierra Nevada, 3000 m, 20.vii.1960.

*Chrysotoxum bicinctum* Linné, 1758

*Material.* GRANADA: 1 ♀, N. slope of Veleta, Sierra Nevada, 2400 m, 27.vii.1960.

*Chrysotoxum intermedium* Meigen, 1822

*Material.* CASTELLON DE LA PLANA: 1 ♀, Benicarlo, N of Castellon, 11.vii.1963. – ALMERIA: 2 ♀, Albufera, 8.iii.1966; 1 ♂, Alhama, 22.iii.1966; 2 ♂, 1 ♀, 5 km W of Alhama, 28.iii.1966; 1 ♀, Punta Sabinal, 10.iv.1966. – GRANADA: 3 ♂, 3 ♀, Torrenueva, E of Motril, 0–50 m, 10–17.iv.1966; 1 ♂, Barranco de Algarrobo, 12 km SW of Orgiva, 300 m, 25.iv.1966; 2 ♂. Barranco de Miranda, 8 km SW of Orgiva, 300 m, 16–20.iv.1966; 2 ♂, 2 ♀, Rio Guadalfeo, Orgiva, 300 m, 3–11.iv.1966; 1 ♀, Sierra de Contraviesa, 5 km SE of Orgiva, 500 m, 18.iv.1966; 1 ♂, Rio Sucio, 5 km NW of Orgiva, 700 m, 3.iv.1966; 1 ♂, 4 km SE of Orgiva, 15.iii.1966; 1 ♀, Sierra Nevada Highway, 1400 m, 27.vii.1960; 1 ♂, Sierra Nevada near Padul, 1200 m, 8.iv.1966; 1 ♂, same locality, 1300 m, 4.v.1966.

*Chrysotoxum vernale* Loew, 1841

*Material.* GRANADA: 5 ♀, Rio Guadalfeo, Orgiva, 300 m, 4–18.iv.1966;



1 ♀, Canar N of Orgiva, 1000 m, 13.iv.1966; 2 ♂, Rio Lanjaron, 9 km NW of Orgiva, 1600 m, 15.iv.1966.

*Microdon mutabilis* Linné, 1758

*Material.* GRANADA: 1 ♂, 1 ♀, Rio Guadalfeo, Orgiva, 300 m, 14–21.iv.1966.

*Ceriana vespiformis* Latreille, 1809

*Material.* GRANADA: 1 ♂, Rio Guadalfeo, Orgiva, 300 m, 11.iv.1966.

## REFERENCES

- Andréu, D. José, 1926: Una lista de Sífidos para contribuir al conocimiento de los Dípteros de Espana. *Boln Soc. ent. Esp.*, 9:98–126.
- Becker, Th., 1921: Neue Dipteren meiner Sammlung. *Mitt. zool. Mus. Berl.*, 10:1–93.
- Coe, R. L., 1953: Diptera, Syrphidae. *Handbk. Ident. Br. Insects*, 10 (1) 98pp.
- Collado, J. Gil, 1930: Monografía de los sírfidos de Espana. *Trab. Mus. nac. Cienc. nat. (Zool.)*, 54, 376 pp.
- Collin, J. E., 1949: Results of the Armstrong College Expedition to Siwa Oasis (Libyan desert), 1935. Diptera Empididae, Dolochopodidae, Aschiza and Acalypterae. *Bull. Soc. Fouad I. Ent.*, 33:175–225.
- 1952, On the Subdivisions of the Genus *Pipizella* Rnd., and an Additional British Species (Diptera, Syrphidae). *J. Soc. Br. Ent.*, 4:85–88.
- Czerny, L. and G. Strobl, 1909: Spanische Dipteren. III. Beitrag. *Verh. zool.-bot. Ges. Wien*, 59:121–301.
- van der Goot, V. S., 1958: Quelques Syrphides (Dipt.) des Pyrénées et de la Sierra Nevada. *Ent. Ber., Amst.*, 18:93–96.
- and J. A. W. Lucas, 1967: Recolección de sírfidos en Albarraacín, provincia de Teruel, durante el verano de 1965 (Dipt. Syrphidae). *Graellsia*, 23:111–119. Madrid.
- Leclercq, Marcel, 1963: Syrphidae de Espana (Diptera). *Graellsia*, 20:125–129. Madrid.
- Lundbeck, W., 1916: Syrphidae. *Diptera Danica*, 5:18–591. Copenhagen.
- Peris, S. V., 1958: Análisis biográfico de la fauna de Syrphidae de la Península Ibérica. *Publnes Inst. Biol. apl.*, 27:171–176.
- Sack, P., 1932: Syrphidae (31) in Lindner: Die Fliegen der palaearktischen Region. 451 pp. Stuttgart.
- Séguy, E., 1961: Diptères Syrphides de l'Europe Occidentale. *Mém. Mus. natn. Hist. nat. (Zool.)*, 23:1–248.
- Vockeroth, J. R., 1963: The specific Status of *Sphaerophoria taeniata* (Meigen) (Dipt., Syrphidae). *Entomologist's mon. Mag.*, 99:32–33.





---

**Publisher:** *Zoologisk Museum, København* ©

**Editor:** *Dr. phil. Børge Petersen*

**Sale and Exchange:** *Steenstrupia, Universitetsparken 15, DK-2100 Copenhagen, Denmark*

---

*Printed in Denmark by Krøyer, Lyngby*