HOVERFLY NEWSLETTER

NUMBER 30
AUGUST 2000

Dipterists Forum

ISSN 1358-5029

We have now reached the landmark of the 30th issue of this newsletter, and have maintained our record of having at least one new contributor in every issue. I am very grateful to all who have sent me copy, both for the current and for previous newsletters. Please keep up the flow of articles, and please do not hesitate to send comments on the notes from other writers. Readers may notice the absence of the "interesting recent records" feature from this newsletter; this is because none have been sent to me. Please consider sending suitable records so that we can again include this section; records of nationally scarce (or rare) species are welcome, as are those of more common species occurring in unusual locations or at unexpected dates, or in a particular area where they have not been recorded before or for a long time.

Copy for **Hoverfly Newsletter No. 31** (which is expected to be issued in February 2001) should be sent to me: **David Iliff, Green Willows, Station Road, Woodmancote, Cheltenham, Glos, GL52 9HN** (please note change of postcode), Email **davidiliff@talk21.com** to reach me by 9 December (or it may be handed to me on Dipterists' Day in November).

CONTENTS

DIVERGING *PLATYCHEIRUS MANICATUS* FEMALES ON THE FAROE ISLANDS

Jens-Kjeld Jensen
FO 270 Nolsoy
Faroe Islands
jkjensen@post.olivant.fo

Colin W. Plant
14 West Road
Bishops Stortford
Herts, CM23 3QP Colinwplant@ compuserve.com

Since 1992, one of us (J-KJ) has been intensively surveying hoverflies in the Faroe Islands in order to prepare a checklist for the islands; this list is now in press. During the course of this work, an interesting anomaly has arisen within examples of *Platycheirus manicatus* (Mg.) which neither of us has, as yet, been able to resolve in a satisfactory manner.

P. manicatus is common all over the Faroes and is on the wing from 16 May to 9 September. A number of females captured from late July to 9 September are, however, atypical, and at first sight resemble *P. me!anopsis* in possessing a shining, undusted frons and thoracic dorsum. These were sent to CWP for an opinion who agreed that they did not at all resemble typical *manicatus.* However, *melanopsis* does not fly this late in the year and, in any case, these specimens did not meet the criteria for that species in all details. Thoughts of a new species inevitably sprang to our excited minds!

However, all of the males taken in the Faroes appear to be typical *manicatus* and, in spite of CWP critically examining a large number of examples, we have been unable to detect even the minutest variation from the description of *manicatus.*

The opinion of the Tore Nielsen, in Norway, was sought and several of the female specimens were sent to him for examination. He concurred with our shared view that these were certainly atypical specimens and that they differed from *P. melanopsis* in a number of characters which are summarised as follows:

- Scutum undusted on dorsum, but clearly dusted on sides (*melanopsis* entirely undusted: *manicatus* entirely dusted);

- Occiput just behind ocellar triangle shining and undusted, then dusted at the sides (*melanopsis* entirely shining: *manicatus* entirely dusted);

  Jowls and mouth edge dusted (*melanopsis* shining: *manicatus* dusted);

- Central prominence of face obviously less protruding than upper mouth edge as in *manicatus* (more or less equally protruding in *melanopsis*);

  Hind margin of scutellum with long and short hairs like *manicatus* (*melanopsis* only with short hairs).

Dr Nielsen's conclusion is that these are probably atypical *manicatus.* However, we feel that they are so unlike typical *manicatus* that they warrant drawing to the attention of a wider audience.

Of course, genetic isolation frequently creates "races" of insects in island situations, and it may be that this is the case with Faroese *P. manicatus.* But it is odd that only females appear to be involved. In the absence of a male it is unwise, if not impossible, to say with any certainty what these hoverflies truly are. However, we would be interested to hear from anyone who may have encountered such insects, perhaps in Scotland, perhaps elsewhere, and we would also suggest that examples of *melanopsis* identified on the basis of a shiny thoracic dorsum and frons are re-examined carefully against the characters listed above. If this variant form is found away from the Faroe Islands we will at least be able to rule out the suggestion that this is a unique island race. We would be very keen to examine and return examples of specimens that conform to the description of these unusual Faroese examples; please send them to either of us if any turn up.

DARK LEGGED FEMALE *EUPEODES LUNIGER*

David Gibbs
6, Stephen Street, Redfield, Bristol, BS5 9DY

Early this spring I collected one of several *Eupeodes* flying in my back garden. In Stubbs and Falk 1983 it keyed to *luniger* as expected. However, on checking the second supplement it clearly keyed to *E. lundbecki,* having a black basal half to the hind femora and rather small yellow spots on tergite two. As my specimen was no larger than an average *luniger* and my garden is a highly unlikely site for the former species, I collected some males when the sun next came out. They were all typical *luniger* although a little on the dark side, not surprising for March individuals. I have subsequently seen other *luniger* females with black hind femora and two other collectors have seen such specimens.

ARE THERE TWO SPECIES CONFUSED UNDER *CHEILOSIA ALBITARSIS?*

David Gibbs
6, Stephen Street, Redfield, Bristol, BS5 9DY

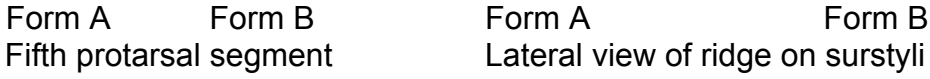
In 1999 I collected several male *Cheilosia* of the *albitarsis* group that approached in size C. *mutabilis* They even have rather dusky halteres and differed in the details of the surstyli so I provisionally determined them as *mutabilis*. However I soon found rather larger individuals which agreed with these specimens in all respects so decided to dissect all my specimens and seek expert advice. They appear to fall into two distinct groups differing in average size, colour and type of hairs on front of thoracic dorsum, sides of tergite two and on dorsum of tergite four and shape of fifth protarsal segment. Differences in the surstyli seem apparent, in the larger form they are more elongate and with a lower ridge, but this seems variable and much more material is required.

I took my specimens to the Dipterists Forum meeting where Alan Stubbs told me that workers on the continent are already aware that there is more than one species confused under *albitarsis.* Nothing is published yet but it seems likely that at least two species also occur in Britain. So we'll all have to start collecting them again!

The following table is based on two specimens of form A and six specimens of form B, all males.

Species/character	Form A	Form B
Size, wing length mm	Larger, 9-9.5 mm	Smaller 7.5-9 mm
Dorsal thoracic hairs	Mixture of black and pale yellow anteriorly	Entirely black
Anterolateral hairs on tergite two	Entirely pale yellow	At least some black (can be difficult to see)
Hairs on axis of tergite four	Both erect and recumbent* golden hairs	All hairs erect except apical margin
Fifth protarsal segment	Trapezoidal narrowing anteriorly	Parallel sided
Surstyli	More elongate with lower ridge	Shorter with higher, more robust ridge

* here recumbent means leaning at an angle of more than 45 degrees from the vertical, but not adpressed to tergite. Erect hairs are usually perpendicular but can be reclined at an angle of less than 45 degrees from the vertical.



RHINGIA ROSTRATA FOUND ON THE COTSWOLDS

David Iliff
Green Willows, Station Road, Woodmancote, Cheltenham, Glos, GL52 9HN

In the editorial for **Hoverfly Newsletter No. 17** (November 1993) I wrote of the dilemma faced by collectors and recorders in the situations where there is a close resemblance between a common or very common hoverfly and a rarity; do we pay little attention to specimens of what appears to be a common species, and thus risk missing the rarity; or do we catch, and perhaps kill large numbers of the common species in the hope that we might find the rarity among them? The examples of pairs of common and rare look-alikes that I cited were *Xylota segnis*/*X. tarda*, *Xylota sylvarum*/*Xylota xanthocnema* and *Rhingia campestris*/*R.rostrata*. In each of these cases it is probably true that the correct species can be determined in the field with the naked eye (just about), but it is probably also true that the recorder should be familiar with both species in life to be confident of doing so.

Until this year I had never found *R. rostrata* in spite of having examined numerous *Rhingia* in the field, of which all that I was able to examine closely

enough proved to be *R. campestris*, as evidenced by the presence of the distinct black margin round the tergites. As county hoverfly recorder for Gloucestershire I am interested in learning the distribution within the county of both *Rhingia* species, and as a photographer I am always hoping to find further species to add to my collection of hoverfly photographs.

Until this year the only Gloucestershire records of *R. rostrata* have been from Staunton in the Forest of Dean (in 1991 and 1992) and from Brockweir in the Wye Valley, in the garden of Andy Purcell, where the species has been present since 1998, in a spot not far from a badger latrine. Both locations are in the far west of the county, in VC34. There were no known records for VC33 (East Gloucestershire), which includes the Cotswolds. Being something of an entomological "twitcher" and anxious for an opportunity to photograph the species, I was planning to seek an invitation to the Brockweir site in the hope of finding it. However I do not now need to do so.

On 3 June 2000 I was on Nottingham Hill on the Cotswolds. There were not many hoverflies to be seen, but I came across several *Rhingia* which were immediately identifiable as *R. campestris*. My walk took me into Gotherington Wood, along a short ride running through coppiced broad-leaved woodland. At the side of the path I noticed two *Rhingia* feeding on the blooms of red campion (*Silene dioica*) and herb robert (*Geranium robertianum*); the abdomens of both appeared seemed to be of a brighter orange colour than typical *R. campestris*; I concentrated my attention on one of them, a female, and could not discern with the naked eye any sign of a black margin to the tergites. I took three photographs, and I noticed no sign of the black margin when looking through the camera lens, and I was fairly sure that there were no black markings on the tergites further back than the front half of tergite 2. I then caught the specimen. By this time the other *Rhingia* had vanished, but I was left with the strong impression that it belonged to the same species. When I reached home I was able to confirm that it was a *R. rostrata*; in addition to the features that I had observed in the field, the hoverfly had entirely orange legs, and the thorax and frons were distinctly dusted.

On 7 June I had an opportunity to revisit the site, and I did so with two objectives: to catch a female *R. campestris* with a view to comparing it with my specimen of a female *R. rostrata*, and to try to find a male *R. rostrata*. I accomplished the first, and subsequent examination of the females of the two species has convinced me that I can separate them with confidence in the field. When I reached Gotherington Wood I found several more *Rhingia rostrata*, mostly females, but eventually I found two males, one of which I photographed, and caught for examination. As before the *R. rostrata* were found on the blooms of red campion and herb robert. The abdomen in each case was bright orange (as opposed to brownish orange) and I had the impression that on average the *R. rostrata* were slightly smaller than typical *R. campestris.* The species was still present in small numbers on 10 and 28 June, while on 16 June I found a female *R. rostrata* feeding on hedge mustard (*Sisymbrium officinale*) on a laneside verge adjacent to a small wood about a kilometre from Gotherington Wood.

The site is close to my home so I shall visit it later in the year, and at appropriate times in future years. It will be interesting to discover whether the presence there of this species is an example of its erratic occurrence as described by Alan Stubbs in **British Hoverflies** (appearing in abundance in certain woods, and not being seen again for several years) or whether Gotherington Wood (which is also close to an area frequented by badgers) will prove to house a colony of the species like the one at Brockweir.

ANNOUNCEMENT

Colin Plant has been investigating the ecology of *Doros profuges* again this year, and would be grateful if anyone who has encountered this species in the U.K but has not already told him about it would contact him immediately (e-mail preferred) giving a grid reference to at least 6 figures (8 figures if possible). He has no intention of collecting adults, and will not be disclosing any secret locations. He may however wish to excavate ant nests to see if he can find larvae or pupae, so would appreciate contact details of the site owners (if known).

Colin W. Plant , Consultant Entomologist, 14 West Road, Bishops Stortford, Hertfordshire, CM23 3QP
tel/fax: 01279 507697; overseas: ++ 44 1279 507697;
mobile (portable) 07770 766416; e-mail Colinwplant@compuserve.com

RECENT LITERATURE
(compiled by Kenneth.R.Watt)

Barkalov, A.V. & Staahls, G. 1997 Revision of the Palaearctic bare-eyed and black-legged species of the genus *Cheilosia* Meigen (Diptera, Syrphidae) *ACTA ZOOL. FENN.* **no. 208**, 74 pp.

Ben Yakir, D.; Hadar, E. & Chen, M. 1997 Evaluating insecticides for the control of narcissus flies under field conditions in Israel *PHYTOPARASITICA* **25**(2): 93-97

Branquart, E.; Hemptinne, J. L.; Bauffe, C. & Benfekih, L.* 1997 Cannibalism in *Episyrphus balteatus* (Dipt.: Syrphidae) *ENTOMOPHAGA* **42**(1-2): 145-152

Brunel, E.; Cadou, D.; Kerbiriou, C. & Le Viol, I. 1998 The Dolichopodids and Syrphids flies in the isles of the "reserve of the Biosphere" of Iroise sea (Finistere, France) : first inventory (Diptera) *Bull. Soc. Entornol. Fr.* **103**(1): 57-62 French (English & French summary)

Burgio, G.; Ferrari, R. & Boriani, L. 1996 Community analysis of Hoverflies (Diptera, Syrphidae) in farms with different hedges in the Bologna province (Italy) *BULL. 1ST. ENTOMOL. "GUIDO GRANDI", UNIV. STUD. BOLOGNA* **51:** 69-77 Italian (English & Italian summary)

De Arruda, V.L.V. 1997 The use of floral resources by syrphids (Diptera: Syrphidae) and their interactions with other visitors. *NATURALIA* **22:** 163-178 Portuguese (English summary)

Dirickx, H.G.; Hamon, J. & Steffen, J. 1996 [Contribution to the study of the Syrphidae (Diptera) from the Rhone-Alps region.] *ENTOMOLOGISTE* **52**(2): 63-79 French (English & French summary)

Drees, M. 1997 [On mimicry by syrphids (Diptera: Syrphidae).] *ENTOMOL. Z.* **107**(12): 498-503 German (English summary)

Dussaix, C. 1997 Provisional list of syrphids of the Department of Sarthe (France) , followed by notes on the immature stages of several species (Diptera, Syrphidae) *BULL. SOC. ENTOMOL. FR.* **102**(2): 159-169 French (English & French summary)

Dussaix, C. 1997 [Rearing of *Mallota cimbiciformis* (Fallen, 1817) (Diptera, Syrphidae) in France (Sarthe).] *ENTOMOLOGISTE* **53**(3): 99-103 French (English & French summary)

Goeldlin De Tiefenau, P. 1996 On several new European species of *Syrphus* (Diptera, Syrphidae) and key for the Palearctic species of the genus. *MITT. SCHWEIZ. ENTOMOL. GES.* **69**(1): 157-171 French (English summary)

Goeldlin De Tiefenau, P. 1997 The genus *Trichopsomyia W*illiston, 1888 (Diptera: Syrphidae) in Europe with description of a new species, known for many years. *MITT. SCHWEIZ. ENTOMOL. GES.* **70**(1-2): 191-201 French (English summary)

Goeldlin De Tiefenau, P. & Speight, M.C.D. 1997 Complement to the faunistic list of Syrphidae (Diptera) from Switzerland: Synthesis of new or poorly known species. *MITT. SCHWEIZ. ENTOMOL. GES.* **70**(3-4): 299-309 French (English summary)

Goulson, D. & Wright, N.P. 1998 Flower constancy in the hoverflies *Episyrphus balteatus* (Degeer) and *Syrphus ribesii* (L.) (Syrphidae**)** *Behay. Ecol.* **9**(3): 213-219

Greco, C.F. 1995 Phenology and habitat selection of the aphidophagous syrphid species most frequently found in crops and pastures in the Province of Buenos Aires, Argentina. *ENTOMOPHAGA* **40**(3-4): 317-320 Spanish (English & French summary)

Greco, C.F. 1997 Specificity and instar preference of *Diplazon laetatorius* (Hym.: Ichneumonidae) parasitizing aphidophagous syrphids (Dipt.: Syrphidae) *ENTOMOPHAGA* **42**(3): 315-318 English (English & French summary)

Halstead, A.J. 1999 A new prey record for *Meliscaeva auricollis* (Meigen) (Diptera, Syrphidae) *Dipterists Digest* **6**(1): 21

Hart, A.J. & Bale, J.S.* 1997 Evidence for the first strongly freeze-tolerant insect found in the U.K. *ECOL. ENTOMOL.* **22**(2): 242-245

Hart, A.J. & Bale, J.S. 1997 Cold tolerance of the aphid predator *Episyrphus balteatus* (Degeer) (Diptera, Syrphidae) *PHYSIOL. ENTOMOL.* **22**(4): 332-338

Hart, A.J. & Bale, J.S. 1998 Factors Affecting the Freeze Tolerance of the Hoverfly *Syrphus ribesii* (Diptera: Syrphidae) *J. Insect Physiol.* **44**(1): 21-29

Hart, A.J.; Bale, J.S. & Fenlon, J.S. 1997 Developmental threshold, day-degree requirements and voltinism of the aphid predator *Episyrphus balteatus* (Diptera: Syrphidae) *ANN. APPL. BIOL.* **130**(3): 427-437

Haslett, J.R. 1997 Insect communities and the spatial complexity of mountain habitats *GLOBAL ECOL. BIOGEOGR. LETT.* 1997 vol. **6**(1): 49-56

Hayat, R. 1997 *Sphegina (Sphegina) alaoglui,* a new hover-fly from north-eastern Turkey (Diptera: Syrphidae) *ZOOL. MIDDLE EAST* **14**: 109-113 English [German & English summary)

Hayat, R. & Claussen, C. 1997 A new species and new records of the genus *Paragus* Latreille, 1804 from Turkey (Diptera: Syrphidae) *ZOOL. MIDDLE EAST* **14**: 99-108 English (German & English summary)

He, Jilong & Chu, Xiping 1995 Description of the female *Chalcosyrphus (Xylotomima) amurensis* (Stackelberg) (Diptera: Syrphidae) *ENTOMOTAXONOMIA* 17(3): 233-234 Chinese

Holloway, G.J.; Marriott, C.G. & Cracker, H.J. 1997 Phenotypic plasticity in hoverflies: The relationship between colour pattern and season in *Episyrphus balteatus* and other Syrphidae *ECOL. ENTOMOL.* **22**(4): 425-432

Huang, Chunmei & Cheng, Xinyue 1995 A study of *Graptomyza* Wiedemann (Diptera: Syrphidae) from China *ENTOMOTAXONOMIA* **17** (supplement: 91-99) Chinese (Chinese & English summary)

Jarlan, A.; De Oliveira, D. & Gingras, J. 1997 Pollination by *Eristalis tenax* (Diptera:

Syrphidae) and seed set of greenhouse sweet pepper *J. ECON. ENTOMOL.* **90**(6): 1646-1649

Jarlan, A.; De Oliveira, D. & Gingras, J. 1997 Effects of *Eristalis tenax* (Diptera: Syrphidae) pollination on characteristics of greenhouse sweet pepper fruits *J. ECON. ENTOMOL.* 90(6): 1650-1654

Kasseheer, C.F. 1995 [*Pipizella thapsiana* n. sp. from the High Atlas (Diptera: Syrphidae) contribution to Moroccan hoverflies.] *ENTOMOL. Z.* **105**(13): 260-264 German (English summary)

Kassebeer, C.F. 1995 [On knowledge of the North African species of the genus *Psilota* Meigen 1822 (Diptera: Syrphidae).) *ENTOMOL. Z.* **105**(19): 395-404 German (English summary)

Koepf, A.; Rank, N.E.*; Roininen, H. & Tahvanainen, J. 1997 Defensive larval secretions of leaf beetles attract a specialist predator *Parasyrphus nigritarsis* *ECOL. ENTOMOL.* **22**(2): 176-183

Kula, H. 1997 Hoverflies (Dipt.: Syrphidae) of spruce forest in different health condition *ENTOMOPHAGA* **42**(1-2): 133-138 English (English & French summary)

Laska, P. & Bicik, V. 1996 On the problems of the species *Dasysyrphus venustus* (Zetterstedt) and *D. hilaris* (Meigen) (Dipt., Syrphidae) *ENTOMOL. MON. MAG.* **132**(1588-1591): 305-309

Li, Qingxi 1995 Notes on the genus *Mesembrius* Rondani from China with the descriptions of two new species *ENTOMOTAXONOMIA* **17**(2): 119-124 Chinese (Chinese & English summary)

Li, Qingxi & Liu, Yanliang 1996 Two new species of the genus *Mallota* Meigen from China (Diptera: Syrphidae) *ENTOMOL. SINICA* **3**(3): 224-228 English (Chinese & English summary)

Loevei, G.L.; Macleod, A. & Hickman, J.M. 1998 Dispersal and effects of harriers on the movement of the New Zealand hover fly *Melanostoma fasciatum* (Dipt., Syrphidae) on cultivated land *J.Appl. Entomol.* **122**(2-3): 115-120

Maibach, A. & De Tiefenau, P.G. 1995 *Chrysogaster rondanii* sp n. from Western and Central Europe (Diptera: Syrphidae) *MITT. SCHWEIZ. ENTOMOL. GES.* **66**(3-4): 459-464

Markova, H. 1997 Syrphid flies in natural grass ecosystems of some areas of the Kraishte region (Bulgaria). (Insecta, Diptera, Syrphidae) *SPIXIANA* **20**(1): 73-79

Marriott, C.G. & Holloway, G.J. 1998 Colour Pattern Plasticity in the Hoverfly, *Episyrphus halteatus*: The Critical Immature Stage and Reaction Norm on Developmental Temperature *J. Insect physiol.* **44**(2): 113-119

Mizuno,M.; Itioka, T.*; Tatematsu, Y. & Ito, Y. 1997 Food utilization of aphidophagous hoverfly larvae (Diptera: Syrphidae, Chamaemyiidae) on herbaceous plants in an urban habitat *ECOL. PEE.* **12**(3): 239-248

Molleman, F.; Drukker, B.* & Blommers, L. 1997 A trap for monitoring pear psylla predators using dispensers with the synomone methylsalicylate *PROC. SECT. EXP. APPL. ENTOMOL. N. E. V. AMST.***8**: 177-182

Nielsen, T.R. 1997 The Hoverfly genera *Anasimyia* Schiner, *Helophilus* Meigen, *Parhelophilus* Girschner and *Sericomyia* Meigen in Norway (Diptera, Syrphidae) *Fauna Norv., Ser. B* **44**(2): 107-122 (English & Norwegian summary)

0' Carroll, D.C.; Laughlin, S.B.; Bidwell, N.J. & Harris, R.A. 1997 Spatio-temporal properties of motion detectors matched to low image velocities in hovering insects *VISION RES.* **37**(23): 3427-3439 Special Issue: The Vision of Natural and Complex Images.

Perez Banon, C.; Isidro, P.M.; Roj, S. & Marcos Garcia, M.A. 1996 Preliminary results on the pollen feeding of remarkable syrphid species from the Iberian Peninsula, and new data on their chorology (Diptera, Syrphidae). *FRAGM. ENTOMOL.* **28**(2): 307-320 Spanish (English & Italian summary)

Rojo, S. & Marcos Garcia, M.A. 1997 Syrphid predators (Dipt.: Syrphidae) of gall forming aphids (Hon.: Aphididae) in Mediterranean areas: Implications for biological control of fruit trees pests *ENTOMOPHAGA* **42**(1-2): 269-276 English (English & French summary)

Rotheray, G.E. 1996 The larva of *Brachyopa scutellaris* Robineau-Desvoidy (Diptera: Syrphidae), with a key to and notes on the larvae of British *Brachyopa* species *ENTOMOL.*

GAZ. **47**(3): 199-205

Rotheray, G.E.; Barr, B. & Hewitt, S.M. 1996 The myrmecophilous larvae of *Chrysotoxum arcuatum*, *Pipizella varipes* and *Xanthogramma pedissequum* from Europe and *Platycheirus milleri* from New Zealand (Dip.:Syrphidae) *ENTOMOL. REC. J. VAR.* **108**(9-10): 257-265

Rotheray, G.E. 1997 Larval stages of the predatory hoverflies *Trichopsomyia flavitarsis* (Meigen), Platycheirus melanopsis Loew and Parasyrphus nigritarsis (Zetterstedt) (Diptera: Syrphidae) ENTOMOL. GAZ. **48**(2): 127-134

Salveter, R. 1998 The influence of sown herb strips and spontaneous weeds on the larval stages of aphidophagous hoverfues (Dipt., Syrphidae) *J. Appl. Entomol.* **122**(2-3): 103-114

Sarthou, J. P. 1997 [On the use of an aspiration tube for capture of adult syrphid Diptera.] *ENTOMOLOGISTE* **53**(1): 23-27 French (English & French summary)

Sarthou, J. P. & Speight, M.C.D. 1997 Faunistic inventory of the Diptera Syrphidae and Microdontidae from the south west of France. *BULL. SOC. ENTOMOL. FR.* **102**(5)**:** 457-480 French (English & French summary)

Shonouda, M.L. 1998 Crude aqueous-extract (kairomone) from *Aphis fabae* Scop. (Hom., Aphididae) and its effect on the behaviour of the predator *Metasyrphus corollae* Fabr. (Dipt., Syrphidae) female *J.APPL. ENTOMOL.* **120**(8): 489-492

Shonouda, M.L.; Bombosch, S.; Shalahy, A.M. & Osman, S.I. 1998 Biological and chemical characterization of a kairomone excreted by the bean aphids, *Aphis fabae* Scop. (Hom., Aphididae) and its effect on the predator *Metasyrphus corollae* Fabr. I. Isolation, identification and bioassay of aphid-kairomone *J. Appl.Entomol.***122**(1): 15-23

Shonouda, M.L.; Bombosch, S.; Shalaby, A.M. & Osman, S.I. 1998 Biological and chemical characterization of a kairomone excreted by the bean aphids, *Aphis fabae* Scop. (Hom., Aphididae), and its effect on the predator *Metasyrphus corollae* Fabr. II. Behavioural response of the predator *M. corollae* to the aphid kairomone *J. Appl. Entomol.* **122**(1): 25-28

Ssymank, A. 1997 [Several faunistic and biological notes on the syrphid flies (Diptera, Syrphidae) in Perigord (France).] *ENTOMOLOGISTE* **53**(5): 225-237 French (English & French summary)

Sutherland, J.P. 1999 A record of an entomoparasitic nematode in *Syrphus vitripennis* (Diptera, Syrphidae) *Dipterists Digest* **6**(1): 28

Toth, S. & Rezbanyai Reser, L. 1997 [Faunistic records of Swiss flies based on the collections in the Natural History Museum Lucerne (Diptera: Stratiomyidae, Tabanidae, Bombyliidae, Syrphidae, Conopidae).] *ENTOMOL. BER. LUZERN* no. **37:** 121-148 German (German & English summary)

Verlinden, L. 1996 Some recent Alpine records of various species of the genus *Pipizella* (Dipt., Syrphidae), including the second record of *Pipizella cantabrica* Claussen, 1994 *BULL. ANN. SOC. R. BELGE ENTOMOL.* **132**(3): 265-268

Wertheim, B. & Ottenheim, M.M. 1996 Survival of *Eristalis arbustorum* L. (Diptera: Syrphidae) under field and semi-field conditions *PROC. SECT. EMP. APPL. ENTOMOL. NETH. ENTOMOL. SOC. N. E. V.* **7**: 123-126

Zumbado, H.A. & Thompson, F.C. 1997 [New species of *Sterphus* (Diptera: Syrphidae) from Costa Rica with notes on other species present in Costa Rica.] *SOUTHWEST. ENTOMOL.* **22**(1): 79-90 Spanish (English & Spanish summary)