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Author's adress:

Dr Hussein Sadeghi Namaghi, Dept. Plant Protection, College of Agriculture, Ferdowsi, University of Mashhad, Iran. E-mail: Husseinsadeghi@Yahoo.co.uk

Some hoverfly records from Turkey (Diptera, Syrphidae)

Menno Reemer and John T. Smit

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In this paper 84 species of hoverflies are recorded from Turkey, based on material collected in several parts of the country between 1991 and 2003. As far as the authors could establish, 13 of these species have not been previously recorded for Turkey. These are: *Anasimyia transfuga*, *Cheilisia portschinskiana*, *C. schnabli*, *Chrysogaster mediterraneus*, *C. simplex*, *Eupeodes nuba*, *Merodon aeneus*, *Mesembrius peregrinus*, *Neoascia annexa*, *N. interrupta*, *Pipiza festiva*, *Sphegina sibirica* and *Sphiximorpha subsessilis*. Brief comments are made on some of the species.

Key words: Turkey, new records, Syrphidae

Zusammenfassung

Nachweise von 84 Schwebfliegenarten aus der Türkei werden vorgelegt, gefangen in verschiedenen Landesteilen zwischen 1991 und 2003. 13 der nachgewiesenen Arten waren vorher aus der Türkei nicht bekannt: *Anasimyia transfuga*, *Cheilisia portschinskiana*, *C. schnabli*, *Chrysogaster mediterraneus*, *C. simplex*, *Eupeodes nuba*, *Merodon aeneus*, *Mesembrius peregrinus*, *Neoascia annexa*, *N. interrupta*, *Pipiza festiva*, *Sphegina sibirica* and *Sphiximorpha subsessilis*.

Introduction

At the crossroads between Africa, Asia and Europe, Turkey hosts a very interesting fauna with mixed elements derived from each of these three continents. Despite this, and despite the recent publication of several papers by Turkish authors, the syrphid fauna of Turkey is still relatively poorly known. This paper presents some records of Syrphidae collected in Turkey during the past couple of years. Although the records originate from various parts of the country, they will by no means provide a complete image of the fauna. This is merely a compilation of records collected by the authors and a few other Dutch entomologists, during a couple of short visits to Turkey. With this paper we hope to make a useful, albeit modest, contribution to the knowledge of the Syrphidae of this large, diverse and interesting country.

Material and methods

Most of the species recorded were collected in 2000 by the authors in the province of Muğla in southwestern Turkey. Additional specimens were been collected in other parts of Turkey by Kees Goudsmits, Vincent Kalkman, Herman Teunissen and Theo Zeegers in the years 1991, 2001, 2002 and 2003.

Most identifications were carried out by the authors, except for the *Merodon* specimens, which were identified by Willem Hurkmans (Zwolle, Netherlands), and specimens of *Eupeodes*, which were identified by Libor Mazánek (Olomouc, Czech Republic). All collected specimens are deposited in the collections of the authors, except for a small number of specimens in the collection of Kees Goudsmits (Doorn, the Netherlands).

To check whether a species had already been recorded for Turkey, the following literature has been examined: Aktas & Saribiyik (1996, 2001), Candemir & Kara (2003), Claussen & Hayat (1997a, b), Coe (1966), Dirickx (1994), Hayat (1997), Hayat & Alaoglu (1990a, b), Hayat & Claussen (1997), Hurkmans (1987, 1988, 1993), Hurkmans & Hayat (1997), Lindner (1941), Özgür (1986, 1987), Özgür & Saribiyik (2002), Reemer et al. (2005), Saribiyik (1999a, b, 2000a, b, 2001, 2003a, b, c, d, e, 2004), Saribiyik & Aktas (1996), Saribiyik & Hasbenli (1997), Saribiyik & Özgür (2000), Speight & Castella (2003), van Steenis (2000), Toth (1986), Van de Weyer (2000).

Localities

The localities visited are shown in fig. 1, grouped by province. The first two letters of the name of the province are used for the locality codes. For each locality, coordinates (latitude/longitude or UTM grid reference), height above sea level (in metres) and the date(s) of the visit(s) are given. If available, a description of the habitat is given.

Afyon: **AF01** 24 km SW of Çay, Karamk Gölü and irrigation channels 1 km E of Bulanik köy. 38°30'N 30°55'E. 1000 m asl. 4.vii.2001 (leg. V.J. Kalkman). **AF02** Emir Dağları, 15 km SSE of Emirdag lake at 10 km S of Dereköy. 39°00'N 31°10'E. 1500-1700 m asl. 5.vii.2001 (leg. V.J. Kalkman).

Antalya: **AN01** 11 km NW of Kalkan, Eşen Çayı near Kinikli. UTM: 35SQA02. 10 m asl. 27.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). **AN02** 4 km W of Kalkan, ancient harbour of Patara S of Gelemiş. UTM: 35SQA01. 5 m asl. 27.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). **AN03** Lake at Civizli, 20 km N of Akseki. 37°11'N 31°45'E. 11.vii.2001 (leg. V.J. Kalkman).

Artvin: **AR01** Coruh N, in the village of Yusufeli. UTM: 37TGF12. 3.vii.2003 (leg. V.J. Kalkman).

Gaziantep: **GA01** Dürmalik, 20 km W of Gaziantep. 13.v.2002 (leg. K. Goudsmits).

İçel: **IC01** Western side of Akgöl near Denizkent, 8 km S of Siliifke, Göksu Delta. 36°17'N 33°56'E. 9.vii.2001 (leg. V.J. Kalkman). Dunes. **IC02** Abanoz, Anamur, Kazanci 1190 m asl. 36°30'N 32°53'E. 10.v.1991 (leg. H. Teunissen).

Isparta: **IS01** Kovada Milli Park. 37°40'N 30°50'E. 1.vii.2001 (leg. V.J. Kalkman). Freshwater lake.

Kayseri: **KA01** Yahyali, Ovaçiftliği, Sultanswamp. 1075 m asl. 38°15'N 35°17'E. 7.v.2002 (leg. T. Zeegers).

Muğla: **MU01** Köyceğiz, just E of village, near Köyceğiz Gölü. UTM: 35SPA59. 5 m asl. 21.v.2000, 22.v.2000, 24.v.2000, 29.v.2000, 30.v.2000, 3.vi.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). Various habitats: forest of *Liquidamber orientalis* with small streams, marshy grasslands and fields with large, flower-



Fig. 1: Map of Turkey (excluding the islands), with the provinces indicated from which Syrphidae are recorded in this paper. AF: Afyon, AN: Antalya, AR: Artvin, GA: Gaziantep, IC: İçel, IS: Isparta, KA: Kayseri, MU: Muğla, NE: Nevşehir, NI: Niğde, TR: Trabzon, VA: Van.

ing *Euphorbia* spec. **MU02** 1-2 km W of Köyceğiz. UTM: 35SPA49. 5 m asl. 22.v.2000, 30.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). Marshy grassland and edges of forest of *Liquidamber orientalis*. **MU03** 3 km NE of Ortaça, along Dalaman Çayı. UTM: 35SPA58. 50 m asl. 23.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). **MU04** Muğla 8 km W of Köyceğiz (Muğla), dry rocky slopes 2 km NE of Doğuşbelen. UTM: 35SPA49. 50 m asl. 24.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). Dry rocky slopes near pool. **MU05** 4-6 km ENE of Ortaça, river valley of tributary of Dalaman Çayı. UTM: 35SPA67. 50 m asl. 25.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). **MU06** Kaunos, near ancient amphitheatre. UTM: 35SPA47. 1-20 m asl. 26.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). Dry, rocky hills. **MU07** 10 km NNE of Kestep (=Eşen), Eşen Çayı near bridge E of Alaçatı. UTM: 35SQA14. 25 m asl. 27.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). **MU08** Saklıkent, 13 km ENE of Kestep (=Eşen), 25 km ESE of Fethiye. UTM: 35SQA13. 50 m asl. 27.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). Trout farm. **MU09** 12 km NNE of Kemer, just N of Ören. UTM: 35SQA17. 100 m asl. 28.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). Deciduous forest around trout farm. **MU10** 16 km NNW of Üzümlü, between Arpacık and Karabayır, near Kırkpınar. UTM: 35SPA98. 1350 m asl. 28.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). Mountain slopes with streams and marshy area. **MU11** Beyobaşı, E of Köyceğiz Gölü, around trout farm. UTM: 35SPA58. 50 m asl. 28.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). **MU12** 6 km W of Köyceğiz, 2 km W of Toparlar. UTM: 35SPA49. 50-100 m asl. 29.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). Arboretum with waterfalls. **MU13** Between Sultaniye and Küçükaraağac. UTM: 35SPA48. 50 m asl. 30.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). **MU14** 5 km W of Sultaniye, near Köyceğiz Gölü. UTM: 35SPA48. 50 m asl. 30.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). **MU15** Kartal Gölü, 12 km NE of Ağla. UTM: 35SPB60. 1900 m asl. 31.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). Mountain lake with small stream, surrounded by short, grassy vegetation. **MU16** 13 km NNE of Ağla. UTM: 35SPB60. 1600 m asl. 31.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). Coniferous forest with some yellow flowers along a stream. **MU17** Gökçeova Gölü, 6 km NE of Ağla. UTM: 35SPB50. 1400 m asl. 31.v.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). Lake with some small streams. **MU18** Just E of Ağla. UTM: 35SPB50. 850 m asl. 1.vi.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). Deciduous forest (mainly *Platanus*) with springs and small streams. **MU19** 7 km SW of Köyceğiz, near bridge SW of Hamitköy, W of Köyceğiz Gölü. 5 m asl. UTM: 35SPA48. 1.vi.2000 (leg. M. Reemer, J.T. Smit & K. Goudsmits). **MU20** 10 km E of Köyceğiz, spring of rivulet Yavurlakçayı above Beyobaşı, E of Taşdibi, 100

m asl. UTM 35SPA69. 1.vi.2000 (leg. J.T. Smit). **MU21** 5 km S of Köyceğiz, mouth of Yavurlakçayı into Köyceğiz lake, 5 m asl. UTM 35SPA58. 2.vi.2000 (leg. J.T. Smit).

Nevşehir: NE01 Ürgüp, Göreme, 1150 m asl. 38°38'N 34°56'E. 11.v.2002 (leg. T. Zeegers). **NE02** Ürgüp, hilltop 3 km W of Ortahisar, 1450 m asl. 38°38'N 34°56'E. 12.v.2002 (leg. T. Zeegers). **NE03** Ürgüp, hilltop at Ortahisar, 1300 m asl. 38°38'N 34°56'E. 12.v.2002 (leg. T. Zeegers).

Niğde: NI01 İhlara-Valley, 1250 m. asl. 37°59'N 34°42'E. 15.v.2002 (leg. T. Zeegers). **NI02** Sultanhanı, 1050 m asl. 38°15'N 33°33'E. 17-19.v.2002 (let. T. Zeegers).

Trabzon: TR01 2 km E of Yomra, along the Harmanlı Çayı. UTM: 37TEF73. 24.vi.2003 (leg. V.J. Kalkman). **TR02** 10 km S of Araklı, along the Kara Dere. UTM: 37TEF82. 24.vi.2003 (leg. V.J. Kalkman). **TR03** Uzungöl. 40°37'N 26°50'E. 9.vii.2003 (leg. V.J. Kalkman).

Van: VA01 8 km N of Muradiye, Bendimahi Selalesi. UTM: 38SLJ92. 30.vi.2003 (leg. V.J. Kalkman).

Results

In this paper, 84 species are recorded for Turkey (table 1). For each species, the available literature has been checked for previous records from Turkey. So far as we can ascertain, the following 13 species have not been recorded for Turkey before: *Anasimyia transfuga*, *Cheilosia portschinskiana*, *C. schnabli*, *Chrysogaster mediterraneus*, *C. simplex*, *Eupeodes nuba*, *Merodon aeneus*, *Mesembrius peregrinus*, *Neoascia annexa*, *N. interrupta*, *Pipiza festiva*, *Sphagina sibirica* and *Sphiximorpha subsessilis*.

Notes on some species

Cheilosia canicularis: These specimens have been checked for the closely related species *C. griseifacies* Vujić, 1994, *C. himantopus* (Panzer, 1798) and *C. orthotricha* Vujić & Claussen, 1994 using characters provided by Stuke & Claussen (2000), Vujić (1994) and Vujić & Claussen (1994).

Cheilosia portschinskiana: It is possible that some of the records of *C. illustrata* in Saribiyik (2001) belong to this species as well.

Cheilosia schnabli: This species is very similar to *C. impressa* Loew, 1840, but easily recognized by the characters described by Vujić et al. (1998), especially in direct comparison. *C. schnabli* has so far been recorded from the Balkan and the Caucasus. This new record of a male specimen is from a mountain range extending from the Caucasus along the southeastern Black Sea.

Chrysogaster mediterraneus: This appears to be the first record outside the Balkans, from where it has been described by Vujić (1999). It is possible that the specimens of the very similar *C. solstitialis* (Fallén, 1817) reported by Saribiyik (1999b, 2001) also belong to this species.

Merodon velox: At the end of a hot day, a male specimen was observed drinking at a small stream along a roadside.

Neoascia annexa: The specimens have been compared with the description of *N. subannexa* by Claussen & Hayat (1997a), but they did not belong to that species. They have also been compared with specimens of *N. annexa* from Northwest-European countries, to which they were found to be very similar.

Platycheirus scutatus: This specimen has been checked for the closely related *P. aurolateralis* Stubbs, 2002, *P. speighti* Doczkal et al., 2002 and *P. splendidus* Rotheray, 1998.

Riponnensia insignis: A large series of this little known species has been collected near Köyceğiz (prov. Muğla). The specimens were taken from *Euphorbia* flowers on a marshy grassland next to a forest of *Liquidamber orientalis* with small streams. *R. insignis* has previously been recorded for Turkey by Dirickx (1994) (without citing the original reference for this record) and by Özgür (1987). Males can be identified most reliably using the drawings of the genitalia provided by Maibach et al. (1994) in combination with Claussen (1991) and Vujić (1999). The female has not been described yet, but would run to the correct species in the keys of Sack (1932) and Stackelberg (1953).

Sphagina sibirica: Has been recorded from the adjacent Caucasus by Toth (1986).

Sphiximorpha subsessilis: The specimens were checked for other *Sphiximorpha* species, including *S. worelli* (Bradescu, 1972), which has recently been recorded for Turkey by Saribiyik (2003a). We have also compared them with specimens of *S. subsessilis* from other European countries and found that they are very similar in both external morphology and male genitalia.

Discussion

An annotated checklist would be a very useful instrument in the study of the Syrphidae of Turkey. The compilation of a reliable checklist would require a great effort, because of the taxonomic challenge lurking in the fauna of this country, probably still containing many undescribed species. Besides, it would be necessary to re-examine the records of several species which have been published in older literature, in order to establish their true identity. This is required in the case of species complexes containing recently described 'cryptic species', for instance: *Chrysogaster mediterraneus* / *C. solstitialis*, *Myolepta dubia* / *M. trojana*, *Paragus bicolor* / *P. romanicus* and *Platycheirus aurolateralis* / *P. scutatus* / *P. splendidus*.

Large collections of Turkish Syrphidae, containing a lot of unidentified material and undescribed species, are awaiting examination. An important example is the collection of J.A.W. Lucas, now included in the collection of the ZMAN in Amsterdam (the Netherlands). Such important collections should not be ignored when examining the Turkish fauna.

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Addresses of authors:

Menno Reemer & John T. Smit, EIS-Nederland, Postbus 9517, 2300 RA Leiden, The Netherlands. E-mail: reemer@naturalis.nl, smitj@naturalis.nl

Table 1: Hoverfly records from Turkey. The locality codes are explained in the text. In some cases the number and sex of the specimens is given between brackets (f = female, m = male). In the last column references are given to literature in which the species has previously been recorded for Turkey.

| | species | localities | previous references for Turkey |
|-----|---|--|---|
| 1. | <i>Anasimyia transfuga</i> (Linnaeus, 1758) | IS01 (1 f) | |
| 2. | <i>Brachypalpoidea lentus</i> (Meigen, 1822) | MU18 (1 m) | Dirickx (1994) |
| 3. | <i>Ceriana conopsoidea</i> (Linnaeus, 1758) | MU01, MU02 | Dirickx (1994), Saribiyik (2001, 2003b, c) |
| 4. | <i>Ceriana vespiformis</i> (Latreille, 1809) | MU01, MU02, MU03, MU05, MU14, MU18, MU19 | Dirickx (1994) |
| 5. | <i>Chalcosyrphus nemorum</i> (Fabricius, 1805) | MU01 | Saribiyik & Özgür (2000) |
| 6. | <i>Cheilosia aerea</i> Dufour, 1848 | NI01 (1 m), MU10 (2 f) | Dirickx (1994; as <i>C. zetterstedti</i>) Lindner (1941; as <i>C. zetterstedti</i>) |
| 7. | <i>Cheilosia canicularis</i> (Panzer, 1801) | AR01, TR03 | Saribiyik (1999b, 2001) |
| 8. | <i>Cheilosia portschinskiana</i> Stackelberg, 1960 | TR03 (1 f) | |
| 9. | <i>Cheilosia schnabli</i> Becker, 1894 | TR03 (1 m) | |
| 10. | <i>Cheilosia soror</i> (Zetterstedt, 1843) | MU10 | Aktas & Saribiyik (1996; as <i>C. rufipes</i>), Özgür (1987), Saribiyik (1999b, 2001, 2003d; as <i>C. rufipes</i>), Saribiyik (2003b, c) |
| 11. | <i>Chrysogaster mediterraneus</i> Vujčić, 1999 | MU01 (2 m), MU18 (1 m) | |
| 12. | <i>Chrysogaster simplex</i> Loew, 1843 | MU18 (2 m, 2 f) | |
| 13. | <i>Chrysotoxum cautum</i> (Harris, 1776) | IC02 (1 m), MU10 (1 f), UR01 (1 m) | Candemir & Kara (2003), Dirickx (1994), Saribiyik (1999a, 2003b, c) |
| 14. | <i>Chrysotoxum festivum</i> (Linnaeus, 1758) | VA01 (1 m) | Dirickx (1994), Hayat & Alaoğlu (1990a), Hurkmans & Hayat (1997), Saribiyik (1999a, 2000a, 2003b, c), Saribiyik & Aktas (1996) |
| 15. | <i>Chrysotoxum intermedium</i> Meigen, 1822 | MU10 (1 f) | Candemir & Kara (2003), Dirickx (1994), Özgür (1987), Saribiyik (1999a, 2000a, 2003b, c, e), Saribiyik & Aktas (1996) |
| 16. | <i>Epistrophe eligans</i> (Harris, 1780) | IC02 (2 m) | Dirickx (1994), Saribiyik (1999a, 2000c), Özgür (1986), Saribiyik & Aktas (1996) |

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|-----|---|--|--|
| 17. | <i>Episyrphus balteatus</i> (De Geer, 1776) | MU01, MU02, MU18 | Candemir & Kara (2003), Dirickx (1994), Özgür (1986), Saribiyik (1999a, 2000a, 2003b, c, e), Saribiyik & Aktas (1996) |
| 18. | <i>Eristalinus aeneus</i> (Scopoli, 1763) | MU01, MU03, MU05 | Aktas & Saribiyik (1996), Candemir & Kara (2003), Dirickx (1994), Saribiyik (1999b, 2001, 2003b, c, d) |
| 19. | <i>Eristalinus megacephalus</i> (Rossi, 1794) | MU01, MU02, MU03 | Aktas & Saribiyik (1996; as <i>E.</i> <i>quinquelineatus</i>), Dirickx (1994) |
| 20. | <i>Eristalinus sepulchralis</i> (Linnaeus, 1758) | AF01, MU01, MU02, MU03, MU04, MU21 | Aktas & Saribiyik (1996), Dirickx (1994), Saribiyik (1999b, 2001, 2003b, c, d) |
| 21. | <i>Eristalinus taeniops</i> (Wiedemann, 1818) | MU01, MU03, MU05, MU06, MU11, MU14 | Aktas & Saribiyik (1996), Dirickx (1994), Saribiyik (2003d) |
| 22. | <i>Eristalis arbustorum</i> (Linnaeus, 1758) | AF01, MU01, MU02, MU03, MU05, MU10, MU15, MU18 | Aktas & Saribiyik (1996), Candemir & Kara (2003), Dirickx (1994), Hayat & Alaoğlu (1990b), Hurkmans & Hayat (1997), Lindner (1941), Saribiyik (1999b, 2001, 2003b, c, d) |
| 23. | <i>Eristalis similis</i> (Fallén, 1817) | MU10 | Dirickx (1994; as <i>E. pratorum</i>), Saribiyik (1999b, 2001, 2003c, d; as <i>E. pratorum</i>) |
| 24. | <i>Eristalis tenax</i> (Linnaeus, 1758) | AF01, AF02, AN03, MU01, MU03, MU05, MU09, MU10, MU15, MU16, MU18, MU19, TR03, MU20 | Aktas & Saribiyik (1996), Candemir & Kara (2003), Dirickx (1994), Hayat & Alaoğlu (1990b), Hurkmans & Hayat (1997), Lindner (1941), Saribiyik (1999b, 2001, 2003b, c, d) |
| 25. | <i>Eupeodes corollae</i> (Fabricius, 1794) | MU02, MU10, MU15, NE01 | Candemir & Kara (2003), Dirickx (1994), Hayat & Alaoğlu (1990a), Lindner (1941), Özgür (1986), Saribiyik (1999a, 2000a, 2003b, c, e), Saribiyik & Aktas (1996) |
| 26. | <i>Eupeodes flaviceps</i> (Rondani, 1857) | NE02 (3 m) | Dirickx (1994) |
| 27. | <i>Eupeodes latifasciatus</i> (Macquart, 1829) | MU01, MU10, MU15 | Dirickx (1994), Özgür (1986), Saribiyik (1999a, 2000a, 2003c, e) |
| 28. | <i>Eupeodes luniger</i> (Meigen, 1822) | MU15 (1 m) | Dirickx (1994), Özgür (1986), Saribiyik (1999a, 2000a, 2003c) |
| 29. | <i>Eupeodes nuba</i> (Wiedemann, 1830) | MU21 (1 m) | |
| 30. | <i>Helophilus trivittatus</i> (Fabricius, 1805) | MU01, MU03 | Aktas & Saribiyik (1996; as <i>H.</i> <i>parallelus</i>), Dirickx (1994), Saribiyik (1999b, 2001, 2003c, d; as <i>H.</i> <i>parallelus</i>) |
| 31. | <i>Lejogaster tarsata</i> (Meigen, 1822) | AF01, NI02, MU07 | Aktas & Saribiyik (1996), Dirickx (1994), Özgür (1987), Saribiyik (1999b, 2001, 2003b, c, d; as <i>L. splendida</i>) |

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| 32. | <i>Melanogaster nuda</i> (Macquart, 1829) | MU10, MU16 | Dirickx (1994; as <i>Chrysogaster viduata</i>), Özgür (1987; as <i>Chrysogaster viduata</i>) |
| 33. | <i>Melanostoma mellinum</i> (Linnaeus, 1758) | MU01, MU02, MU03, MU05, MU06, MU09, MU10, MU11, MU16, MU17, MU18, MU20, MU21 | Candemir & Kara (2003), Dirickx (1994), Hayat & Alaoğlu (1990a), Özgür (1986), Saribiyik (1999a, 2000a, 2003b, c, e), Saribiyik & Aktas (1996) |
| 34. | <i>Melanostoma scalare</i> (Fabricius, 1794) | MU11 | Dirickx (1994), Saribiyik (1999a, 2000a, e) |
| 35. | <i>Merodon aeneus</i> Meigen, 1822 | MU10 (1 f) | |
| 36. | <i>Merodon albifrons</i> Meigen, 1822 | MU10 (1 m) | Dirickx (1994) |
| 37. | <i>Merodon alexeji</i> Paramonov, 1925 | MU16 | Hurkmans & Hayat (1997) |
| 38. | <i>Merodon avidus</i> Rossi, 1790; form A sensu Milankov et al. 2001 | MU15 (5 m), MU16 (3 m), MU17 (1 m, 1 f) | Dirickx (1994), Hurkmans (1988, 1993), Hurkmans & Hayat (1997) |
| 39. | <i>Merodon cf. geniculatus</i> Strobl, 1909 | MU03 (1 m) | Dirickx (1994) |
| 40. | <i>Merodon loewi</i> Van der Goot, 1964 | NE03 (1 m) | Hurkmans (1988), Saribiyik (2003b, c, d) |
| 41. | <i>Merodon longicornis</i> Sack, 1913 | MU04 (1 m) | Hurkmans (1993), Saribiyik (2003b, d) |
| 42. | <i>Merodon minutus</i> Strobl, 1893 | MU03 (1 m), MU16 (1 f) | Dirickx (1994) |
| 43. | <i>Merodon spinatarsis</i> Paramonov, 1929 | MU03 (1 m) | Dirickx (1994) |
| 44. | <i>Merodon telmateia</i> Hurkmans, 1987 | MU03 (9m, 6 f) | Dirickx (1994), Hurkmans (1987) |
| 45. | <i>Merodon velox</i> Loew, 1869 | MU03 (1 f), MU05 (1 m) | Dirickx (1994), Hurkmans (1993), Hurkmans & Hayat (1997), Saribiyik (1999b, 2001, 2003b, c, d) |
| 46. | <i>Mesembrius peregrinus</i> (Loew, 1846) | AF01, MU01, MU02 | |
| 47. | <i>Microdon devius</i> (Linnaeus, 1758) | TR01 (1) | Dirickx (1994), Özgür & Saribiyik (2002) |
| 48. | <i>Milesia crabroniformis</i> (Fabricius, 1775) | MU01 (1) | Dirickx (1994), Saribiyik (2003d) |
| 49. | <i>Milesia semiluctifera</i> (Villers, 1789) | MU01 (11) | Aktas & Saribiyik (1996), Dirickx (1994), Saribiyik (1999b, 2003c, d) |
| 50. | <i>Myathropa florea</i> (Linnaeus, 1758) | MU01, MU02, MU05, MU10 | Aktas & Saribiyik (1996), Candemir & Kara (2003), Dirickx (1994), Saribiyik (1999b, 2001, 2003c, d) |
| 51. | <i>Neoascia annexa</i> (Meigen, 1822) | MU15 (9 m, 3 f) | |

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| 52. | <i>Neoascia interrupta</i> (Meigen, 1822) | KA01 (3 f) | |
| 53. | <i>Neoascia podagrica</i> (Fabricius, 1775) | MU01, MU10, MU16, MU17 | Candemir & Kara (2003), Dirickx (1994), Lindner (1941), Özgür (1987), Saribiyik (1999b, 2001, 2003b, c, d) |
| 54. | <i>Orthonevra frontalis</i> (Loew, 1843) | NI02 (1 m), MU17 (8 m, 6 f) | Aktas & Saribiyik (1996), Dirickx (1994), Özgür (1987), Saribiyik (2003b) |
| 55. | <i>Orthonevra nobilis</i> (Fallén, 1817) | MU10 (1 m) | Dirickx (1994), Saribiyik (2001, 2003b, c) |
| 56. | <i>Paragus abrogans</i> Goeldlin de Tiefenau, 1971 | MU18 (1m) | Hayat & Alaoğlu (1990a) |
| 57. | <i>Paragus bicolor</i> (Fabricius, 1794) | MU18 (1 m) | Candemir & Kara (2003), Dirickx (1994), Hayat & Alaoğlu (1990a), Özgür (1986), Saribiyik (1999a, 2000a, 2003b, c, e), Saribiyik & Aktas (1996) |
| 58. | <i>Paragus compeditus</i> Wiedemann, 1830 | MU01 (1 m) | Dirickx (1994), Hayat & Claussen (1997), Saribiyik (2003b) |
| 59. | <i>Paragus haemorrhous</i> Meigen, 1822 | MU01, MU02, MU03, MU07, MU10, MU16, MU18, MU21 | Hayat & Claussen (1997) |
| 60. | <i>Paragus pecchiolii</i> Rondani, 1857 | MU01, MU02, MU18 | Dirickx (1994; as <i>P. majoranae</i>) |
| 61. | <i>Paragus quadrifasciatus</i> Meigen, 1822 | AF01, MU05 | Candemir & Kara (2003), Saribiyik (2000a, 2003b, c) |
| 62. | <i>Paragus romanicus</i> Stănescu, 1992 | MU15 (1 m) | Hayat & Claussen (1997) |
| 63. | <i>Paragus tibialis</i> (Fallén, 1817) | MU01, MU09, NI02 | Candemir & Kara (2003), Dirickx (1994), Hayat & Alaoğlu (1990a), Özgür (1986), Saribiyik (1999a, 2000a, 2003b, c, e), Saribiyik & Aktas (1996) |
| 64. | <i>Parhelophilus versicolor</i> (Fabricius, 1794) | AF01, MU01, MU02, MU21 | Dirickx (1994) |
| 65. | <i>Pipiza festiva</i> Meigen, 1822 | IC02 | |
| 66. | <i>Platycheirus fulviventris</i> (Macquart, 1828) | MU01, MU04 | Dirickx (1994) |
| 67. | <i>Platycheirus scutatus</i> (Meigen, 1822) | MU18 (1 m) | Saribiyik & Hasbenli (1997), Saribiyik (2000a, c) |
| 68. | <i>Riponnensia insignis</i> (Loew, 1843) | MU01 (17 m, 23 f) | Dirickx (1994), Özgür (1987; as <i>Chrysogaster insignis</i>) |
| 69. | <i>Riponnensia longicornis</i> (Loew, 1843) | MU01 (2 f) | Dirickx (1994), Özgür (1987), Saribiyik (2003b; as <i>Orthonevra longicornis</i>) |
| 70. | <i>Scaeva albomaculata</i> (Macquart, 1842) | GA01 (1 m, 1 f) | Candemir & Kara (2003), Dirickx (1994), Özgür (1986), Hayat & Alaoğlu (1990a), Saribiyik (2000a, 2003b, c, e), Saribiyik & Aktas (1996) |

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| 71. | <i>Sphaerophoria rueppelli</i> (Wiedemann, 1830) | MU01, MU03, MU06, MU08, MU11, MU16, MU18 | Candemir & Kara (2003), Dirickx (1994), Özgür (1986), Saribiyik (1999a, 2000a, 2003b, c, e) |
| 72. | <i>Sphaerophoria scripta</i> (Linnaeus, 1758) | AR01, IS01, MU01, MU02, MU03, MU04, MU05, MU06, MU09, MU10, Mu11, MU15, MU16, MU17, MU18, MU19, TR03 | Candemir & Kara (2003), Dirickx (1994), Hayat & Alaoğlu (1990a), Lindner (1941), Özgür (1986), Saribiyik (1999a, 2000a, 2003b, c, e), Saribiyik & Aktas (1996) |
| 73. | <i>Sphaerophoria turkmenica</i> Bankowska, 1964 | GA01 (1 m) | Hayat & Alaoğlu (1990a) |
| 74. | <i>Sphegina sibirica</i> Stackelberg, 1953 | TR03 | |
| 75. | <i>Sphiximorpha subsessilis</i> (Illiger, 1807) | IC02 (1 f), MU01 (3 m, 2 f) | |
| 76. | <i>Syrirta flaviventris</i> Macquart, 1842 | MU01, MU03, MU05, AN02 | Dirickx (1994) |
| 77. | <i>Syrirta pipiens</i> (Linnaeus, 1758) | AF01, KA01, MU01, MU02, MU03, MU04, MU05, MU06, MU08, MU09, MU10, Mu11, MU12, MU15, MU16, MU18, MU19 | Aktas & Saribiyik (1996), Candemir & Kara (2003), Dirickx (1994), Hayat & Alaoğlu (1990b), Lindner (1941), Özgür (1987), Saribiyik (1999b, 2001, 2003b, c, d) |
| 78. | <i>Volucella bombylans</i> (Linnaeus, 1758) | TR03 (1) | Dirickx (1994), Saribiyik (2001, 2003c) |
| 79. | <i>Volucella pellucens</i> (Linnaeus, 1758) | TR02 (1) | Saribiyik (2001, 2003c) |
| 80. | <i>Volucella zonaria</i> (Poda, 1761) | MU01, MU10, MU13 | Aktas & Saribiyik (1996), Hurkmans & Hayat (1997), Özgür (1987), Saribiyik (1999b, 2001, 2003b, c, d) |
| 81. | <i>Xanthogramma pedissequum</i> (Harris, 1776) | MU01, MU10, TR02 | Özgür (1986; as <i>X. ornatum</i>), Saribiyik (1999a, 2000a, 2003b, c, e), Saribiyik & Aktas (1996) |
| 82. | <i>Xylota ignava</i> (Panzer, 1798) | AR01 (1 m) | Dirickx (1994), Saribiyik & Özgür (2000) |
| 83. | <i>Xylota segnis</i> (Linnaeus, 1758) | MU09 (1 m) | Dirickx (1994), Özgür (1987), Saribiyik (1999b, 2001, 2003c, d) |
| 84. | <i>Xylota sylvarum</i> Linnaeus, 1758) | MU01 (1 m, 1 f) | Dirickx (1994), Saribiyik (1999b, 2001, 2003c, d) |

Zum aktuellen Artenbestand der Schwebfliegen (Diptera, Syrphidae) in der Ölbaumzone SO-Thessaliens/Griechenland

Klaus Standfuss und Claus Claußen

Standfuss, K.; Claußen, C. (2007): The present species composition of hoverflies (Diptera, Syrphidae) in the olive-tree-zone of SE Thessaly, Greece. – *Volucella* 8, 147-164. Stuttgart.

Hoverflies have been recorded over a seven year period (1999-2005), sometimes all through the year, in the lowland/upland vegetation zone of south east Thessaly at 23°E 39°N, 0-350 m above sea level. An annotated list of 96 species is presented, and phenological data are given. Differentiating characters are given for the species-pairs *Eumerus longicornis* Loew, 1855 and *Eumerus minotaurus* Claußen & Lucas, 1988, and for *Paragus (Pandasyopthalmus) haemorrhous* Meigen, 1822 and *Paragus (Pandasyopthalmus) tibialis* (Fallén, 1817), and for the genus *Xanthogramma*.

Keywords: Syrphidae, Greece, Thessaly, species list, new records.

Zusammenfassung

Über den Zeitraum der Jahre 1999 bis 2005 ist auf 70 km² der planar-kollinen Vegetationsstufe Südost-Thessaliens nahe 23°O 39°N die Schwebfliegenfauna z.T. ganzjährig untersucht worden. Die aufgefundenen 96 Arten werden mit ihrer Flugzeit aufgelistet und fallweise kommentiert. Differentialmerkmale werden angegeben für die Artenpaare *Eumerus longicornis* Loew, 1855 / *Eumerus minotaurus* Claußen & Lucas, 1988 und *Paragus (Pandasyopthalmus) haemorrhous* Meigen, 1822 / *Paragus (Pandasyopthalmus) tibialis* (Fallén, 1817) sowie für das Genus *Xanthogramma*.

Einleitung

Über ihren Beitrag zur noch immer lückenhaft bekannten Fauna Griechenlands hinaus erscheinen uns die Ergebnisse unserer Untersuchungen aus folgenden Gründen mitteilenswert:

- Es handelt sich um jüngste Erhebungen – bis einschließlich 2005; die Resultate geben eine aktuelle Fauna wieder.
- Die Untersuchungen erstreckten sich über sieben Jahre in Folge und auf alle Jahreszeiten; der Erfassungsgrad ist hoch.