

zone (Sarthe). SPEIGHT (2007) notes the absence of this species in the Ardennes as surprising, indicating that this recent finding in Belgium was not unexpected. *M. cingulata* is lacking from the key of VERLINDEN (1991) which was the main key used by Belgian syrphid amateurs until recently. *M. cingulata* looks and behaves quite inconspicuous and was first seen by the author for an aberrant *Meligramma triangulifera* (Zetterstedt, 1843), from which - at first sight - it only slightly differs by the shape of the spots on the abdomen. Therefore, previous catches may have been regarded aberrant *M. triangulifera* or even *Melanostoma* sp. (it was regarded a *Melanostoma* until 1976!) and gone by unnoticed. No reports exist on a recent range shift in this species, so possibly this species has been overlooked until now. Conform most other Syrphinae, larvae of *M. cingulata* are carnivorous on aphids (SPEIGHT 2007). Its observed association with *Picea* and *Abies* forest (SPEIGHT 2007) may be due to a preference for aphids specialized on these trees, a specialization that exists in other Syrphinae too (e.g. *Dasysyrphus*, SPEIGHT 2007). Although nice patches of *Picea* forest are present at Daverdisse (populated by several conifer-associated species, see higher), larger and older *Picea* forests occur more easterly in the Belgian Ardenne (e.g. near St.-Hubert and Hautes Fagnes) and other

populations may be (mainly?) expected in these areas.

Conclusion

Meligramma cingulata was recorded for the first time from Belgium at Daverdisse in 2006. Based on its European distribution and habitat preferences, this finding in the Belgian Ardenne was not unexpected. Possibly, this inconspicuous species has been overlooked or may simply have been misidentified by users of the Belgian key of VERLINDEN (1991), in which it is lacking. The challenge now remains to confirm populations of *M. cingulata* in Belgium, and to establish the species' current distribution.

References

- SPEIGHT M.C.D. 2007. - *Species accounts of European Syrphidae (Diptera), Espoo, 2007*. In: Speight, M.C.D., Castella, E., Sarthou, J.-P. and Monteil, C. (eds.) *Syrph the Net, the database of European Syrphidae*, vol. 55, 286 pp., Syrph the Net publications, Dublin.
- VAN VEEN M.P. 2004. - *Hoverflies of Northwest Europe. Identification keys to the Syrphidae*. KNNV. Publishing, Utrecht, 245 pp.
- VERLINDEN L. 1991. - *Fauna van België. Zweefvliegen (Syrphidae)*. Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussel, 298 pp.

Bulletin S.R.B.E./K.B.V.E., 144 (2008) : 18-21

New observations of *Orthonevra intermedia* (Lundbeck, 1916) and *Sphaerophoria loewi* (Zetterstedt, 1843) (Diptera: Syrphidae) for Belgium

Frank VAN DE MEUTTER

Laboratory of Aquatic Ecology and Evolutionary Biology, Ch. de Bériotstraat 32, B-3000 Leuven (e-mail: Frank.VandeMeutter@Bio.kuleuven.be).

Abstract

This paper reports the rediscovery of two species of Syrphidae, *Orthonevra intermedia* and *Sphaerophoria loewi*, for the Belgian fauna. *O. intermedia* was considered extinct in Belgium since no records were known for more than 50 years. Of *S. loewi*, only three historical records were known, of which only one after 1950. I further present some data on the observed habitat and behaviour, and discuss the current status of both species in Europe.

Keywords: *Orthonevra intermedia*/ *Sphaerophoria loewi*/ Belgian fauna/ Syrphidae.

Samenvatting

In deze bijdrage wordt de herontdekking van twee soorten zweefvliegen in België besproken; *Orthonevra intermedia* en *Sphaerophoria loewi*. *O. intermedia* werd uitgestorven gewaand doordat er geen gegevens beschikbaar waren sinds meer dan 50 jaar. Van *S. loewi* zijn slechts drie historische gegevens bekend, waarvan er slechts één van na 1950 dateert. Er wordt een korte beschrijving gegeven van de habitat, het gedrag en de huidige status van beide soorten in een Europese context.

Orthonevra intermedia (Lundbeck, 1916)

Introduction

Orthonevra intermedia is a small (6-7 mm), metallic shiny syrphid with an aquatic larva. It is a northern species with the southern edge of its range running fairly straight from Flanders to Hungary (SPEIGHT 2007). In the Netherlands it is not uncommon in old peat bog areas in the north and the centre (NJV 1998), but it is very rare outside these areas. So far, it was never recorded from the southern part of the Netherlands, which was attributed to the lack of appropriate old peat bogs (NJV 1998). Only two old records exist from Belgium (Overmere, Prov. Oost-Vlaanderen, ES.65 03.VIII.1941 and Lichtaart, Prov. Antwerpen; FS.37 24.VI.1941; Leg. J. Verbeke) and it was now presumed extinct.

Report and discussion of the observations

In 1998, a population of *O. intermedia* was discovered at the nature reserve 'Het Trilven' in Rijmenam near Mechelen (Province of Antwerpen; FS.113522, 18.VII.1998 1 female). Since its discovery, *O. intermedia* has been caught on every visit to the site during the flying season (most recent records are from June 2006). Records range from half May (21.V.1999: 3 males, 2 females) to half July (18.VII.1998: 1 female). 'Het Trilven' is a historical meander of the river Demer, and has now evolved into a peat bog. The area where *O. intermedia* has been caught is a thick, floating mat of *Sphagnum* sp., sparsely vegetated with *Eriophorum angustifolium*, *Carex vesicaria* and *Comarum palustre*. Due to management practices, this habitat nowadays covers an area of approximately 1000m². However, before the management started in 1995, this area was largely forested and only some highly shaded 20 m² of open marshland remained. *O. intermedia* apparently managed to persist in this small, isolated habitat patch.

In 2003, I discovered a second Belgian population of *O. intermedia* at 'De Maten' near

Genk, Prov. Limburg (FS.729481; 28.V.2003). A female was caught here feeding on alder buckthorn (*Rhamnus frangula*) some 30 meters from a peat bog area. The next year, a short targeted search for *O. intermedia* at the central area of this bog again rendered one male which confirmed the existence of a local population at this site (6.VII.2004). The similarity between the habitats at 'Het Trilven' and 'De Maten' is striking. Both are mesotrophic marshlands with extensions to more eutrophic as well as more oligotrophic conditions. At 'Het Trilven', *Sphagnum* mats buffer the upper vegetation from the underlying nutrient-rich water of the river meander. Similarly, at 'De Maten', *Sphagnum* and reed (*Phragmites australis*) form a large floating mat upon a shallow extension of a eutrophic lake. The vegetation at 'De Maten' is dominated by the same three plant species as mentioned above for 'Het Trilven', with the addition of reed (*P. australis*).

Although the area surrounding the presumed breeding area at 'Het Trilven' does have flowers that are frequented by many syrphids (mainly *Potentilla erecta*, *Galium palustre*), *O. intermedia* was never observed here. *O. intermedia*, however, does visit flowers as was observed in 'De Maten' (on *Rhamnus frangula*), and also has been reported from the Netherlands (often on *Iris pseudacorus*, NJV 1998) and recently from a new locality in Belgium (Sourbrodt, on *Potentilla erecta*, pers. comm. Guy Van de Weyer). At 'Het Trilven', all records are from individuals that sat upon the *Sphagnum* mats or low on leaves of *Carex* sp.. Most records are from males, which exhibit a typical but rather inconspicuous behaviour: they perform swift, erratic flights within some centimeters above the peat bog (you can easily mistake them for other flies) and shortly land here and there. Possibly, this behaviour reflects (territorial?) males looking for females at the presumed oviposition site.

The observations at 'Het Trilven' suggest that flower visits away from the natal peat bogs may be occasional and that a vast majority of animals stay close to the often inaccessible breeding

habitat. In addition to this, the flies are inconspicuous themselves and stay often low between the vegetation. All together, these factors may explain why remnant populations have remained undiscovered until now. An illustrative example is the recent addition of *O. intermedia* to the United Kingdom list in 2006 (Drake 2006). It is exceptional that a species that is believed to have lived at that particular place since ages (recent colonization is unlikely) has been overlooked so long.

Sphaerophoria loewi (Zetterstedt, 1843)

Introduction

Sphaerophoria is a diverse genus of slender black-and-yellow syrphidae that inhabit heath, heather, meadows and forest clearings. Only one species, *Sphaerophoria loewi*, has a strictly aquatic distribution. Over large parts of its distribution ranging from Scandinavia to Southern France, and from Ireland to Mongolia, this species is known as a typical inhabitant of coastal lagoons, especially those with large stands of reeds and rushes (mainly *Bolboschoenus maritimus*). It also occurs at freshwater lakes with reeds and common club-rush *Schoenoplectus lacustris* (SPEIGHT 2007).

Despite its wide distribution, populations are often local and seldom abundant. Only three historical records of *S. loewi* are known from Belgium: before 1950, Brussels area (VERLINDEN 1991), 3.VII.1950 Het Torfbroek, Berg-Kampenhout 1 ex. and 16.VII.1989 Mormont, Les Aunais 1 ex.

Report and discussion of the observations

During 2001-2003, the author regularly visited the nature reserve 'De Maten' in the framework of a PhD on macroinvertebrate metacommunity structure and dynamics. De Maten is a 300 ha heath land area near Genk with a 3.5 km long chain of 33 connected shallow ponds. All ponds have a lush helofyte belt dominated by reed *Phragmites australis*, cattail *Typha* sp., and in some ponds common club-rush *S. lacustris*.

As part of this research, all ponds in De Maten were sampled for macroinvertebrates three times per year (end May, end July, end September) during three consecutive years. Sampling occurred by wading the ponds and sampling a fixed 75 m trajectory through the littoral zone with a dipnet. It was during one of these

samplings on 25.VII.2001 that at the inner (open water) edge of the reed belt (approximately 4 m from the pond border) a strange-looking male *Sphaerophoria* was seen. It was caught by hand, and identified as *S. loewi*. From this moment on, special attention was given to the presence of *Sphaerophoria* at the ponds. During all three years that macroinvertebrates were sampled, *S. loewi* were observed (a full account of all observations is given in Table 1). Observations range from May (22.V.2003; 1 male) till September (17.IX.2002; 2 females), but most individuals were seen in July. *S. loewi* was observed at 11 different ponds in De Maten, which were maximally 3 km apart (see Fig. 1).

Table 1: Full account of *Sphaerophoria loewi* observations at De Maten. UTM coordinates up to 100 m precision are given.

Locality	UTM 0.1	Date	Number
Genk	FS725477	25/07/2001	1
Genk	FS719471	30/07/2001	10
Genk	FS727475	31/07/2001	1
Genk	FS721470	1/08/2001	1
Genk	FS719471	1/08/2001	10
Diepenbeek	FS713464	27/05/2002	5
Genk	FS731482	28/05/2002	2
Diepenbeek	FS713464	17/09/2002	2
Genk	FS719471	22/05/2003	1
Genk	FS719471	27/05/2003	15
Diepenbeek	FS714465	27/05/2003	2
Genk	FS727476	11/06/2003	1
Genk	FS722473	22/07/2003	15
Diepenbeek	FS713464	22/07/2003	3
Genk	FS725477	23/07/2003	2
Genk	FS726475	24/07/2003	1
Genk	FS726477	24/07/2003	2

Strikingly, we never observed *S. loewi* away from the ponds. Only one observation is from a *S. loewi* feeding at the pond border, all other individuals were seen above water on or between emergent vegetation. Remarkable also is the observation of some 10 *S. loewi* on enclosures (circular white nettings that reached ca. 15 cm above the water) placed at 6 m from the pond border in open water end July-beginning August 2001. *S. loewi* seemed to fly low above the water, shortly land on the nettings now and then, and disappear again. Flower visits were only twice seen, both on fine-leaved water-dropwort *Oenanthe aquatica*.

Altogether our observations confirm earlier

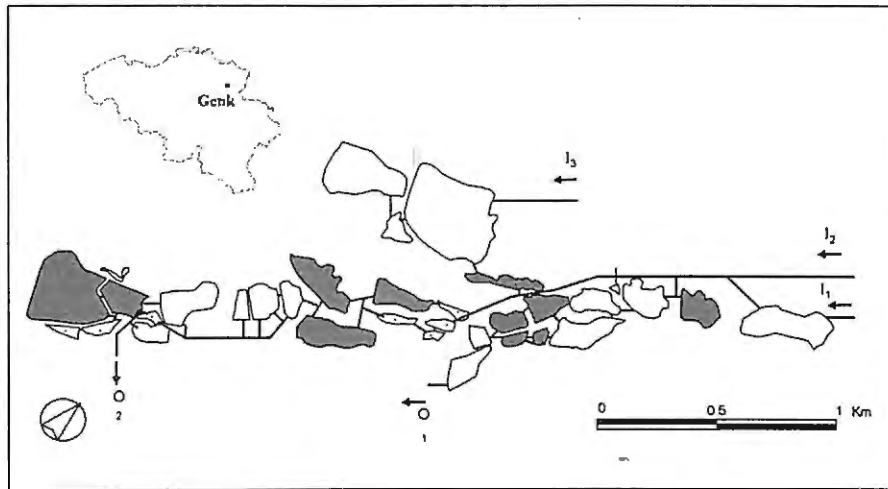


Fig. 1: Schematic map of the ponds at 'De Maten' with the ponds where *S. loewi* were found indicated in grey.

opinions on *S. loewi* as an inconspicuous species that hides in inaccessible habitats (SPEIGHT 2007), and therefore may be largely overlooked and actually (much?) less rare than is now believed. This may be revealed by specific searches in ponds using wading suits or by placing malaise traps mounted on floating structures. Most promising locations are those where historical records are known (Het Torfbroek, Mormont) and other places having an abundant reed or *Scirpus* vegetation (e.g. Lac de Virelles).

Acknowledgements

I like to thank Guido Van de Weyer for providing me details of his observation of *Orthonевра intermedia* and Dirk Maes for sending me historical Belgian records of the discussed species from the national syrphid databank at the INBO.

References

DRAKE, C.M. 2007. - *Orthonевра intermedia*

Lundbeck, 1916 (Diptera, Syrphidae) new to Britain. *Dipterists Digest* (2nd Series) 13(2), 87-91.

NJN, 1998. *Voorlopige atlas van de Nederlandse zweefvliegen (Syrphidae)*. Uitgegeven in samenwerking met EIS-Nederland.

SPEIGHT M.C.D. 2007. - *Species accounts of European Syrphidae (Diptera)*, Espoo, 2007. In: Speight, M.C.D., Castella, E., Sarthou, J.-P. and Monteil, C. (eds.) *Syrph the Net, the database of European Syrphidae*, vol. 55, 286 pp., Syrph the Net publications, Dublin.

VERLINDEN L. 1991. - *Zweefvliegen (Syrphidae). Fauna van België*, KBIN, Brussel.

VERLINDEN L. & DECLER K. 1987. - The hoverflies (diptera, syrphidae) of Belgium and their faunistics: frequency, distribution, phenology. *Studiedocumenten van het Koninklijk Belgisch Instituut voor Natuurwetenschappen*, 39. Koninklijk Belgisch Instituut voor Natuurwetenschappen: Brussel : Belgium. 170 pp.