

Additions and corrections to the checklist of Belgian Muscidae (Diptera) – genus *Spilogona* Schnabl, 1911

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Abstract

In this paper three species of the genus *Spilogona* Schnabl, 1911 are added to the checklist of Belgian Muscidae: *Spilogona marina* (Collin, 1921), *S. scutulata* (Schnabl in Schnabl & Dziedzicki, 1911) and *S. surda* (Zetterstedt, 1845). In addition, the inclusion in the Belgian Muscidae checklist of *Spilogona litorea* (Fallén, 1823) is discussed.

Keywords: Muscidae, *Spilogona*, species new for Belgium

Samenvatting

In dit manuscript voegen we drie soorten van het genus *Spilogona* Schnabl, 1911 toe aan de Belgische Muscidae checklist: *Spilogona marina* (Collin, 1921), *S. scutulata* (Schnabl in Schnabl & Dziedzicki, 1911) en *S. surda* (Zetterstedt, 1845). Daarnaast wordt ook de opname van *Spilogona litorea* (Fallén, 1823) in de Belgische Muscidae checklist besproken.

Résumé

Trois espèces appartenant au genre *Spilogona* Schnabl, 1911 s'ajoutent à la liste des Muscidae de Belgique: *Spilogona marina* (Collin, 1921), *S. scutulata* (Schnabl in Schnabl & Dziedzicki, 1911) et *S. surda* (Zetterstedt, 1845). Par ailleurs, l'introduction de *Spilogona litorea* (Fallén, 1823) dans cette liste est discutée.

Introduction

Just like other members of the subfamily Coenosiinae, the imagines of the genus *Spilogona* Schnabl, 1911 feed mainly predaceously (SKIDMORE, 1985; WERNER & PONT, 2006). However, PONT (1993) has also observed some species of *Spilogona* feeding on nectar in northern Sweden. The larvae of *Spilogona*-species are obligate carnivores. They occur mainly in wet soil and in moss cushions, from where some invade drier microhabitats whilst others become entirely aquatic (SKIDMORE, 1985; GREGOR *et al.*, 2002).

Spilogona is a difficult genus. Identification down to species level regularly presents problems and single *Spilogona* females are sometimes even impossible to identify (PONT, personal communication). Moreover, the genus as such cannot be defined by a few morphological characteristics (GREGOR *et al.*, 2002).

The checklist of Belgian Muscidae by HOFMANS (1991) contains 11 species of *Spilogona*. In 2013 the halophilous species *Spilogona biseriata* (Stein, 1916) was added to this list (MARTENS, 2013). In the present paper another three species are added: *Spilogona marina* (Collin, 1921), *S. scutulata* (Schnabl in Schnabl & Dziedzicki, 1911) and *S. surda* (Zetterstedt, 1845). In addition, the inclusion in the Belgian Muscidae checklist of *Spilogona litorea* (Fallén, 1823) is discussed. This paper is the second contribution in a series of papers with additions and corrections to the Belgian Muscidae checklist. In the first paper four species of the genus *Coenosia* Meigen, 1826, another member of the subfamily Coenosiinae, were added (MARTENS, 2015).



Fig. 1. Shallow ditch in a salt meadow of the 'Kleiputten van Heist', the sampling locality of *Spilogona marina*.



Fig. 2. 'Vrouwkenschoeckreek', a creek in the river Scheldt polders of Sint-Laureins, the sampling locality of *Spilogona scutulata*.

Material and methods

Spilogona marina, *S. scutulata* and *S. surda* were obtained by sweeping vegetation with a net. The collected specimens were dry mounted and are preserved in the private collection of the author. A dry specimen with an identification label mentioning "*Limnophora litorea*?" was found in the collection of the Royal Belgian Institute for Natural Sciences (RBINS). The labels on this specimen do not mention the collection method. All current identification is based on GREGOR *et al.* (2002).

Details of the observations, distribution and biological data

Spilogona marina (Collin, 1921)

MATERIAL. 1♀, Knokke-Heist, Kleiputten van Heist, shallow ditch in salt meadow, 5.VIII.2014, leg., det. & coll. C. Martens.

Spilogona marina is probably an Atlantic species. It occurs along the coasts of Great Britain, Northern Ireland, France, the Netherlands, Denmark and Germany (GREGOR *et al.*, 2002; PONT, 2016).

I collected one female specimen of *Spilogona marina* in a shallow ditch in a salt meadow of the 'Kleiputten van Heist' (Fig. 1), one of the subareas of the nature reserve 'Groene gordel Heist-West' which is managed by the Flemish Agency for Nature and Forests. The site is located only about 2 km from the North Sea coast. The salt meadow is grazed by cattle. Fig. 4 shows the corresponding 5x5km UTM-square on the Belgian map.

Spilogona scutulata (Schnabl in Schnabl & Dzedzicki, 1911)

MATERIAL. 1♂, Sint-Laureins, Vrouwkenschoeckreek, 11.VIII.2012, leg., det. & coll. C. Martens.

Spilogona scutulata is a Eurasian species. In Europe it occurs in Northern and Central Europe and in Britain. It has not been recorded from the Netherlands, Luxembourg or France, nor from southern Europe (GREGOR *et al.*, 2002; PONT, 2016).

I collected a male specimen of *Spilogona scutulata* on the banks of the creek 'Vrouwkenschoeckreek' (Fig. 2) in the river Scheldt polders of Sint-Laureins. The part of the creek where I found the specimen was filled with sediment in the 1950s but was excavated during the winter before the collection. The neighbourhood consists mainly of agricultural land. Fig. 4 shows the corresponding 5x5km UTM-square on the Belgian map.

***Spilogona surda* (Zetterstedt, 1845)**

MATERIAL. 3♂, 1♀, Aarlen, Camp Lagland, Marais du Landbruch, 22.VIII.2013, leg., det. & coll. C. Martens.

Spilogona surda is a Holarctic species. In Europe it is widely distributed, but mostly absent in southern parts. Among others it has been recorded e.g. in our neighbouring countries The Netherlands and France (GREGOR *et al.*, 2002; PONT, 2016). In Britain *Spilogona surda* is a highly eurytopic species and the puparium of this species has been



Fig. 3. transition zone between a mixed forest and a boggy area in ‘Marais du Landbruch’ (Camp Lagland, Aarlen), the sampling locality of *Spilogona surda*.

found in a riverside sandbank (SKIDMORE, 1985; GREGOR *et al.*, 2002). WERNER & PONT (2006) have observed imagines of this species walking down reeds towards the water, to the points at which black fly (Simuliidae) larvae are attached, and then pulling these larvae out of the water. Apart from Simuliidae, they mention also Ephydriidae as prey of *Spilogona surda*.

I collected three males and one female in the ‘Marais du Landbruch’, which is part of the military domain ‘Camp Lagland’. The locality is situated in the Lorraine belge. ‘Marais du Landbruch’ is a bog in a valley with poor drainage. It is fed by two streams. Numerous habitats occur in the valley: e.g. poor fens, transition mires and quaking bogs, rich fens, carr, active raised bogs, *Sphagnum Betula* woods. Nearby there are also interesting dry heathlands and several types of forest. *Spilogona surda* was collected in the transition zone between a mixed forest and a boggy area (Fig. 3), at an altitude of ±350 m ASL. Fig. 4 shows the corresponding 5x5km UTM-square on the Belgian map.

***Spilogona litorea* (Fallén, 1823) / *Spilogona falleni* Pont, 1984**

MATERIAL. 1♀, col. RBINS, with labels mentioning “Boisfort VI-1902”, “Collection A. Guillaume” and “*Limnophora litorea* ?”

The Muscidae checklist by HOFMANS (1991) includes *Spilogona litorea* (Fallén, 1823).

PONT (1984) found that Fallén’s male lectotype of *Spilogona litorea* belongs to *S. longipes* (Ringdahl, 1918) as recognised by authors at that time, so the name *litorea* had to replace *longipes*. PONT (1984) found also that Fallén’s female paralectotypes of *Spilogona litorea* belonged to several other species. As true *litorea* proved to be *longipes* and as there were no specimens of *litorea* of authors in Fallén’s type-series, another name needed to be found for *litorea* of authors. PONT (1984) named it *Spilogona falleni*. It is quite probable that Kurt Hofmans was not aware of these name changes when compiling the Belgian checklist of 1991. In that case *Spilogona falleni* and not *Spilogona litorea* should be on the Belgian checklist.

HOFMANS (1991) noted that the species is in the RBINS collection. I found one female specimen with the label “*Limnophora litorea* ?” in this collection. As the genus *Spilogona* Schnabl, 1911 was originally described as a subgenus of *Limnophora* Robineau-Desvoidy, 1830, this name corresponds with “*Spilogona litorea* ?”. However, I studied this specimen and it is not a Muscidae but an Anthomyiidae. Consequently, there is no evidence for either *Spilogona litorea* or *S. falleni* occurring in Belgium, and I advise deleting “*Spilogona litorea*” from the Belgian checklist whilst awaiting new records of one or both species.

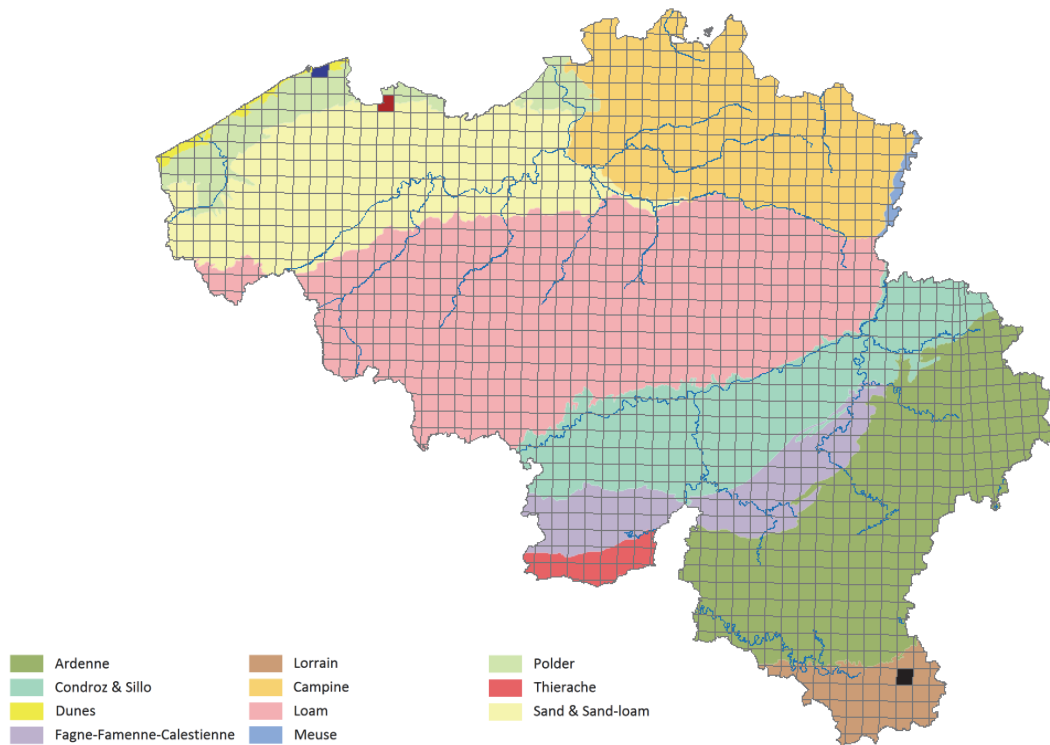


Fig. 4. Preliminary distribution maps of *Spilogona marina* ■, *S. scutulata* ■ and *S. surda* ■, using 5x5 km UTM-squares .

Discussion

So far the newly-recorded species in this paper have been collected only once in Belgium. *Spilogona marina* which was collected in the coastal polders can also be expected in the Belgian river Scheldt polders, as I collected this species in Saeftinghe, a large salt marsh area situated in the River Scheldt estuary in The Netherlands, less than 2 km from the Belgian border (9.VIII.2014, 14♂ & 9♀, leg., det. & coll. C. Martens). For *Spilogona scutulata* and *S. surda* further collecting is needed to get an idea of their distribution in Belgium.

From the duo *Spilogona litorea* / *S. falleni*, the one most likely to be found in Belgium is *S. falleni*, as this species is eurytopic (SKIDMORE, 1985) and occurs in many European countries, amongst them Germany and the Netherlands (PONT, 2016). *Spilogona litorea* is probably subboreal (GREGOR *et al.*, 2002) and so if it occurs in Belgium it will probably be in the more elevated parts of the country, such as the Hautes Fagnes, Plateau des Tailles, Plateau de Recogne, the region of Bastogne, the region of Sint-Hubert, ...

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