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Status and rearing of *Sphiximorpha subsessilis* (Diptera, Syrphidae) in the Département of Sarthe, France

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Data on the rearing of *Sphiximorpha subsessilis* (Illiger in Rossi, 1807) are given. Additional records of adults from the Département of Sarthe (France) are provided and discussed.

Key words: France, Sarthe, early stages, *Sphiximorpha*, Syrphidae, Diptera.

Zusammenfassung

Im Anschluss an die Beschreibung von Larven und Puparien von *Sphiximorpha subsessilis* (Illiger in Rossi, 1807) durch Rotheray et al. (2006) werden hier zusätzliche Angaben zu den Larvalhabitaten und weitere Nachweise der Art aus dem Département Sarthe, Frankreich, mitgeteilt.

Introduction

The larva and puparium of *Sphiximorpha subsessilis* (Illiger in Rossi, 1807) were described recently (Rotheray et al. 2006). In the present paper data are given about the site where the developmental stages were found, together with other records of this species from the Département of Sarthe, France. The ecological conditions under which this species may be found are considered, based on these data.

Locality

The early stages of *S. subsessilis* described by Rotheray et al. (2006) were found in the Perseigne National Forest. This forest is in the Commune of Louzes (UTM: CP06) in the Normandy-Maine Regional Natural Park, in the north of the Département of Sarthe. It is about 5100 hectares in area. More than 4000 hectares consist of broad-leaved trees, mostly *Fagus* and *Quercus*. Less than 1000 hectares are conifers, mostly *Abies* spp. This beautiful forest covers the summit of a hill with an underlying geology of "armoricain" schists and porphys. The hill reaches 340 m alt. and is one of the highest points in Sarthe.

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Breeding site

Early stages of *S. subsessilis* were found on the trunk of a fir, *Abies alba*, at position 48°25.341N, 00°17.648E, (ED50 system recorded by means of a GARMIN GPS 12). The altitude was 271m, as measured at the foot of the fir tree. The tree was 1.78m in circumference at 1.30m above ground and had a height of about 20m (figs 1, 2). Its estimated age was 80 years. Surrounding the tree were larches (*Larix* spec.) and beeches (*Fagus sylvatica*).

In previous years I had found other syrphids associated with this tree. In 1997 larvae of *Brachyopa insensilis* Collin, 1939 were found there, in a sap run. On 31 May 2003 I recorded the adults of additional species. On the trunk was a male of *Brachypalpoides lentus* (Meigen, 1822) and two males of *S. subsessilis*. All of these adults were close to a sap run. The discovery of adult *S. subsessilis* prompted me to look for early stages in the sap run. Very little sap was observed initially. But under the bark at the point of origin of the sap run a cavity existed (fig. 3). This small cavity was full of black, decaying sap and contained several syrphid larvae that I extracted with a twig. The cavity may have formed when a nearby tree fell against the trunk of the *Abies* and damaged its bark. Rainwater probably entered and with leakage of sap and the action of micro-organisms, sap accumulated in the resulting cavity.

Larvae of *S. subsessilis*

Three third stage larvae of this species were found on 31 May 2003 (fig 4). Unfortunately one larva was badly injured during extraction and died. The two remaining larvae were reared successfully. Smaller larvae, probably of this species, were also found and were taken for rearing.

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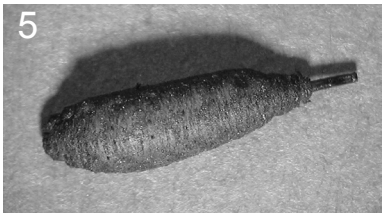

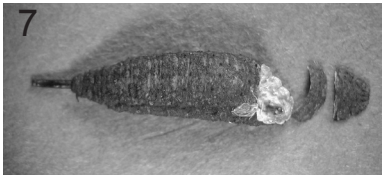

Larvae were reared by placing them in a plastic box covered by a lid, in which small holes had been made to provide for air exchange. The box contained some substrate taken from the cavity, together with fragments of bark. Water was added periodically to maintain moisture levels. The box was inclined to allow a gradient in depth of the substrate. The box was kept at room temperature, in a shaded position.

Larvae remained hidden in the substrate and avoided the light. They remained grouped together near, or on, bark, with only the tip of the posterior respiratory process visible. However, larvae moved out of the substrate and onto the sides of the box to pupate. Both larvae produced puparia within a week and the puparial periods were 21 and 22 days: Date larvae collected: 31.05.2003 (fig. 4), date of puparium 24.03.2004 / 31.03.2004 (fig. 5), date of emerging of the adult females 14.04.2004 / 22.04.2004 (figs 6, 7).

One puparium and associated adult are in my personal collection and one larva, a puparium and its associated adult are deposited in the collections of the National Museums of Scotland (Edinburgh).

Status of *S. subsessilis* in the Département of Sarthe

Twelve adult specimens of *S.subsessilis* were captured between 1990 and 2004 (table 1). Only males were found. They occurred in large *Fagus/Quercus* forests, usually near sap runs or cavities (tree holes) on the trunks of various trees (fig. 8). Based on capture dates the flight period in Sarthe is from April 30 to June 30, with a peak in May.

Figs 1-8: *Sphiximorpha subsessilis*: Larval habitat and early stages. For explanation see text.

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	Date	Microhabitat	Vegetal species	UTM	Commune
1	13/05/94	Sap run on trunk	*Populus* spec.	CP22	Vibraye
2	20/06/95	Sap run on trunk	*Populus* spec.	CP32	Vibraye
3	27/06/96	Drainage of a cavity	*Fagus* spec	CP22	Berfay
4	30/04/97	Drainage of a cavity	*Fagus* spec	CP22	Vibraye
5	30/04/97	Drainage of a cavity	*Fagus* spec	CP22	Vibraye
6	13/05/97	Drainage of a cavity	*Fagus* spec	CP22	Vibraye
7	13/05/97	Sap run on trunk	*Quercus* spec.	CP22	Vibraye
8	30/05/97	Drainage of a cavity	*Fagus* spec.	CP22	Vibraye
9	30/05/97	Sap run on trunk	*Populus* spec.	CP22	Vibraye
10	31/05/03	Sap run on trunk (fig. 8)	*Abies alba*	CP06	Louzes
11	31/05/03	Sap run on trunk	*Abies alba*	CP06	Louzes
12	30/06/04	Sap run on trunk	*Abies alba*	CP06	Louzes

Table 1: Details of adult *S. subsessilis* captured in the Département of Sarthe.

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References

Rotheray, G.E.; Dussaix, C.; Marcos-García, A.; Pérez-Banón, C. (2006): The early stages of three Palaearctic species of saproxylic hoverflies (Syrphidae, Diptera). – Micron 37, 73-80.

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