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Occurrences of Sigalphinae (Hymenoptera: Braconidae) in Belgium

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Abstract

Sigalphus irrorator *(Fab.) and* Acampsis alternipes *(Nees) are recorded from 9 and 6 localities respectively in Belgium. These new data allow us to present the first preliminary distribution of these species and some considerations about their phenology and repartitions.*

Key words: Sigalphinae, *Acampsis*, *Sigalphus*, phenology, Belgium.

Résumé

Sigalphus irrorator *(Fab.) et* Acampsis alternipes *(Nees) sont signalés respectivement de 9 et 6 localités de Belgique. Ces données nouvelles nous donnent une idée préliminaire de la répartition de ces espèces ansi que quelques réflexions à propos de leur phénologie.*

Introduction and biology

During the survey of the entomological collections in Belgium, several specimens of *Sigalphus irrorator* (Fabricius, 1775) and *Acampsis alternipes* (Nees von Esenbeck, 1816) were found. Sigalphine in the world are represented by around 30 species in 7 genera. These 2 species were uncommonly collected despite their Palaearctic repartitions. Little is known about their biology but the carapace-like metasoma suggests that ovo-larval parasitism may occur. However, no clear evidence has yet been advanced for it (Shaw & Huddleston, 1991; van Achterberg & Austin, 1992). In Europe, *S. irrorator* has been recorded as solitary parasite from noctuids (especially the *Acronicta* genus) (Shaw & Huddleston, 1991). The Nearctic species *S. bicolor* (Cresson, 1880) is known as a gregarious parasite of the same genus. But this species has been observed the oviposition in very

young larvae followed by an external feeding phase on the cocooned prepupal host (CUSHMAN, 1913).

A. alternipes has been reared from the geometrid genus *Alsophila* in Czekoslovakia (CAPEK, 1975) and in England (SHAW & HUDDLESTON, 1991). The parasitoïd larva leaves the final-instar host and descends on a thread to form a robust silvery white cocoon in the litter. The adult emerges through an irregularly chewed hole the following spring (CAPEK, 1975).

Taxonomy, depositories and new occurrences for Belgium

For this work, the collections of the "Faculté Universitaire des Sciences Agronomiques à Gembloux" (FSAGx), and the "Institut royal des Sciences naturelles de Belgique" (IRSNB) have been examined. For the identification of the subfamilies, genera and species of Sigalphinae see VAN ACHTERBERG (1990, 1993) and VAN ACHTERBERG & AUSTIN (1992). For the terminology used in this paper see VAN ACHTERBERG (1988a). SHENEFELT (1970, 1973) give the European repartition of these species.

The new occurrences observed, classified according to province, are:

Sigalphus irrorator (FABRICIUS, 1775)

FSAGx:

Bruxelles-Brussel: 1 female, Haren, 18.VIII.1951.

Locality unknown: 1 female (Collection E. Victor, Louvain), *Phisigaster irrorrator*!

IRSNB:

Collection Wesmael:

Bruxelles-Brussel: Bruxelles, 1 male (Wesmael handwriting).

Locality unknown: 4 females, *Rhytigaster irrorator*; 1842; 1 male, *Rhytigaster irrorator* var. nini, ?1842.

Collection Dr. J. Tosquinet:

Bruxelles-Brussel: from St-Gilles: 1 male, Jardin, 12.VI.1849; 1 male, 26.VII.1879, Jardin; 1 female, 14.VII.1881; 5 females + 2 males, 6.VIII.1881; 1 female, 26.V.1882; 1 female, Jardin, 12.VI.1884; 1 female, Jardin, 31.VII.1884; 1 female, 1.VI.1886; 1 female, Jardin, 12.VI.1888; 1 female, Jardin, 29.VIII.1889; 1 female, Jardin, 2.VIII. 1892; 1 female, 14.V.1893; 1 female + 1 male, Jardin, 14.VI.1893; 1 female, 17.V.1893; 1 male, Jardin, 24.VI. 1896; 1 male, Jardin, 24. VII.1897 and from Schaerbeeck: 1 female, 30.IV.1894 (Edui Hinpert).

Limburg: Beverlo, 1 male, 7.IX.1869; Genk, 2 females.

Oost-Vlaanderen: St. Amandsberg, 2 females + 1 male, VII.1944 (I.R.Sc. N.B., I.G. 20543) and 1 male, 14.VIII.1943; Bellem, 1 female, 23.V. 1942 (I.R.Sc.N.B., I.G. 20543); Gand: 1 male, 16.V.1865; 1 male,

6.VII.1866; 6 females + 2 males, 12.VII.1866; 1 male, 28.VI.1867; 1 female, 30.VI.1867; 3 females + 2 males, 21.VIII.1867; 1 female, 28.VIII.1867; 2 females + 2 males, 16.V.1868; 1 male, 22.V.1868; 1 male, 10.VII.1868; 3 females + 8 males, 10. VII.1869; 2 females + 2 males, 22.VII.1869 and 2 specimens (undefined sex), 21. VIII.1867, 30.VI.1867; Zwijnaarde: 1 female, 9.VII.1867; 2 females + 3 males, 9.VIII.1867; 1 female, 9.VIII.1868.

West-Vlaanderen: Bruges, 1 female + 1 male, 22.VII.1879.

Namur: Couvin: 1 male, 26.VII.1879.

Locality unknown: 1 female, 21.VIII.1892; 2 males (Collection Seydel); 1 female, *Rhitigaster irrorator*; 1 female, Belgique, 18.V. 1867 (Collection D.J. Tosquinet).

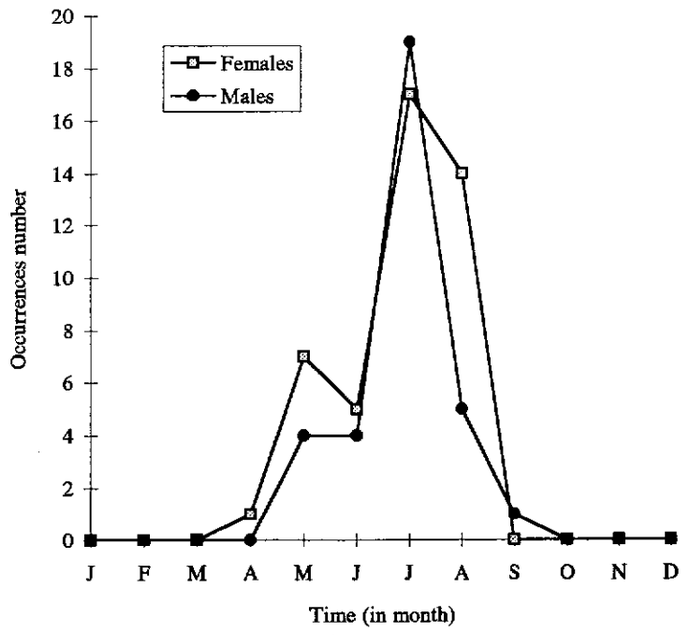

Fig. 1. Diagram of frequency of observations (occurrences number) per months of *Sigalphus irrorator* (FAB.).

Acampsis alternipes (NEES VON ESENBECK, 1816)

FSAGx:

Namur: Rienne, 2 females, 23.V.1969; Felenne, 1 female, 14.V.1967; Dion, 1 female, 21.V.1969; Winenne, 1 female, 20.V.1967; Baronville, 1 male, 21.V.1967.

Brabant: Laroche, 1 female, 8.V.1971.

IRSNB:

2 females + 1 male, *Rhytigaster alternipes* (Collection Wesmael, 1943).

Results and discussion

With these occurrences, we find *S. irrorator* (FAB.) (58 occurrences) and *A. alternipes* (NEES) (6 occurrences) in 7, 4 UTM squares respectively. It was very surprising that only one specimen (1 UTM square) of *S. irrorator* (FAB.) was collected after 1949 comparatively to the previous observations (81 specimens in 7 UTM squares). Two hypothesis may be proposed: first, this species became rare in our country because the effect of the industrialisation and the changes in its biotope (rarefaction/disparition of the host) or secondly, despite it is large braconid, it was so local that the collectors bypass its presence. Nevertheless, we could propose the following phenology for this species (Fig. 1).

The occurrences of *A. alternipes* (NEES) were too sparse to obtain a good idea on its phenology. But it was mainly observed during the early spring in South of Belgium according to SHAW & HUDDLESTON (1991).

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