

**Occurrence of *Cremnops desertor* (L.) 1758
(Hymenoptera: Braconidae, Agathidinae)
in Belgium: preliminary results**

by YVES BRAET

Zoologie Générale et Appliquée (prof. Ch. GASPARD), Faculté des Sciences Agronomiques,
B-5030 Gembloux.

Summary

Cremnops desertor (L.) is recorded from 23 localities in Belgium. These new data allow me to present the first preliminary distribution of this species and some considerations about its phenology.

Keys words: Braconidae, Agathidinae, *Cremnops desertor*, Phenology, Zoogeography.

Résumé

Cremnops desertor (L.) est signalé pour la première fois de 23 localités de Belgique. Ces données nouvelles nous donnent une idée de la répartition préliminaire de cette espèce, ainsi que quelques réflexions à propos de sa phénologie.

Introduction

In Belgium, as well as in the West Palearctic Region, the subfamily Agathidinae NEES, 1814 is mainly represented by two genera: *Agathis* LATREILLE, 1804 and *Bassus* FABRICIUS, 1804. But two other genera may also be found: *Earinus* WESMAEL, 1837 and *Cremnops* FOERSTER, 1862.

For the latter, only one species is known in Europe: *Cremnops desertor* (LINNAEUS, 1758). NIXON (1986) presented its South-European distribution while TOBIAS (1976) reported its range in the Palearctic Region. Until now, it's only mentioned from four places in Belgium by LECLERCQ (1952). For the adjacent countries, CAVRO (1954) reported its presence in Féchain and in Roisel (N. France). The data shown in this paper, corresponding to the specimens present in different collections, allow us to specify its distribution in Belgium.

Taxonomy and Biology

For the identification of this species, see NIXON (1986).

Species of Agathidinae are mainly internal parasites of lepidopterous larvae. *Cremnops desertor* (L.) has been described as a parasite of *Cydia* (*Grapholita*) *pomonella* L., *Eurrhyncha hortulata* (L.), *Conopia* (*Synanthedon*) *spheciformis* (DENIS & SCHIFFERMÜLLER) (NIXON, 1986), *Eurycreon* sp., *Carpocapsa* sp., *Hapalia* sp. and *Pyrausta* sp. (BHAT & GUPTA, 1977). Worldwide, some *Cremnops* sp. are parasites of *Loxostege* sp., *Evergestis straminealis* Hbn. and *Epicarsia mellinalis* (HBN.) (MARSH, 1961).

Except for information about the host range, the biology of *Cremnops desertor* (L.) is unknown. But the biology of the closely related species *Cremnops vulgaris* (CRESS.) is better known and can shed some light on the natural history of the former species (see SIMMONDS, 1947).

Briefly, in the field, males of *C. vulgaris* (CRESS.) emerge at the same time as their host and one week before female. Usually, adults copulate as soon as they emerge. One, or sometimes two eggs, are laid freely in the body cavity of the host. But never more than one adult parasite emerges from the host. After feeding has been completed and the host has been entirely consumed, the parasite larva forms its cocoon within that of the host. If the development occurs without diapause the adults will emerge 10-12 days after oviposition. The life-time of the adults is approximately 17 days in laboratory.

There is only very little information about the feeding behaviour of adults. But the marked downwards elongation of the head and labio-maxillary complex seems to indicate an adaptation for feeding at flowers (SHAW & HUDDLESTON, 1991). LECLERCQ (1952) and CAVRO (1954) pointed out the capture of two specimens of *C. desertor* (L.) on *Rubus idaeus*. Now we can also add the presence of the imago on *Cirsium* sp.

Depositories and new occurrences for Belgium

For this work, the collections of the "Faculté des Sciences Agronomiques à Gembloux" (FSAGx), and the "Institut Royal des Sciences Naturelles de Belgique" (IRSNB) have been examined. Some specimens come from my own collection (BC).

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

FSAGx:

Bruxelles-Brussel: Ixelles, 1♀, 02.IX.1970; Forest, 1♂, 15.VIII.1981.

Oost Vlanderen: Renaix, 1♂, 16.VI.1981, (P. DELOUVROY).

Hainaut: Houdeng-Aimeries, 1♀, 20.VIII.1985, (A. DUGAUQUIER).

Liège: Herve, 1♂, 30.VI.1934, (J. LECLERCQ); Ste-Walburge, 1♂, 23.VIII.1944; Jupille, 1♀, 18.VIII.1961, *Cirsium* sp.; Embourg, 1♂, 22.VII.1968, (A. PAULY); Xhendelesse, 1♂, 28.VII.1970, (J. LECLERCQ); Lont-

zen, 1♀, 27.VIII.1970; Stockay St-Georges, 1♀, 10.VIII.1984, (F. BELS); Embourg, Sauheid, 1♀, 08.VIII.1985, (R. WAHIS); Herve, José, 1♂, 28.VII.1991, (J. LECLERCQ); Beyne-Heusay, 1♂, 07.VIII.1991, (J. LECLERCQ); Xhendelesse, 1♀, 03.VII.1993, (J. LECLERCQ); Xhendelesse, 1♀, 04.VII.1993, (J. LECLERCQ).

Luxembourg: Masbourg, 1♀, 28.VIII.1968; Redu, 1♂, 28.VI.1992, (Y. BRAET).

Namur: Winenne, 1♀, 21.V.1964, (F. WOLF); Andenne, 1♂, 10.VIII.1967.

IRSNB:

Brabant: Forêt de Soignes, 1♀, VII.1963, (A. NYS).

Bruxelles-Brussel: Uccle, 1♂, 27.VII.1847, (TOSQUINET); Ixelles, 2♂♂, 01.VII.1898, (DEJONCK); Boitsfort, 2♂♂ and 1♀, 16.VI.1913, (collect. THIROT); Boitsfort, 1♂, 23.VI.1913, (collect. THIROT); Boitsfort, 1♀, 31.VII.1913, (collect. THIROT); Uccle, 1♂, 02.VII.1915, (J. LESTAGE, collect. A. HONORÉ).

West Vlaanderen: Courtrai, 1♂, 04.V.1845, (J. TOSQUINET); Courtrai, 1♂, 10.V.1845, (J. TOSQUINET); Courtrai, 1♀, 12.V.1845; Courtrai, 2♂♂, 18.VIII.1848, (J. TOSQUINET); Courtrai, 1♀, 26.VIII.1902.

Oost Vlaanderen: St Amandsberg, 1♀, 09.VII.1943, (J. LECLERCQ, det.).

Hainaut: Ronquières, 1♂, 20.VII.1981, (H. DONCKIER).

Liège: Sclessin, 1♂, 29.V.1958.

Namur: Andenne, 1♂, VI.1947, (A. CRÈVECOEUR det., collect. CRÈVECOEUR).

BC:

West Vlaanderen: Koksijde, Duinenabdij, 1♀, 22/29.VII.1983, (A. MUYLAERT).

Liège: Melen, 1♂, 06.VIII.1991, (J. LECLERCQ).

Luxembourg: Redu, 3♂♂ and 1♀, 28/06/1992, (Y. BRAET).

Namur: Vedrin, 1♂, 04/08/1991, (Y. BRAET).

In literature:

Liège: Liège, Ste-Walburge, 1♂ and 1♀, 23.VII.1944, fleurs de *Rubus idaeus*; Herstal, 1♀, 20.VIII.1945; Jupille, 1♂, 5.VII.1948 (in LECLERCQ, 1952).

Results

Distribution and phenology of *C. desertor* (L.)

With these 51 occurrences, we find *C. desertor* (L.) in Belgium in 22 UTM squares. Before 1950, 25 specimens were observed in 8 UTM squares and since 1949, 27 specimens have been observed in 19 UTM squares.

All these data (20♀♀, 31♂♂) allow us to define the period of activity of male and female adults. We could observe (Fig. 1.) that imagos emerge from May to the middle of September. There is a delay of about 10 days between the appearance of males and females. This observation corresponds to the observation of SIMMONDS (1947) concerning *C. vulgaris* (CRESS.). The existence of two distinct peaks for the females could be an artefact caused by insufficient sampling. To answer this question, it is necessary to do better sampling.

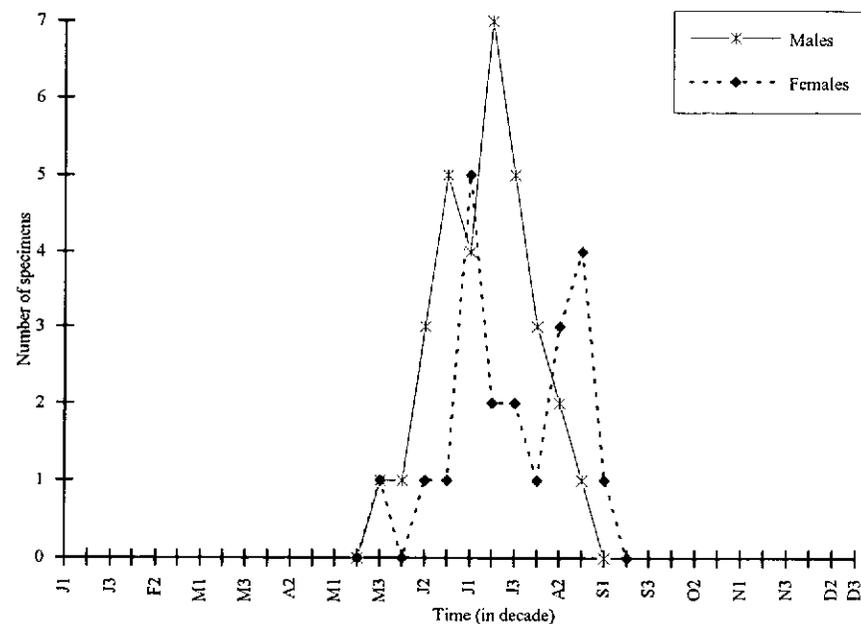


Fig. 1. Diagram of frequency of observations (occurrences number) per decades of *Cremnops desertor* (L.).

Discussion

With these news observations, *Cremnops desertor* (L.) seems to be regularly collected in Belgium. Although this species is very easy to recognize, there are many UTM squares where it is not found and never in the "Province de Limbourg" and in the "Province d'Anvers". This fact is probably caused by the methods of capture that the entomologists use (we can remark that any of the new captures have been performed with a trap). But, the observed distribution does not allow us to associate its presence with a defined biotope.

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