

***Choreutis nemorana* (Lepidoptera: Choreutidae) well established in Belgium**

Willy De Prins, Jean-Yves Baugnée, André Georis, †René Spronck & Raphaël Spronck

Abstract. After the first Belgian specimen of *Choreutis nemorana* (Hübner, 1799) was observed at Liège on 09 September 2009, leg. J.-Y. Baugnée, René Spronck and André Georis found several fig trees (*Ficus carica*) at Visé (prov. Liège) with frass and caterpillars of this species in September and October in 2012 and again in September 2013 some caterpillars and pupae, leg. A. Georis. Some adults were bred indoors. This species seems well established in the east of the country and could be spreading westwards. Information on its general distribution and biology is given.

Samenvatting. *Choreutis nemorana* (Lepidoptera: Choreutidae) goed ingeburgerd in België

Sinds de eerste Belgische waarneming van *Choreutis nemorana* (Hübner, 1799) te Liège op 09 september 2009, leg. J.-Y. Baugnée, vonden René Spronck en André Georis verscheidene vijgenbomen (*Ficus carica*) te Visé (provincie Liège) met aangevreten bladeren en rupsen van deze soort in september en oktober 2012 en opnieuw rupsen en poppen in september 2013, leg. A. Georis. Uit deze rupsen en poppen werden binnenshuis enkele adulthen gekweekt. De soort blijkt dus goed ingeburgerd te zijn in het oosten van het land en zal zich waarschijnlijk westwaarts verspreiden. Informatie over de verspreiding en de biologie wordt gegeven.

Résumé. *Choreutis nemorana* (Lepidoptera: Choreutidae) bien établie en Belgique

Depuis la première observation de *Choreutis nemorana* (Hübner, 1799) en Belgique, Liège le 09 septembre 2009, leg. J.-Y. Baugnée, René Spronck et André Georis ont trouvé des figuiers (*Ficus carica*) à Visé (province de Liège) attaqués par les chenilles de cette espèce en septembre-octobre 2012, ainsi que des chenilles et chrysalides en septembre 2013, leg. A. Georis. Des adultes ont été obtenus. Cette espèce semble être bien établie dans la partie orientale du pays et va probablement se disperser vers l'ouest. Des informations sur la répartition et la biologie sont fournies.

Key words: *Choreutis nemorana* – *Choreutidae* – *Belgium* – *Faunistics* – *First record*.

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Introduction

On 09 September 2009, a first adult specimen of *Choreutis nemorana* (Hübner, 1799) (Choreutidae) was observed at Liège, leg. J.-Y. Baugnée. In September–October 2012, the late René Spronck and André Georis observed quite some skeletonised leaves on *Ficus carica*, growing at Visé (province of Liège), and some almost full-grown caterpillars from which some adults were bred. In September 2013, A. Georis again found the same phenomenon on the same plants and bred some more specimens. This species seems to have established some colonies in the eastern part of Belgium and it is likely that it will spread westwards as *Ficus carica* is sometimes planted as an ornamental plant in gardens.

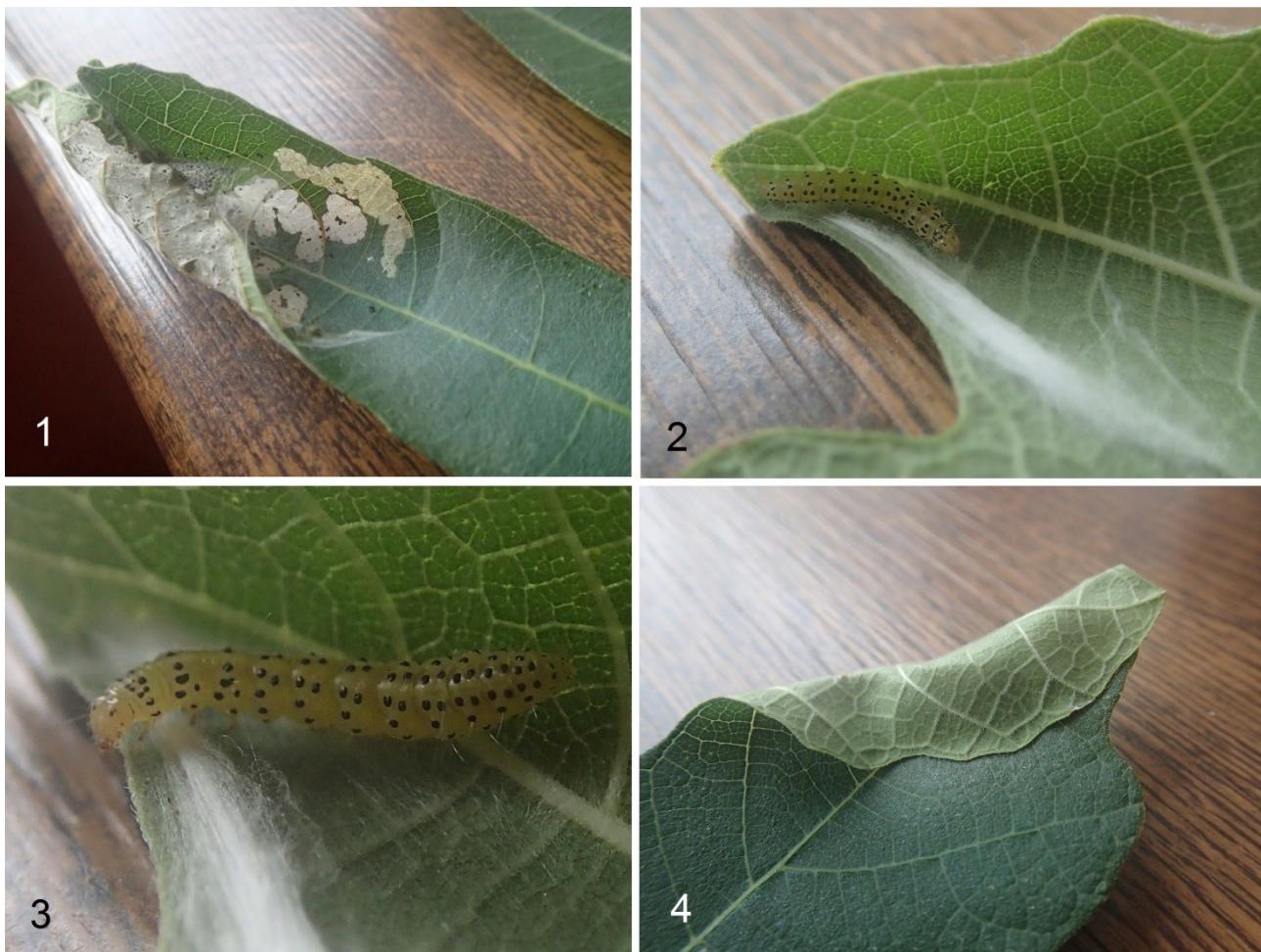
Morphology of the adult

The adult of *Choreutis nemorana* is mainly active during daytime and are observed most likely in the vicinity of, or resting on, the foodplant of the caterpillar, *Ficus carica*. They have a short, but fast flight and also run in short strokes on the leaves, while they hold their wings upwards in a small angle. The forewings have mainly an orange-brownish ground colour with a very narrow silver-grey transverse line and a rather broad postdiscal transverse band of the same colour. The margin of the forewings is sinuate, a feature which is

intensified by the brown ground colour of the wing extending into the central part of the pure white fringes. The species is little variable as to the pattern, but the ground colour, and also the colour of the transverse band may vary slightly, becoming almost whitish grey (Diakonoff (1986). The hindwing is brown and has some yellowish to golden spots in the discal area and along the margin.

In Belgium a second *Choreutis* species occurs: *C. pariana* (Clerck, 1759). It is rare but has thus far been observed in all the Flemish provinces and in Namur. It has the tendency to become more common during the last years, but this might also be the result of more people looking at small moths. The caterpillar feeds more or less in the same way as *C. nemorana* (see below) but its main foodplant is *Malus* sp. though it has also been found on other Rosaceae like *Sorbus* and *Crataegus* (Alford 1992). The adult is similar to that of *C. nemorana* but the ground colour is less vivid, more greyish brown. The basal transverse line has more blackish scales. The margin of the forewings is but little sinuate and there are but a little brownish scales extending into the fringe. The hindwings are unicolorous brown.

The third European *Choreutis* species, *Choreutis diana* (Hübner, 1822) has an Alpine distribution and can hardly be expected to occur in Belgium. The caterpillars live on several species of Betulaceae, e.g. *Alnus incana*, *A. viridis*, *Betula papyrifera*.



Figs. 1–4. *Choreutis nemorana* (Hübner, 1799), Belgium, Liège, Visé, 13.x.2013, leg. A. Georis; 1.– Skeletonized leaf of *Ficus carica*; 2–3.– Caterpillar, last instar on leaf of *Ficus carica*; 4.– Upward folded leaf of *Ficus carica* with larva feeding inside this shelter (Photos: A. Georis).

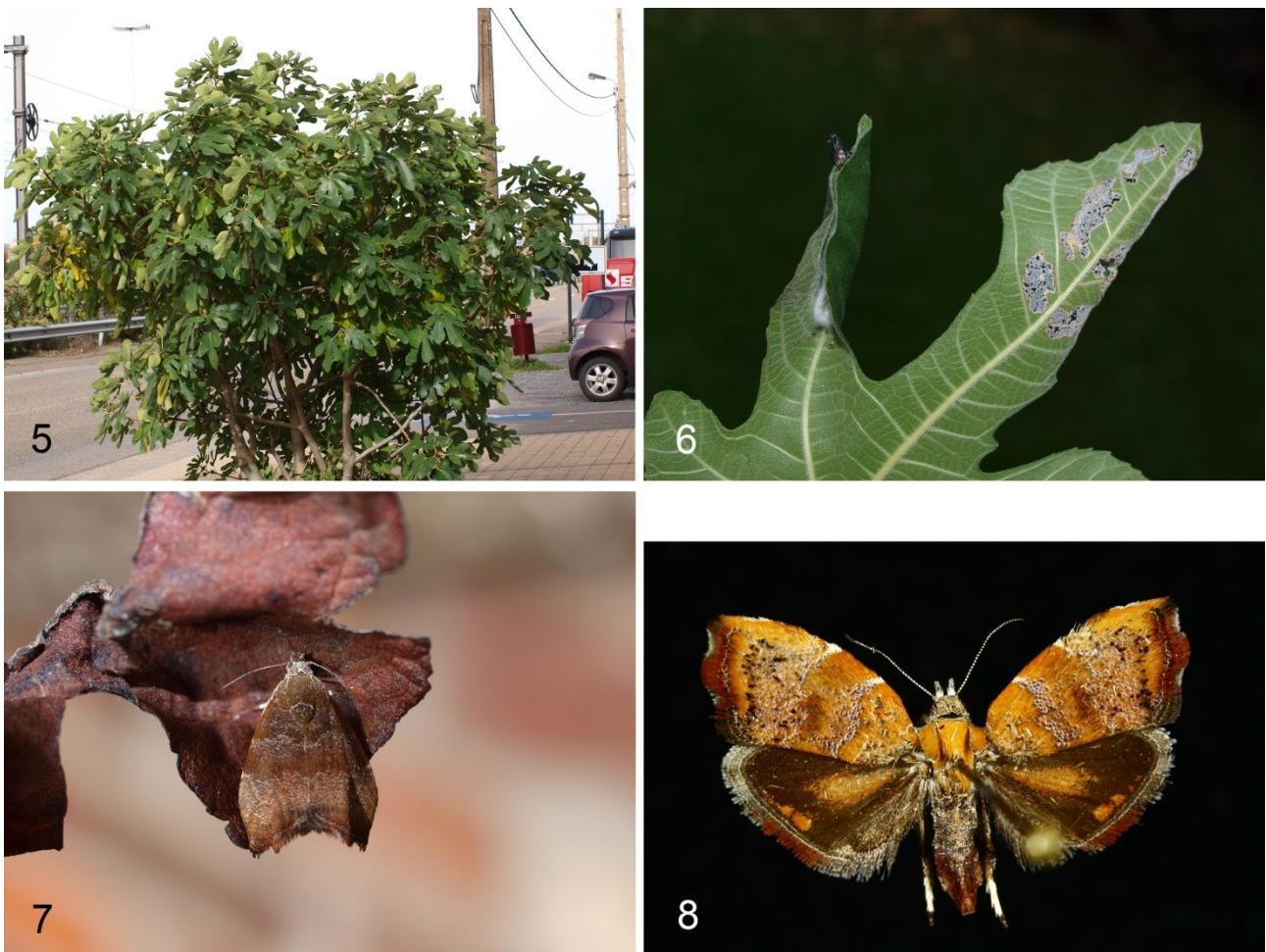
Distribution

Choreutis nemorana is mainly distributed in the Mediterranean area where its foodplant, *Ficus carica*, occurs. It has been recorded from Albania, Austria, Bosnia and Herzegovina, Croatia, Cyprus, France (incl. Corsica), Germany, Gibraltar, Greece (incl. Aegean Islands, Crete, Dodekanese Islands), Hungary, Italy (incl. Sardinia and Sicily), Macedonia, Malta, Portugal (incl. Madeira), Romania, Spain (incl. Balearic Islands and Canary Islands), Switzerland, Turkey, and Ukraine (incl. Crimea) (Karsholt & van Nieukerken 2013). Outside Europe, *C. nemorana* also occurs in N. W. Africa, Asia Minor, Iran, the Caucasus, Georgia, Azerbaijan, Armenia, Turkmenistan, and Uzbekistan. Furthermore, there are some single, but confirmed records from China (Danilevski & Kuznetsov 1973, Diakonoff 1986).

The occurrence in more northern countries (certain records from Austria and Germany in 2006, Switzerland in 2008) is rather recent though *Ficus carica* was planted there long time ago in xerothermic habitats, mainly along vineyards, the global warming probably caused the

species to spread northwards. It is strange, though, that the very first mention of this species in German literature dates back to 1856, when a specimen was recorded from Wiesbaden (Koch 1856). This record, however, is at least doubtful and probably erroneous (Diakonoff 1986). *C. nemorana* is not mentioned in the German catalogue of 1999 (Gaedike & Heinicke 1999) but it does so in the Nachträge und Korrekturen from 2008 (Gaedike 2008). It is now a well established species in several areas of Germany. It has also steady colonies in Austria at least since 2008 (Christian *et al.* 2008). Huemer (2013) records the species from various parts in that country: Vorarlberg, Kärnten, Salzburg, Niederösterreich, and Wien. In France, the species is rather well distributed, especially in the southern part. Lhomme (1946–1963) lists 18 French departments.

The occurrence in Belgium is made possible because of the use of *Ficus carica* as an ornamental plant. It is not clear though whether the species arrived in the region of Liège on its own or whether it was imported with its foodplant.



Figs. 5–8. *Choreutis nemorana* (Hübner, 1799), 5.—Fig tree parasitized by *Choreutis nemorana*, Visé, October 2012 (photo René Spronck); 6.—Leaf of fig tree with exuvium of *Choreutis nemorana* (left leaflet) and pattern of larval feeding (right leaflet), Visé, October 2012 (photo Raphaël Spronck); 7.—Imago e.l. Visé, October 2012 (photo Raphaël Spronck); 8.—*Choreutis nemorana* e.l. *Ficus carica*, Belgium, Visé, October 2012, leg. René Spronck (photo Stéphane Hanot).

Biology

The eggs are deposited in early spring on the upperside of the leaves of *Ficus carica*. The young caterpillars eat parts of the upper parenchym but leave the underside of the leaf intact. Later instars make a slight, silken web. They also often turn a leaf edge up and feed under this shelter. Full grown caterpillars are 15 mm long, pale green with conspicuous black spinacula on each body segment; the head is yellowish brown. Most of the time there are but a few caterpillars per tree, but they can sometimes be very numerous as was observed in Turkey by the first author in 1989 when almost every leaf of a *Ficus* tree was infested in the neighbourhood of Akşehir (Konya). Most of the time, however, the species is just a minor pest and it does normally not infest the fruits. Full grown caterpillars pupate on the underside of

another leaf as the one it was feeding on or on the ground between leaf litter in a rather strong, pure white, silken cocoon. Caterpillars move violently when disturbed and often drop to the ground. The adults emerge in July–August and produce a second generation in September–October. The adults of this autumn generation hibernate in thatch, amongst dead leaves, in hedgerows, etc., just like the adults of its sister species *Choreutis pariana* (Clerck, 1759), living on *Malus* sp. (Alford 1992: 131).

Acknowledgement

We would like to thank Stéphane Hanot for the excellent photograph of a set specimen of *Choreutis nemorana* shown in fig. 8

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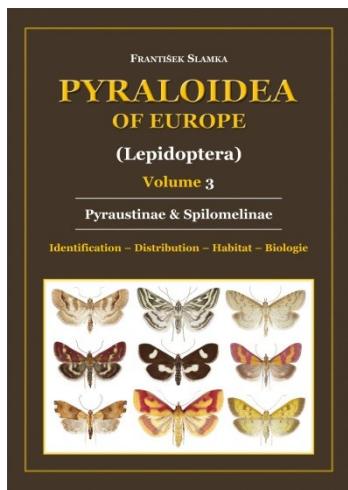
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Boekbespreking

Slamka F. 2013: Pyraloidea of Europe, volume 3. Pyraustinae & Spilomelinae. Identification – Distribution – Habitat – Biology.

16,8 x 23,5 cm, 357 pp., gebonden, 220 soorten, 133 platen met genitaaltekeningen, 31 kleurenplaten met ongeveer 1100 foto's van adulthen. Te bestellen bij Entomologie Speciaalzaak Vermandel, Poorterslaan 118, ZN-4561 Hulst, Nederland, info@vermandel.com, www.vermandel.com. Prijs: 84,80 € verzendkosten extra (ISBN 978-80-969052-8-7).



In dit langverwachte derde deel van de reeks Pyraloidea of Europe, worden de twee soortenrijke subfamilies Pyraustinae en Spilomelinae besproken. Zij behoren volgens de moderne systematiek tot de familie Crambidae, waartoe ook de subfamilie Crambinae behoort. Het behandelde gebied omvat heel Europa, maar ook Turkije, delen van Noord-Afrika, Transcaucasia en delen van Transcaspië. In dit gebied werden tot nog toe ca. 220 soorten uit beide subfamilies genoteerd, die allemaal in dit boek besproken worden. Dit gebeurt op zeer korte, maar informatieve wijze en de tekst bevat gegevens over de uiterlijke kenmerken van het imago, de biologie en waarop moet gelet worden voor een zekere determinatie.

Er worden nogal wat taxonomische en nomenclatorische wijzigingen doorgevoerd. Zo worden er een nieuw genus, een nieuw subgenus en 5 nieuwe soorten beschreven, enkele tientallen nieuwe synoniemen vermeld en enkele vroegere synoniemen als goede soort hersteld.

Voor bijna alle soorten wordt de geografische verspreiding op een kaartje voorgesteld en ook voor haast alle soorten worden de genitalen van zowel het mannetje als het vrouwtje afgebeeld op schematische, maar toch duidelijke pentekeningen gerangschikt op niet minder dan 133 platen.

Een van de belangrijkste onderdelen van dit boek wordt gevormd door de 31 kleurenplaten. Daarop worden ongeveer 1100 adulthen afgebeeld in natuurlijke grootte. Van elk afgebeeld exemplaar wordt zowel de bovenkant als de onderkant afgebeeld. Omdat vele soorten uit deze subfamilies nogal variabel zijn, maar ook om de determinatie van erg op elkaar lijkende soorten te vergemakkelijken, worden van vele soorten verscheidene exemplaren afgebeeld uit verschillende geografische streken. Hierdoor wordt het ook duidelijk dat het niet altijd eenvoudig is om een soort op naam te brengen. De auteur schaamt er zich zelfs niet voor om bij een aantal afgebeelde dieren te vermelden dat de identificatie onmogelijk is op dit moment en dat meer onderzoek nodig is.

Dit dikste boek uit de reeks hoort zonder meer thuis in de boekenkast van iedereen die zich met Europese Pyraloidea bezig houdt. Het is zeer keurig uitgegeven en de kleurenplaten zijn zonder meer prachtig.

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