

# *Choreutis nemorana* (Lepidoptera: Choreutidae) — first record in Bulgaria

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**Abstract.** On 11 October 2009 an interesting moth was observed in a private property in the town of Byala Slatina, 43°28'N, 23°56'E. The specimen, never seen before in Bulgaria, was identified as the diurnal species *Choreutis nemorana* (Hübner, 1799) known as the Fig-tree Skeletoniser moth. This paper provides a general description of the appearance and behaviour of the adult form, based on personal observation in the author's garden; photographic material, obtained at the time the record was made, is also included.

**Samenvatting.** Op 11 oktober 2009 werd een interessante nachtvlinder waargenomen in een privéterrein in de stad Byala Slatina, 43 ° 28'N, 23 ° 56'E. Het exemplaar, dat nog nooit eerder in Bulgarije was gezien, werd geïdentificeerd als de dagactieve soort *Choreutis nemorana* (Hübner, 1799) bekend als de vijgenskeletteermot. Dit artikel geeft een algemene beschrijving van het uiterlijk en het gedrag van de volwassen vorm, gebaseerd op persoonlijke observatie in de tuin van de auteur; fotografisch materiaal, verkregen op het moment dat de waarneming werd gemaakt, is ook inbegrepen.

**Résumé.** Le 11 octobre 2009, un papillon de nuit intéressant a été observé dans une propriété privée de la ville de Byala Slatina, 43°28'N, 23°56'E. Le spécimen, jamais vu auparavant en Bulgarie, a été identifié comme étant l'espèce diurne *Choreutis nemorana* (Hübner, 1799) connue sous le nom de papillon squelette du figuier. Cet article fournit une description générale de l'apparence et du comportement de la forme adulte, basée sur l'observation personnelle dans le jardin de l'auteur ; le matériel photographique, obtenu au moment de l'enregistrement, est également inclus.

**Key words:** Bulgaria – *Choreutis nemorana* – Choreutidae — First record.

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## Introduction

The area where the sighting occurred has been consistently monitored regarding various insect species visiting the available flowering vegetation. During a regular check of the insects on a well-established patch of a species of *Symphytichum* (Linnaeus), an unknown species was observed in daytime. Diakonoff (1986) is used as an identification reference source.

## Methods and equipment

A small area of *Symphytichum* sp. was watched for visiting insects, during which an unfamiliar species was recorded and photographed, using a Nikon D70 digital SLR camera; autofocus lens Nikkor 28-80mm f/3.3~5.6; Kenko 12, 20 and 36 mm automatic macro extension tubes; manual focus lens SIGMA 24mm f/2.8 (used reversed with a custom-made reversal adapter); photographic flashes Nikon SB-R200, SB-600 and SB-29s. Image output is generated with the RAW conversion software RawTherapee.

## Results

On 11 October 2009 an interesting moth was observed in a private property in the town of Byala Slatina, 43°28'N, 23°56'E. The specimen, never seen before in Bulgaria, was identified as the diurnal species *Choreutis nemorana* (Hübner, 1799) known as the Fig-tree Skeletoniser moth.

The resulting photographic material (Figs 1–6) illustrates different postures, characteristic morphological and ethological features, feeding and the moth at rest (an autumn generation specimen), see De Prins & De Prins 2014.

## Summary of observations Appearance and behaviour

A noteworthy feature of this species, subsequently identified as *Choreutis nemorana*, is its posture, with wings tilted upwards at their posterior end (Fig. 1). Both fore and hind wings have characteristic foldings (more pronounced in hind wings), giving an unusual "pleated" appearance, and the impression the surface area of hind wings is significant relative to overall wingspan. The moth is inconspicuous amongst various plants in autumn due to its cryptic colouration (Fig. 2). It performed rapid short flights, both in terms of travelled distance and duration. Its locomotion is intriguing, because when crawling, the moth performs sporadic short moves at irregular intervals (De Prins *et al.* 2014). Discerning state of rest (Plate 3) from increased activity (Fig. 4) was difficult due to the fact feeding activity did not necessarily relate to posture; rest and feeding alternated unpredictably.

## Feeding habits

The moth displayed a well-developed pale yellow proboscis that is relatively long for a species of this size (Fig. 5); it is coiled when not in use, as in many other moths. Active feeding was performed quickly and energetically, within the small area where *Symphytichum* sp. and other surrounding vegetation or leaf matter were available within a radius of about 3m. Based on the observation, it can be inferred this species prefers sunshine, actively feeds on nectar and also extracts nutrients from other matter. On this particular occasion, this is walnut tree leaf litter; it could be that its surface was moist enough to stimulate the moth to feed on any nutritious residue (Figs 1, 2 and 5).



Fig. 1. *Choreutis nemorana* extracting nutrients from the surface of Walnut tree (*Juglans*) leaf litter. © Radoslav Valkov.



Fig. 2. *Choreutis nemorana* extracting nutrients from the surface of Walnut tree (*Juglans*) leaf litter. © Radoslav Valkov.



Fig. 3. *Choreutis nemorana* at rest on *Symphyotrichum* sp. © Radoslav Valkov.



Fig. 4. *Choreutis nemorana* actively feeding on *Symphyotrichum* sp. © Radoslav Valkov.



Fig. 5. *Choreutis nemorana* extracting nutrients from the surface of Walnut tree (*Juglans*) leaf litter. © Radoslav Valkov.



Fig. 6. *Choreutis nemorana* moving within the small record perimeter. © Radoslav Valkov.

## Avoiding danger

Although the activity of *Choreutis nemorana* appeared to be phlegmatic and fragmented, the moth easily detected the approaching photographic equipment at about 1m and took flight, when it was exceptionally agile and impossible to track. Interestingly, in the absence of any disturbance, it returned to feed on the same patch of *Symphytichum* sp. This could mean the insect instantly takes shelter in the presence of any imminent threat and keeps retaining its area where abundant food resource had been located. Furthermore, such quick and speedy response requires high wing beating frequency and powerful musculature which is likely to be the explanation for its escape success. The flight speed it develops is comparable to that of *Acontia trabealis* (Scopoli, 1763) for example. *Choreutis nemorana* was absent from the flowering patch late afternoon on 11 October 2009, and was not seen again.

## Conclusions

Notwithstanding the fact feeding was restricted to a small area, the moth was seen to be highly mobile and evidently capable of travelling long distances. This can be assumed because the larval host plant, *Ficus carica* L. (Diakonoff 1986) was not found within 20 m of the point where the record was made. Since the only plausible source of emerging adult forms would be an infested *Ficus carica*, this could mean the moth probably uses reliable olfactory and visual cues to detect food and consequently reach remote locations. A comprehensive list of

geographical locations where *Choreutis nemorana* has been found in Europe is provided by De Prins & De Prins (2014), where there is no known record of the species for Bulgaria. The appearance of this moth in 2009 cannot be considered to be of economic importance, as *Ficus carica* has never been of any particular interest in North Bulgaria, where the plant is rarely seen in old gardens, mainly for its ornamental value.

## Acknowledgements

This article is particularly important to me, because it is dedicated to my dear father, Dr Radoslav Valkov, whom I lost in 2009 – the year I became familiar with this very first record of Choreutidae in Bulgaria. Not only a doctor, devoted to his patients at any time, but also a person who adored wildlife, he strongly supported my interest in insects.

I wish to wholeheartedly thank Willy De Prins from the Flemish Entomological Society for his continuous assistance and encouragement to focus even more on this extraordinary moth family. This led to subsequent records of other species in 2020, new to the Bulgarian fauna; also the useful suggestions and corrections of Barry Goater are highly appreciated. I also warmly thank the entomology curator Jadranka Rota from the Biological Museum at Lund University, Sweden for kindly supplying essential reference literature on Choreutidae. Olivier Martineau and Bill Jeffreys are cordially thanked for their assistance in preparing this article.

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