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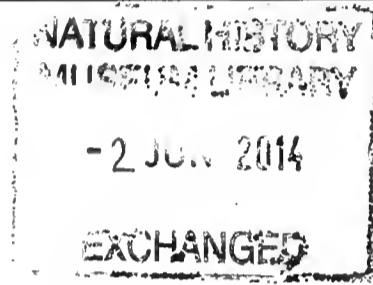
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Metalampra italica (Lepidoptera: Oecophoridae), also in Belgium

Willy De Prins & Jurate De Prins

Abstract. As so many other species, *Metalampra italica* Baldizzone, 1977, sibling to *M. cinnamomea* (Zeller, 1839), has recently expanded its area northwards. The species was described from Italy, but has been recorded lately from Germany, Croatia, the Netherlands and Switzerland. Its presence in Belgium is confirmed now by examination of its genitalia.

Samenvatting. *Metalampra italica* (Lepidoptera: Oecophoridae), ook in België
Zoals zoveel andere soorten, heeft nu ook *Metalampra italica* Baldizzone, 1977, zustersoort van *M. cinnamomea* (Zeller, 1839), zijn areaal naar het noorden uitgebreid. De soort is beschreven uit Italië, maar werd onlangs ook gemeld uit Duitsland, Kroatië, Nederland en Zwitserland. Het voorkomen van deze soort in België is nu bevestigd door genitaalonderzoek.

Résumé. *Metalampra italica* (Lepidoptera: Oecophoridae), aussi en Belgique
Comme beaucoup d'autres espèces, *Metalampra italica* Baldizzone, 1977, espèce jumelle de *M. cinnamomea* (Zeller, 1839), a étendu son aire de distribution vers le nord. L'espèce a été décrite d'Italie, mais elle fut mentionnée d'Allemagne, Croatie, Pays-Bas et Suisse. La présence en Belgique de cette espèce a été confirmée par examen des génitales.

Key words: *Metalampra italica* – *Metalampra cinnamomea* – Belgium – Faunistics – First record.

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Introduction

Traditionally, it was assumed that the genus *Metalampra* (Oecophoridae) is represented in Central and North Europe only by *Metalampra cinnamomea* (Zeller, 1839). However, in a recent paper, Seliger & Schreurs (2013) showed that also *M. italica* Baldizzone, 1977, originally described from Italy, occurs much further north and that this species is present in many collections

under the name of *M. cinnamomea*. Two specimens, a male and a female, from our own collection turned out to belong to *M. italica* as well and hence, this species is mentioned here for the first time from Belgium: Province of West-Vlaanderen, Bredene, 23.vii.2004, 1♀, leg. L. Janssen; Province of Vlaams-Brabant, Leefdaal, 23.vii.2009, 1♂, leg. W. De Prins, both in collection Willy & Jurate De Prins, Leefdaal (figs. 1–2).



Figs. 1–3. Adults of *Metalampra*. 1.– *Metalampra italica* Baldizzone, 1977, ♂, Belgium, Province of Vlaams-Brabant, Leefdaal, 23.vii.2009, leg. W. De Prins; Fig. 2.– Idem, ♀, Belgium, Province of West-Vlaanderen, Bredene, 23.vii.2004, leg. L. Janssen; Fig. 3.– *Metalampra cinnamomea* (Zeller, 1839), The Netherlands, Province of Limburg, Melloweg, 30.vii.1986, leg. G. R. Langohr, all specimens in coll. W. & J. De Prins, Leefdaal (Photographs S. Hanot).

Adults of *Metalampra*

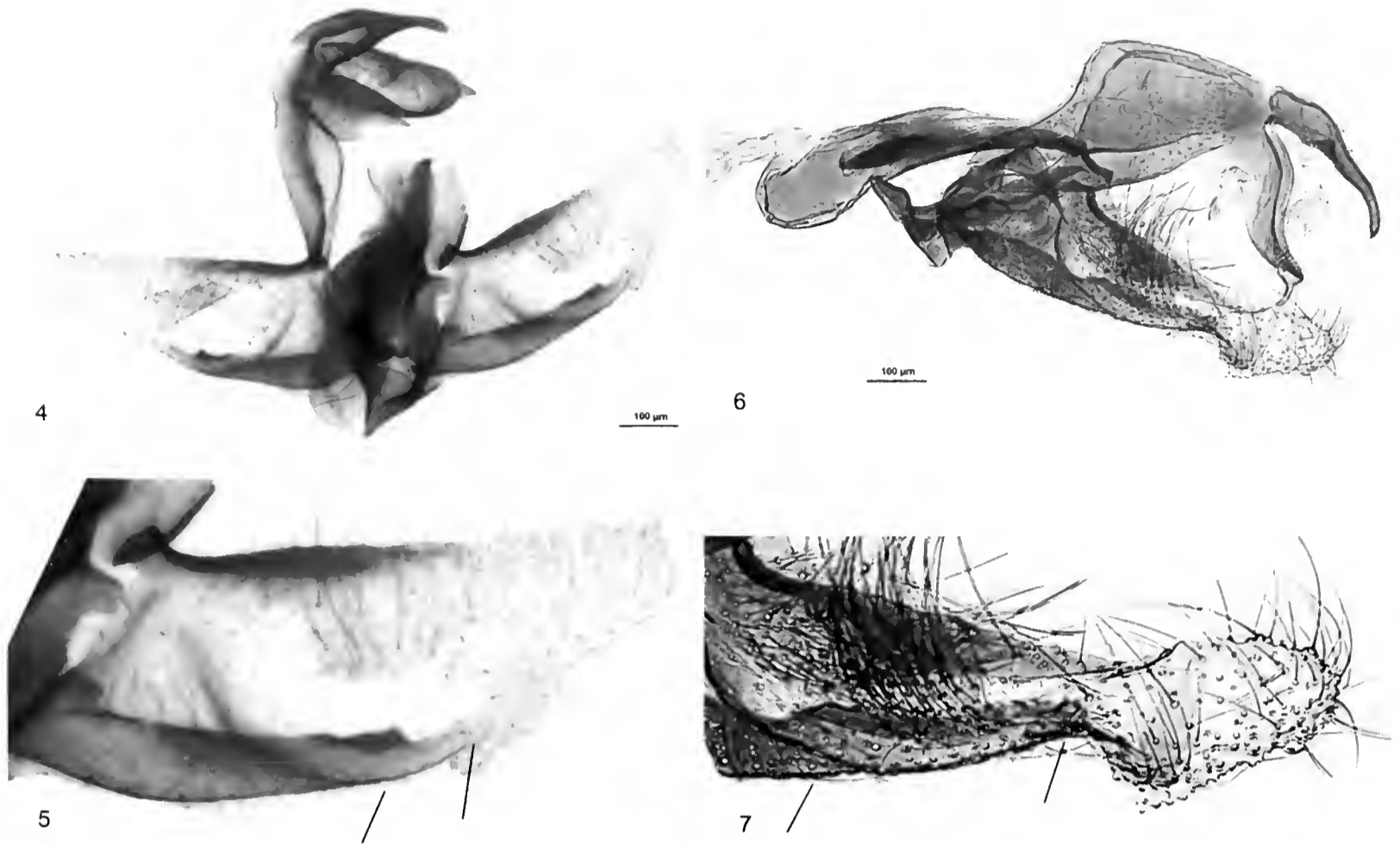
In fresh specimens, it is possible to distinguish both species looking at their external morphology. In *M. cinnamomea* the forewing ground colour is wearily greyish brown and the yellowish markings are conspicuous, especially the costal rectangular blotch (fig. 3). In *M. italica* the forewing ground colour is reddish brown and a little shining, and in comparison to *M. cinnamomea*, the markings are less pronounced, especially that pre-apical yellow blotch, giving *M. italica* a more homogenous appearance (Seliger & Schreurs 2013). Clear and correct illustrations can be found in Tokár *et al.* (2005).

Tokár *et al.* (2005) stated that the male genitalia differ in having a triangular valval form in *M. italica*,

whereas the valva is oval in *M. cinnamomea*. Just like Seliger & Schreurs (2013), we did not observe this difference in our preparations, but we found the clear differences in the sacculus as explained by Seliger & Schreurs. In *M. cinnamomea* the broadest part of the sacculus is near its base and the apex of the sacculus is blunt and evenly rounded, whereas in *M. italica*, the broadest part of the sacculus is closer to the apex, which is rectangular with sharp edges (figs. 4–7).

Differences in the female genitalia are mainly seen in the sclerotisation of the antrum of the ductus bursae. In *M. cinnamomea*, the antrum is only weakly sclerotised with more strong sclerotised edges (fig. 8), whereas in *M. italica* the whole antrum is evenly sclerotised (Tokár *et al.* 2005, Seliger & Schreurs 2013).





Figs. 4–8. Male genitalia of *Metalampra*; Figs. 4–5: *Metalampra italica*, Belgium, Province of Vlaams-Brabant, Leefdaal, 23.vii.2009, leg. W. De Prins, genitalia slide De Prins 3827♂, 4. genitalia in ventral view, 5.– detail of valva and sacculus; Figs. 6–7: *Metalampra cinnamamea*, The Netherlands, Province of Limburg, Melloweg, 30.vii.1986, leg. G. R. Langohr, genitalia slide De Prins 3830♂, 6.– genitalia in ventral view, left valva removed, 7.– detail of valva with sacculus (photographs J. De Prins).



Fig. 8.– Female genitalia: *Metalampra italica*, Belgium, Province of West-Vlaanderen, Bredene, 23.vii.2004, leg. L. Janssen, genitalia slide De Prins 3828♀ (Photograph J. De Prins).

Distribution

M. italica was originally described from Italy (Prov. Torino, Asti, Beschi di Valmanero, 130 m, 02.vii.1976, leg. Baldizzone). It also occurs in the provinces of Verona and Trento, all situated in North Italy (Burmam 1988). In Fauna Europaea (Lvovsky 2013) it is still mentioned from that country only, but apparently, this species has spread northwards much earlier but remained unnoticed and unrecognised. This is partly caused by the fact that some *M. italica* specimens are figured in publications under the name of *M. cinnamomea*, e.g. Parenti (2002) depicts 2 specimens of *Metalampra*, one as *M. italica*, the other as *M. cinnamomea*, while they both are *M. italica*. It is as yet unclear whether *M. italica* has been always present in Central Europe, or whether it is a recent addition to the Central European fauna, perhaps caused by global warming. It might even be possible that it replaced *M. cinnamomea* in recent years since almost all specimens checked by Seliger & Schreurs (2013) belong to *M. italica* and only very few specimens turned out to be *M. cinnamomea*.

The oldest record of *M. italica* known in the Netherlands even dates back to 1985; Nederlands-Limburg, Kerkrade, 10.vii.1985, leg. A. Schreurs. *M. italica* is further mentioned from Germany: Baden-Württemberg, first published record by Gaedike 2010, but already known there since 2005 (LepiForum), Nordrhein-Westfalen (oldest known record 2003) and Rheinland-Pfalz (Seliger & Schreurs 2013). The species is furthermore recorded from Croatia, 2007 and Switzerland, 2010 (Seliger & Schreurs 2013).

In France, *M. italica* has been found in the Alpes Maritimes (Pathpiva 2013), and also in Lot.

M. italica is also known to occur in Great Britain where it was first found in Devon in 2003. Later on it was also recorded from Bedfordshire, Hampshire, Hertfordshire but not yet from the Isle of Wight (Wall 2013), and it has been recorded from Kent, Oxfordshire, Suffolk, and Surrey as well (various internet sites and forums). *M. cinnamomea* has not been found in Great Britain thus far (Kimber 2013).

Biology

Not much has been published on the biology of *Metalampra* species. The caterpillar has not yet been described. Like most oecophorid species, the caterpillar of *M. italica* can be found in decaying wood. They prefer *Quercus* and live under loose bark in the neighbourhood of several fungi species like *Trametes gibbosa*, *Trametes versicolor* and *Lenzites betulinus*. They construct a loose, silken web. It is not clear yet whether they feed on the decaying wood, the bark, the fungus, or all together (Bryner on LepiForum). Burmam (1988) and Tokár et al. (2005) mention more precise records from decaying wood of *Quercus rubescens*, *Q. robur* and *Ostrya carpinifolia*. The caterpillars can be found from autumn till early May and again in July. Burmam (1988) found caterpillars near Bozano (Italy) in December 1986 which produced moths in June and August 1987.

Moths are on the wing from late May till early July and in August. It is not completely clear whether there is one long generation per year or two overlapping ones.

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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 adulten 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.

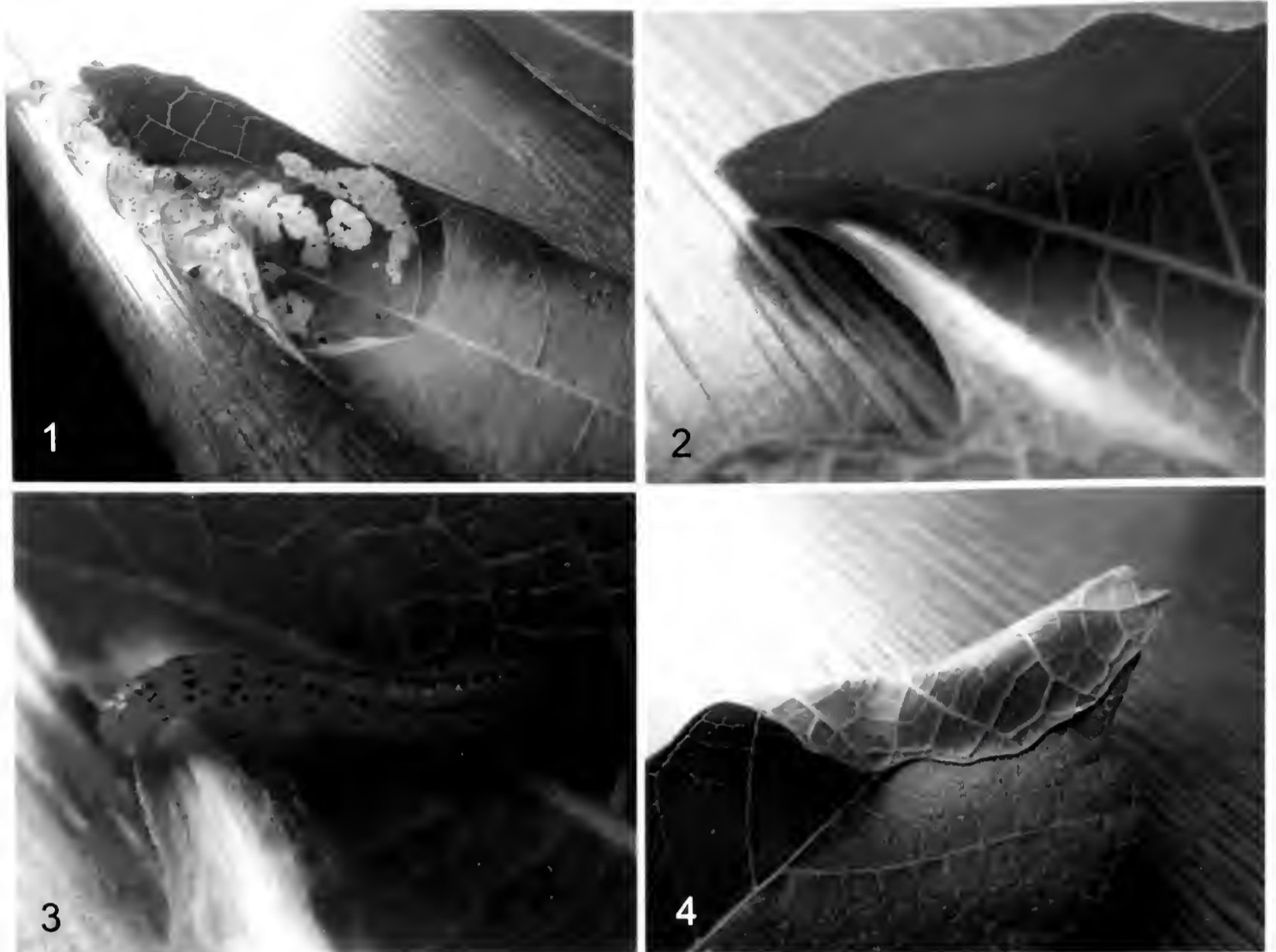
Morphology of the adult

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. *Chareutis nemarana* (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).

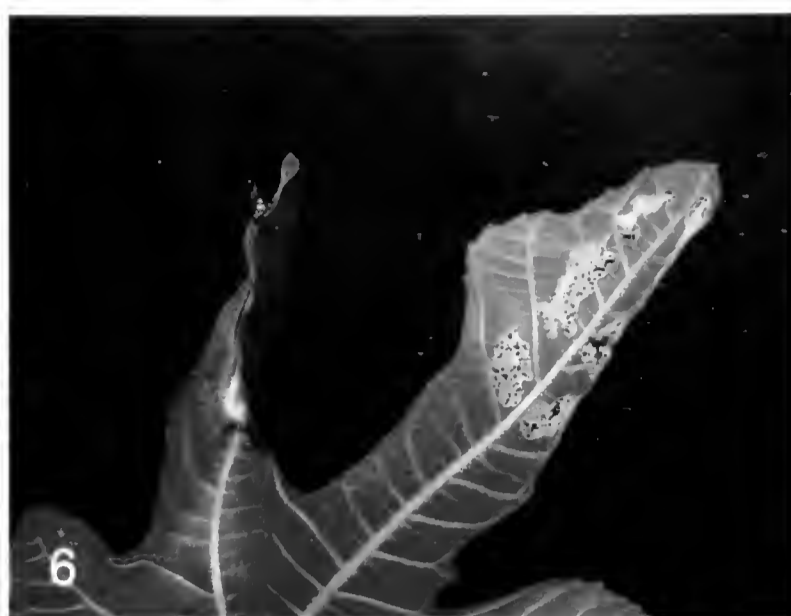
Distribution

Chareutis nemarana 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. nemarana* 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 & Kuznetzov 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 xerotherm 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. nemarana* 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 nemorono* (Hübner, 1799), 5.– Fig tree parasitized by *Choreutis nemorono*, Visé, October 2012 (photo René Spronck); 6.– Leaf of fig tree with exuvium of *Choreutis nemorono* (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 nemorono* e.l. *Ficus corico*, 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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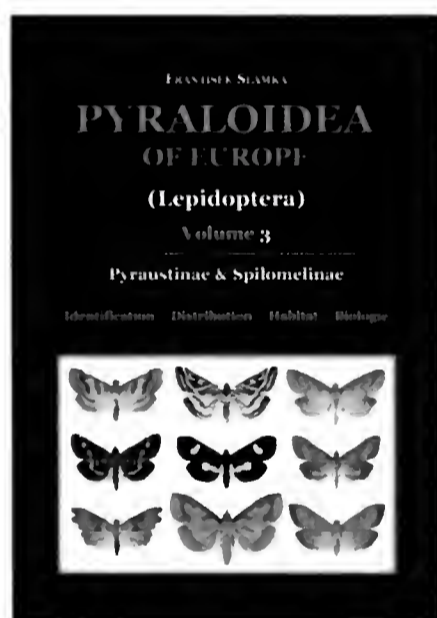
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Boekbespreking

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 adulten. 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 Transcaspia. 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 adulten 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.

Willy De Prins

Eumasia parietariella (Lepidoptera: Psychidae), un nouveau papillon pour la réserve naturelle de la Heid des Gattes ... et pour la Belgique

Jean Michel Darcis, Éric Steckx & Willy De Prins

Résumé. *Eumasia parietariella* (Herrich-Schäffer, 1851) est un lépidoptère Psychidae d'Europe centrale et méridionale. C'est une espèce xéro-thermophile dont la chenille se nourrit de mousses et de lichens sur des rochers bien exposés. Nous détaillons dans cet article l'observation de trois chenilles sur les rochers, préservés de l'exploitation industrielle, de la réserve naturelle de la Heid des Gattes à Aywaille (province de Liège).

Abstract. *Eumasia parietariella* (Lepidoptera: Psychidae), a new species for the nature reserve Heid des Gattes... and for Belgium

Eumasia parietariella (Herrich-Schäffer, 1851) is a bagworm from Central and South Europe. The larva of this xero-thermophilous species feeds on mosses and lichens growing on well exposed slopes. In this paper the discovery is described of 3 caterpillars living on protected rocky slopes in the nature reserve Heid des Gattes at Aywaille (Province of Liège).

Samenvatting. *Eumasia parietariella* (Lepidoptera: Psychidae), een nieuwe soort voor het natuurreservaat Heid des Gattes... en voor België

Eumasia parietariella (Herrich-Schäffer, 1851) is een soort uit Midden- en Zuid-Europa. De rups van deze xero-thermofiele soort leef van mossen en korstmossen die op zuidhellingen groeien. De ontdekking van 3 rupsen aangetroffen op de rotsen van het natuurreservaat Heid des Gattes te Aywaille (provincie Luik) wordt besproken.

Key words: *Eumasia parietariella* – Psychidae – Belgium – Faunistics – First record.

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Première observation

Date et lieu : le 17 mars 2013, à la carrière de la Falize au sein de la réserve naturelle agréée de la Heid des Gattes à Aywaille, province de Liège, région wallonne, Belgique. Altitude 190 m. Conditions météorologiques : temps ensoleillé ; +7°C. Biotope : un rocher de grès calcaireux préservé de l'activité industrielle, bien ensoleillé face au sud, adjacent à la falaise native à l'extrémité ouest de la carrière.

Végétation présente sur le rocher :

- Lichens crustacés : *Aspicilia* sp., *Lecidella stigmatea*
- Bryophytes : *Grimmia pulvinata*, *Tortula muralis*, *Encalypta vulgaris*, *Homalothecium sericeum*
- Ptéridophytes : *Asplenium ceterach*
- Angiospermes : *Sedum album*, *Galium mollugo*, *Festuca heteropachys*

Description de l'observation : un fourreau de 10 mm de long et de 1 mm de large grimpe lentement sur la paroi verticale d'un rocher. De sa partie antérieure émerge la tête foncée d'une chenille. Le fourreau est recouvert d'une fine poussière de sable dans sa moitié postérieure. Sa moitié antérieure est recouverte de coquilles d'escargots et de segments de pattes d'arthropodes.

Deuxième observation

Date et lieu : le 5 avril 2013 à la carrière du Goiveux au sein de la même réserve naturelle. Altitude 190 m. Conditions météorologique : temps couvert ; +5°C. Biotope : falaise de grès calcaireux préservée de l'activité

industrielle, exposée au sud et bien ensoleillée à l'extrémité est de la carrière.

Végétation présente sur le rocher :

- Bryophytes : *Tortula muralis*, *Tortula canescens*
- Ptéridophytes : *Asplenium trichomanes*, *A. ceterach*, *A. adantium nigrum*, *A. septentrionale*, *A. ruta muraria*
- Angiospermes : *Sedum album*, *S. telephium*, *Leucanthemum vulgare*, *Senecio inaequidens*, *Teucrium scorodonia*, *Cardamine hirsuta*, *Galium mollugo*.

Description de l'observation : un fourreau 8 mm de long et 1 mm de large, inanimé, posé sur un étroit replat du rocher. Une tête foncée en émerge à l'avant. Le fourreau est recouvert dans sa moitié postérieure d'une poussière de sable un peu plus grossier que dans l'observation précédente. Sa moitié antérieure est couverte de débris chitineux nettement moins bien conservés et identifiables que dans le cas de notre première observation. Il semble s'y ajouter quelques éléments végétaux en petite quantité. L'insecte est manifestement mort.

Troisième observation

Date et lieu : le 13 avril 2013, à quelques mètres de la première observation, sur le même support et dans le même environnement végétal. Conditions météorologiques : temps ensoleillé ; +17°C. Description de l'observation : un fourreau de 7 mm de long et de 1 mm de large s'agite au-dessus d'un coussinet crispé de *Tortula atrovirens*. Le fourreau est grossièrement ovalaire, aplati dorso-ventralement. Il est recouvert

d'une fine poussière de sable. Dorsalement et latéralement au niveau du quart antérieur sont suspendus des segments bien conservés de pattes d'arthropodes, dont un tibia rougeâtre aussi long que le

fourreau et d'au moins une tête de fourmi. Quand la chenille quitte le coussinet de mousse on voit nettement que sa tête et son premier segment thoracique sont noirs.



Figs. 1–2. *Eumasia parietariella* (Herrich-Schäffer, 1851), carrière de la Falize, Réserve naturelle Heid des Gattes, Aywaille, prov. d'Liège; 1.– fourreau sur rocher, 17.iii.2013, Photo J. M. Darcis; 2.– fourreau sur lichen, 13.iv.2013, Photo É. Steckx.

Revue de la littérature et discussion

Détermination : La chenille d'*Eumasia parietariella* (Herrich-Schäffer, 1851) est décrite longue de 4 à 5 mm. Sa tête et ses tergites thoraciques sont sombres, ainsi que son dernier tergite abdominal ; le reste de la chenille est clair. Le fourreau mesure 7 à 11 mm de long et 1 mm de large, ovalaire, composé d'un tube soyeux couvert d'une fine poussière de sable. Sa partie antérieure, en général sur le quart de la longueur, est habituellement couverte de restes d'arthropodes morts, en particulier têtes de fourmis et pattes d'araignées (Ebert 1994, GT des lépidoptéristes 1999). Nos trois observations sont compatibles avec cette description. Nous avons suggéré cette détermination, mais c'est Henk ten Holt qui l'a aimablement confirmée.

Le fourreau de *Dahlica triquetrella* (Hübner, 1813) peut également porter des restes d'arthropodes sur l'avant, mais ce fourreau a une section triangulaire et la tête de la chenille est rougeâtre, deux éléments incompatibles avec nos observations. Le fourreau de *Diplodoma laichartingella* (Goeze, 1783) est également de section triangulaire et peut aussi porter des restes d'arthropodes mais sur toute la longueur des arêtes (Sauter & Hättenschwiler 2004, GT des lépidoptéristes 1999).

Distribution et écologie d'*Eumasia parietarella*

Europe centrale et Sud de l'Europe occidentale (Medvedev 1989). L'espèce est bien connue du Portugal, d'Espagne et d'Italie mais les observations françaises semblent se limiter à l'extrême Sud (Alpes maritimes, Ariège). On notera deux mentions alsaciennes du XIXème

siècle (Peyerimhoff 1880, cité dans Ebert 1994). De même en Suisse elle n'est connue que du Tessin et du Valais. On la connaît en République tchèque, mais pas en Pologne. En Allemagne deux observations dans vallée de la Moselle (Rhénanie Palatinat) sont les plus septentrionales dont nous avons trouvé mention pour l'Ouest de l'Europe (Kettner 2013). Ses biotopes se résument aux rochers thermophiles (habitat primaire) et vieux murs ensoleillés ou légèrement ombragés où poussent des mousses (habitat de substitution).

Eumasia parietariella avait déjà été mentionnée auparavant pour la faune belge, quand le Dr. Bodart avait capturé un exemplaire à Bouvignes (province de Namur) en juillet 1910 (Lambillion 1910: 72). Vu la difficulté de la détermination des espèces de Psychidae, et parce que les efforts pour trouver l'exemplaire de Bodart dans diverses collection sont restés sans résultats, on a décidé de supprimer cette espèce de la liste des Psychidae belges (De Prins 1998: 35).

Biologie

La femelle pond ses œufs en plusieurs paquets dans des coussins de mousse secs. Les chenilles se nourrissent des coussins de bryophytes et de lichens. Elles apprécient aussi les arthropodes morts dont les parties sclérifiées servent ensuite à décorer l'avant des fourreaux. Les imagos ne se nourrissent pas et ne vivent pas plus d'une journée. Ils sont capables de voler mais rarement sur de grandes distances. Les ailes leur servent plutôt de soutien pour sautiller de ci de là. La chenille hiverne lorsque le fourreau a une longueur d'environ 2 à 3 mm. Les chenilles se nymphosent de début mai à juin (GT des lépidoptéristes 1999)



Fig. 3. Biotope d'*Eumasia parietariella* : carrière de la Falize au sein de la réserve naturelle agréée de la Heid des Gattes à Aywaille, province de Liège, région wallonne, Belgique, altitude 190 m. Le cercle rouge indique la localité exacte ont été trouvés deux fourreaux. Photo : É. Steckx.

Discussion à propos du biotope de nos observations

C'est sur des rochers préservés de l'activité industrielle et immédiatement adjacents à la falaise native que les trois chenilles ont été observées. Les entomologistes qui explorent régulièrement les carrières n'en avaient jamais vues sur les rochers éboulés et les vieux murs, séquelles de l'activité industrielle, même en exposition équivalente. Suite à notre première observation, ces milieux ont été à nouveau fouillés plus attentivement mais sans résultat. La falaise préservée elle-même, instable et assez dangereuse est beaucoup moins inventoriée. On pourrait donc supposer que les chenilles d'*Eumasia parietarella* auraient, à cette latitude du moins, une plus grande affinité pour les rochers intacts que pour les murs ou les rochers altérés par les carriers, peut-être à cause de la plus grande abondance de lichens et de mousses pouvant leur convenir.

Protection du site et des sites potentiels d'extension de l'espèce : les carrières de la Falize et du Goiveux sont jointes à la réserve naturelle agréée de la Heid des Gattes gérée par l'asbl Ardenne et Gaume. Cette extension de la réserve est agréée par la Région wallonne depuis 2011. Les rochers et pelouses thermophiles de la commune d'Aywaille susceptibles d'accueillir l'espèce sont gérés par l'asbl Ardenne et Gaume sous convention avec la Commune depuis mars 2013.

Eumasia parietariella et les autres espèces rares xérophiles de la réserve naturelle de la Heid des gattes :

La nature de la roche, sa subverticalité et l'exposition plein sud du site sont à l'origine d'une flore et d'une

faune exceptionnelles à cette latitude et sous un climat océanique. Outre la célèbre joubarbe d'Aywaille (*Sempervivum funckii* var. *aqualiense*), seule plante endémique de Belgique, la réserve accueille de nombreuses espèces d'Europe centrale et méridionale :

- Plantes : l'aster doré (*Aster linosyris*), l'armoise champêtre (*Artemisia campestris*), la campanule étalée (*Campanula patula*), le lychnis visqueux (*Lychnis viscaria*), ...
- Insectes : *Melanocoryphus albomaculatus*, *Prostemma guttula*, *Rhynocoris erythropus*, *Leptopus marmoratus*, ...
- Reptiles : la réserve abriterait la plus grosse population de lézards des murailles (*Podarcis muralis*) de Wallonie (E. Graitson, com. pers.).

Notre observation d'*Eumasia parietariella* s'intègre donc bien dans ce cortège d'espèces xéro thermophiles.

Remarque

Heydenreich et Herrich-Schäffer ont publié cette espèce la même année (1851). Mais comme le premier cite correctement la page de la publication du second, c'est donc bien Herrich-Schäffer qui doit être cité comme autorité (Rodeland 2013).

Remerciements

Outre Henk ten Holt pour avoir confirmé la détermination du premier spécimen, nous remercions vivement André Sotiaux pour son aide dans la détermination des mousses et Damien Ertz pour son aide dans la détermination des lichens.

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Boekbespreking

Stoffelen E., Henderickx H., Vercauteren Th., Lock K. & Bosmans R.: *De water- en oppervlaktewantsen van België*.

21 × 30 cm, 256 p., meer dan 450 kleurenfoto's, Koninklijk Belgische Instituut voor Natuurwetenschappen, Vautierstraat 29, 1000 Brussel, bestellingen@natuurwetenschappen.be, paperback 2013, 45,- € excl. verzendkosten (ISBN 9789073242272).



Dit is het eerste Nederlandstalig boek in België over deze groep van insecten (Hemiptera, Heteroptera: Nepomorpha & Gerromorpha). Elk van de 64 soorten wordt op een zeer gedetailleerde beschreven en in kleur afgebeeld.

In enkele inleidende hoofdstukken worden o.a. de lichaamsbouw, de levenswijze en de systematiek besproken. Er wordt ook duidelijk aangegeven hoe men het best te werk gaat bij het bestuderen van deze insectengroep. Daarna volgen determineersleutels, eerst tot op familie, en per familie tot op soortniveau. Deze sleutels zijn zeer goed geïllustreerd met kleurenfoto's van volledige dieren of van morfologische onderdelen waarbij telkens met pijltjes wordt verwezen naar de kenmerken waarop moet gelet worden. De teksten staan telkens op de linkerpagina en de bijhorende foto's op de rechterpagina, wat het gebruik van deze sleutels zeer vergemakkelijkt.

De waterwantsen worden onderverdeeld in volgende families: Nepidae, Naucoridae, Aphelocheiridae, Notonectidae, Pleidae en Corixidae, en bij de oppervlaktewantsen onderscheidt men Hydrometridae, Hebridae, Mesoveliidae, Gerridae en Veliidae.

Het grootste deel van het boek wordt ingenomen door de soortbespreking van de 64 behandelde soorten. Dit gebeurt op zeer gedetailleerde wijze waarbij dezelfde layout wordt aangehouden: links de tekst, rechts de afbeeldingen. Na de Latijnse en Nederlandse namen wordt een algemene beschrijving van de wants gegeven, waarbij achtereenvolgens het globale uiterlijk en de geslachtsverschillen aan bod komen. Bij sexueel dimorfe soorten wordt uiteraard ingegaan op de verschillen en die worden ook afgebeeld en met pijltjes aangeduid. De verspreiding in Europa wordt algemeen, die in België in detail besproken. Er wordt aangegeven in welke biotopen de soort het meest te verwachten is, en bijzonderheden over de levenswijze worden eveneens meegedeeld. De status van elke soort wordt kort aangegeven, gebaseerd op de Rode Lijst van waterwantsen.

De afbeeldingen zijn zonder meer schitterend. Naast de prachtige foto's van volledige dieren in de natuur staan er ook van zeer kleine morfologische details zoals de tip van een penis. De verspreiding in België wordt op twee kaartjes voorgesteld: een kaartje met de verspreiding vóór 1978 en eentje in kleur met de verspreiding tussen 1978 en 2011, waarbij nog een onderscheid wordt gemaakt tussen waarnemingen in de periode 1978–1999 en 2000–2011.

Het boek is zeer verzorgd uitgegeven en kan gebruikt worden als veldgids voor de beginnende natuurliefhebber met interesse voor het boeiende waterleven, maar het is ook een naslagwerk voor de gepassioneerde en professionele onderzoeker.

Willy De Prins

Sexual differentiation in the caterpillars of *Pterophorus pentadactyla* (Lepidoptera: Pterophoridae)

Lucien De Ridder

Abstract. *Pterophorus pentadactyla* (Linnaeus, 1758) is one of our common plume moths. The young caterpillars are colourless. The last instar larva develops a colour pattern which allows the determination of the sex: the males have a yellow dorsal spot (also present in the early pupa). The females don't have such a spot.

Samenvatting. Sexueel verschil in de rupsen van *Pterophorus pentadactyla* (Lepidoptera: Pterophoridae) *Pterophorus pentadactyla* (Linnaeus, 1758) is een veel voorkomende vedermot. Bij een kweek werd vastgesteld dat reeds bij de volgroeide rups het geslacht van de vlinder kan bepaald worden: de mannelijke exemplaren hebben op de rug een gele vlek. Idem in het jonge popstadium. De wijfjes hebben geen dergelijke vlek.

Résumé. Une différence sexuelle parmi les chenilles de *Pterophorus pentadactyla* (Lepidoptera: Pterophoridae) *Pterophorus pentadactyla* (Linnaeus, 1758) est une espèce commune des ptérophores. Dans le dernier stade des chenilles il y a une différence entre les chenilles des mâles et des femelles: les mâles ont une tache jaune sur le dos. Tache qu'on retrouve aussi chez les jeunes chrysalides. Cette tache est absente chez les femelles.

Key words: Larval morphology – *Pterophorus pentadactyla* – sexual differentiation.

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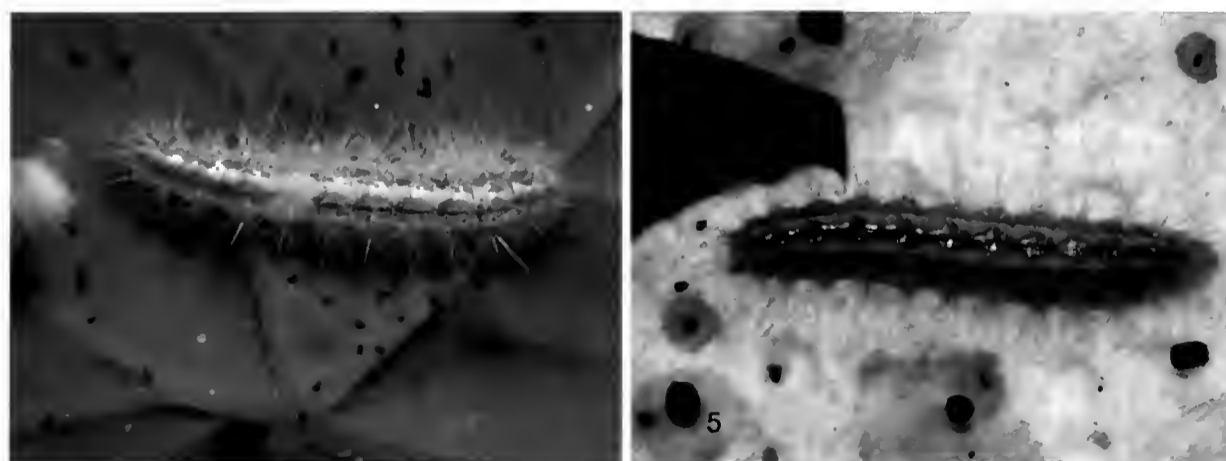
The almost white *Pterophorus pentadactyla* (Linnaeus, 1758) is a common species living mostly on *Convolvulus arvensis* and also on *Calystegium sepium*. In the literature 2 different kinds of caterpillar figures can be found, but nobody mentions or explains these differences (e.g. Arenberger 1995, Gielis 1996).

Around 15 June 2013 I captured a female of *P. pentadactyla* in Matafelon-Granges (France, dep. Ain).

While I kept it in a small glass bottle till the next morning, the female deposited a series of eggs on the bottle wall. After one week approximately 30 very small caterpillars (ca. 1.5 mm, fig. 1) hatched from the oval eggs. Being quite transparent, they were very difficult to distinguish from the underside of the food plant (*Convolvulus arvensis*).



Figs. 1–3. *Pterapharus pentadactyla* (Linnaeus, 1758) caterpillars. 1.– first-instar larva (underside) with its eggshell; 2.– feeding on *Canvalvulus arvensis*; 3.– third-instar larva.



Figs. 4–5. *Pterapharus pentadactyla* (Linnaeus, 1758) full grown caterpillars, ca. 12 mm. 4.– male (with yellow dorsal spot); 5.– female.

While the young caterpillars are quite transparent (figs. 2–3), the 5th instar larva has a black and yellow pattern with black diamond-like spots in the centre of the segments (figs. 4–5). Six of the full-grown caterpillars showed an extra yellow dorsal marking (fig. 4). I

separated these specimens from the others and they all resulted in male imagos (13.vii, 15.vii, 16.vii, 3.viii, 3.viii and 10.viii.2013). The 8 caterpillars without a dorsal spot all turned out to be females (14.vii, 15.vii, 16.vii, 16.vii, 16.vii, 18.vii, 4.viii and 5.viii.2013). The yellow spot also

remains visible inside the green pupa, and it is probably the early development of the gonads of the male (fig. 6).



Figs. 6–7. *Pterophorus pentadactyla* (Linnaeus, 1758) pupae, 6.– male (with yellow dorsal spot); 7.– female.



Fig. 8. *Pterophorus pentadactyla* (Linnaeus, 1758) in typical rest-position/

It can be found on the internet – although in literature mostly not mentioned – that *P. pentadactyla* produces a partial second generation during summer: on a total of about 30 caterpillars, 14 developed into adults, while the others finished eating mid July, although plenty of food was readily supplied. They entered hibernation as second or third instar larva.

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Boekbespreking

Winkelman J.: *De Nederlandse goudhaantjes (Chrysomelidae: Chrysomelinae)*.

17 x 24 cm, 93 p., 380 figuren, Entomologische tabellen 7, paperback 2013, uitgegeven door de Nederlandse Entomologische Vereniging, Naturalis Biodiversity Center en EIS Kenniscentrum Insecten en andere ongewervelden, te bestellen via www.eis-nederland.nl/et, € 15,- (ISSN 1875-760x).

In dit zevende deel in de reeks Entomologische tabellen worden de 59 soorten goudhaantjes besproken die uit Nederland bekend zijn. Na enkele inleidende hoofdstukken volgt een rijkelijk geïllustreerde determineertabel tot op de soort. Daarachter worden alle soorten op 8 prachtige kleurenplaten voorgesteld, gevolgd door 4 platen met anatomische details. Daarna volgt de systematische bespreking per soort waarbij wordt ingegaan op verschillen met gelijkende soorten, biologie en verspreiding. Bij dit laatste wordt ook altijd aangegeven of de soort zich uitbreidt of eerder zeldzaam wordt en daarbij zijn ook de Belgische gegevens niet vergeten. In dit tekstdeel worden vele soorten met mooie foto's in hun natuurlijk milieu afgebeeld. Achteraan volgen nog verspreidingskaartjes van Nederland waarop met verschillende kleuren de verspreiding is aangegeven in de periode vóór en na 1966. Een literatuurlijst, een lijst met nieuwe provincie-vondsten en een alfabetische index sluiten dit zeer verzorgd uitgegeven boekje af.

Willy De Prins

Pontia beckerii from Balkhash Lake, Kazakhstan, new to the Palaearctic, and misidentified larva and pupa of *Pieris krueperi* from the Tarbagatai Range, Kazakhstan (Lepidoptera: Pieridae)

John G. Coutsis

Abstract. *Pontia beckerii* (Edwards, 1871) is recorded for the first time from the Palaearctic Region, in Kazakhstan. Recently published illustrations of erroneously determined larva and pupa of supposed *Pieris krueperi* Staudinger, 1860 are determined as belonging instead to the *Euchloe ausonia* species-group.

Samenvatting. *Pontia beckerii* van het Balkash meer, Kazakhstan, en verkeerd gedetermineerde rupsen en poppen van *Pieris krueperi* uit het Tarbagatai gebergte, Kazakhstan (Lepidoptera: Pieridae)

Pontia beckerii (Edwards, 1871) wordt voor het eerst uit het Palaearctisch gebied, meer bepaald uit Kazakhstan, gemeld. Onlangs gepubliceerde afbeeldingen van rupsen en poppen, die verondersteld worden van *Pieris krueperi* Staudinger, 1860 te zijn, blijken bij nader onderzoek te behoren tot de *Euchloe ausonia* soortengroep.

Résumé. *Pontia beckerii* de la région du Lac Balkash, Kazakhstan, et détermination fautive de chenilles et chrysalides de *Pieris krueperi* de la chaîne Tarbagatai, Kazakhstan (Lepidoptera: Pieridae)

Pontia beckerii (Edwards, 1871) est mentionné pour la première fois de la région paléarctique et plus spécifiquement de Kazakhstan. Des illustrations récentes, indiquées comme représentant des chenilles et chrysalides de *Pieris krueperi* Staudinger, 1860, appartiennent en réalité au groupe d'espèces de *Euchloe ausonia*.

Key words: Pieridae – *Pontia* – *Pontia chloridice* – *Pontia beckerii* – *Pieris* – *Pieris krueperi* – *Euchloe* – *Euchloe ausonia* – Zoogeography – Immature stages – Greece – Kazakhstan – Turkey.

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Introduction

In Coutsis & Tolman (1996: 271, 272) the full grown larva and pupa of a Greek *Pontia chloridice* (Hübner, 1808) are figured and described, and the almost identical to it by external characters N American *Pontia beckerii* (Edwards, 1871) is separated from it at species level on account of differences between their respective above mentioned immature stages. In a recent publication on butterflies from eastern Turan, Tarbagatai, Saur and south-western Altai (Toropov & Zhdanko 2013: 99), a larva and pupa from the Tarbagatai Range, Kazakhstan are figured, erroneously said to belong to *Pieris krueperi* Staudinger, 1860.

Differences between the full grown larva and pupa of *P. beckerii* and *P. chloridice*

These may be summed up as follows:

Full grown larva.

In *P. beckerii* (Emmel & Emmel 1973: 16, 17, fig. 16 upper left, top; Scott 1986: 220) greenish white, mottled with small greyish purple dots, especially dorsally and dorso-laterally, giving larva overall darker and less shiny appearance than in *P. chloridice*; dorsum with greenish white medial line; shiny black tubercles small and topped by single black bristle; ventrum pale bluish green; head greenish white with small black dots.

In *P. chloridice* (Coutsis & Tolman 1996: 272, fig. 1; Hesselbarth *et al.* 1995: vol. 1, 366, fig. 4) overall shiny porcelain white, and devoid of any dark dot mottling, or

any lighter coloured dorsal medial line; shiny black tubercles large and topped by single black bristle with white extremity; head orange and free of small black dots.

In fact, just about the only things in common between the full grown larvae of *P. beckerii* and *P. chloridice* are their overall shape and the presence of an orange transverse line extending dorsally and laterally along each body segment.

Pupa.

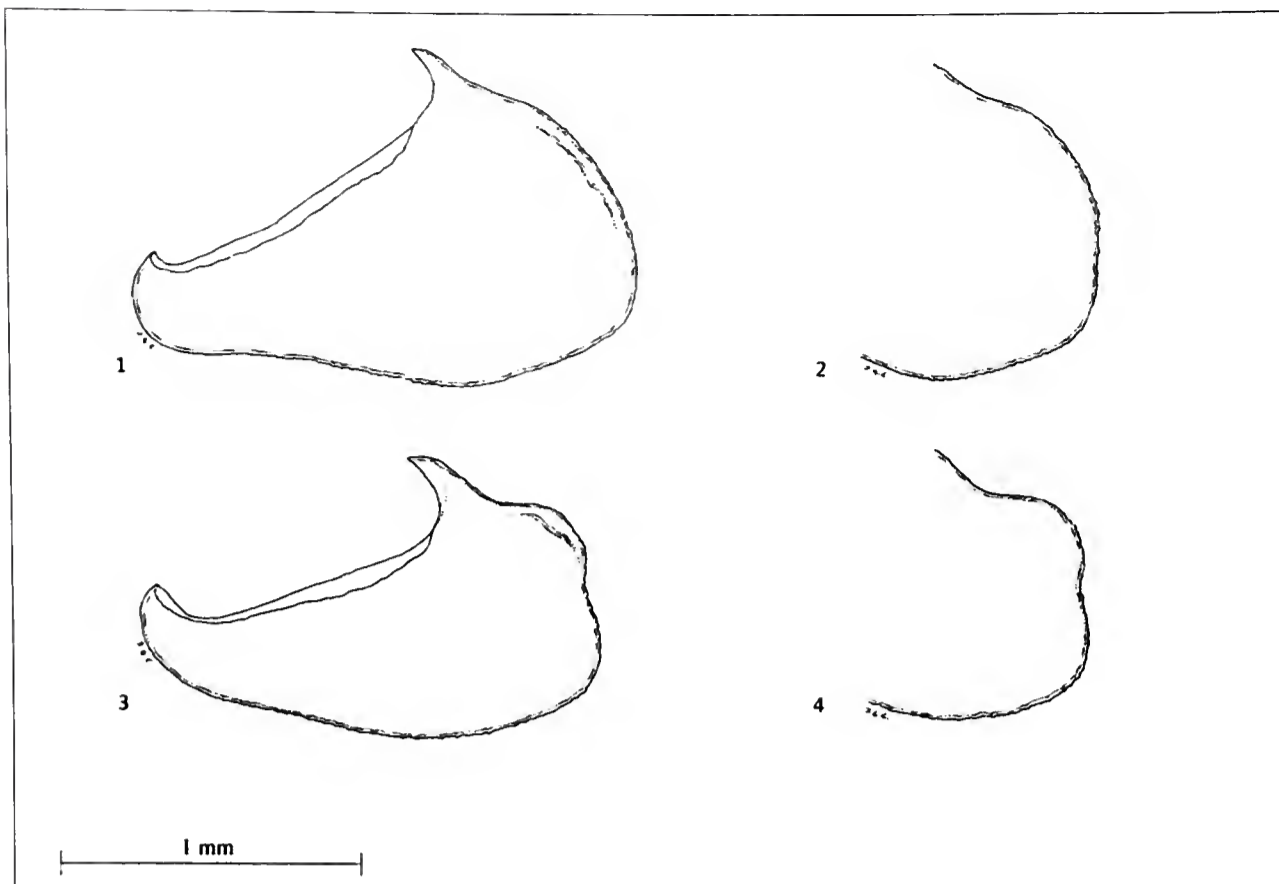
In *P. beckerii* (Emmel & Emmel 1973: 16, 17, fig. 16 upper left, bottom) contrast between dark and light areas strong, division between these areas sharp.

In *P. chloridice* (Coutsis & Tolman 1996: 272, fig. 2) contrast between dark and light areas less strong, division between these areas somewhat suffused.

Differences between the male genitalia of *P. beckerii* and *P. chloridice*

On the basis of two male *P. beckerii* from California, USA, and nine male *P. chloridice* from Greece it was found that in lateral aspect the valval distal and dorso-distal edge of the former is smoothly, though somewhat unevenly, rounded (figs. 1, 2), while the dorso-distal edge of the latter exhibits a bulge which is wanting in *P. beckerii* (figs. 3, 4).

A *P. chloridice*-type valve from Negorcki, Republic of Macedonia is also figured in Jakšić (1998: 37, fig. 8), erroneously confused with that of *Pontia callidice* (Hübner, [1800]) (fig. 7).



Figs. 1–4 . Genitalia components of *Pontia* species. 1, 2. *P. beckerii*. USA, California, Alpine Woodfords, 5800 ft., 14.viii.2003. 3, 4. *P. chloridice*. Greece, Thráki, near Pessáni, 110 m, 29.vi.1991. 1, 3. Lateral aspect of inner face of right valva. 2, 4. Flat aspect of inner face of distal end of right valva.

Differences in size between male adult *P. beckerii* and *P. chloridice*

FW length in N American male *P. beckerii* is 20–28 mm, while in *P. chloridice* 20–22 mm, but even though there is ample overlap in these values, the former butterfly may reach sizes unattainable by the latter.

Known localities for *P. chloridice*-type larvae and pupae

So far, the only known such localities are in NE Greece, from where a larva and pupa are figured in Coutsis & Tolman (1996: 272, figs. 1, 2), and in Asiatic Turkey, from where a single larva is figured in Hesselbarth *et al.* (1995: vol. 1, 366, fig. 4).

The first Old World record for *P. beckerii*

In Toropov & Zhdanko (2013: 88), the figured dorso-lateral aspect of a full grown larva and lateral aspect of a pupa, both from Balkhash Lake, Kazakhstan, and both attributable by the authors to *P. chloridice*, bear instead all the characters of the full grown larva and pupa of *P. beckerii*, the larva exhibiting a well defined dorsal medial greenish white line, dark latero-dorsal areas (almost certainly caused by presence of small greyish dots), small black tubercles, and greenish white head with black dotting, and the pupa exhibiting strong contrast and sharp division between dark and light areas.

Species common to both Asia and N America

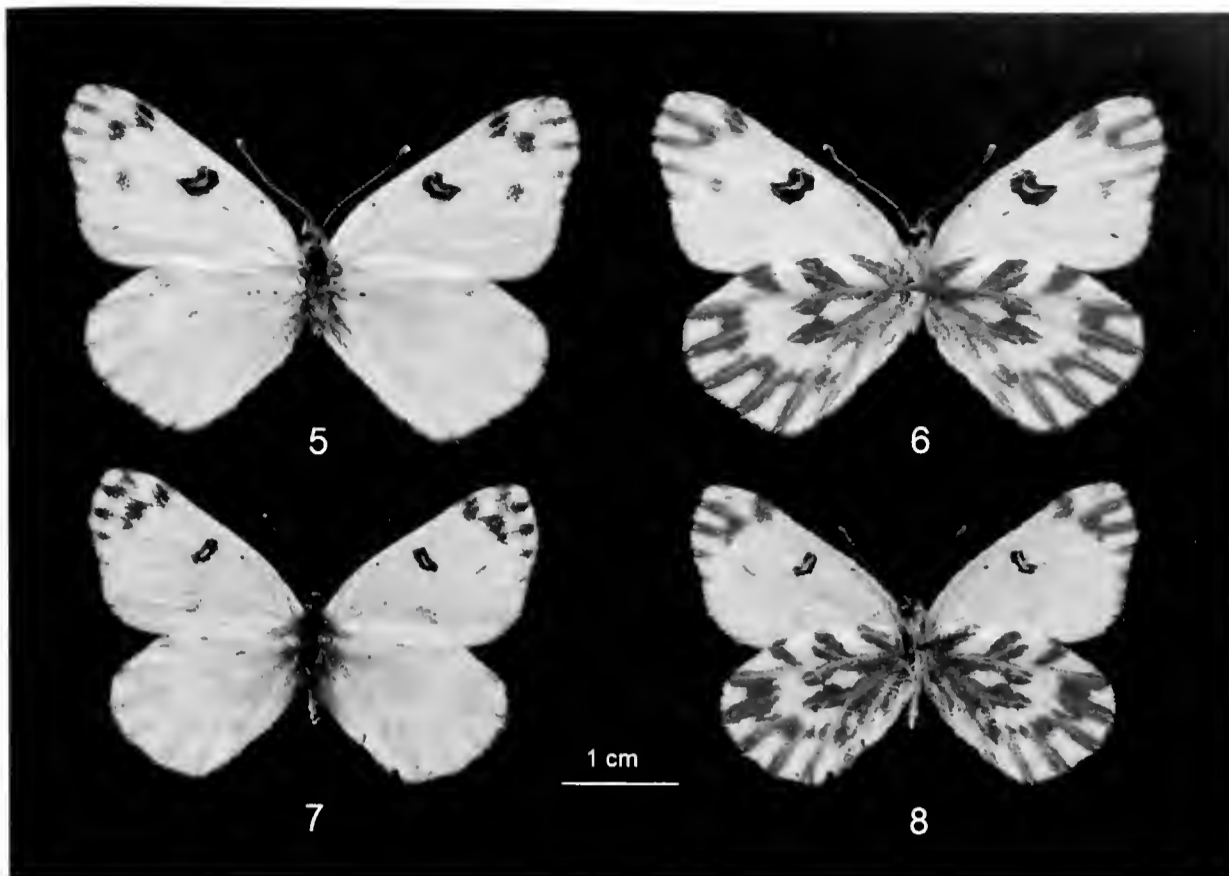
The existence in Kazakhstan of a butterfly species hitherto considered as native exclusively to N America should not come as a surprise. At least 37 other butterfly species (including skippers) are already known to inhabit both Asia and N America, amongst which there are a good many with non-expansive ranges, belonging in the genera *Erebia*, *Oeneis* and *Coenonympha*.

The ranges of *P. beckerii* and *P. chloridice* in the Palearctic region

At present these are unknown. A study of the male genitalia of the two species under consideration should eventually solve the problem. It would be important to find out whether their respective ranges meet, and if so, whether or not the two species are syntopic and prone to hybridization.

P. chloridice type locality and syntype depository

According to Hesselbarth *et al.* (1995: vol. 1, 432) the type locality for *P. chloridice* is “?Südrußland” and the syntypes have been lost. It thus becomes obvious that a neotype should be designated preferably originating from somewhere in S Russia, despite the fact that there is only an indication, but no proof, that the syntypes originated from there.



Figs. 5–8. Male *Pontia* species. 5, 7. Upper side. 6, 8. Underside. 5, 6. *P. beckerii*. USA, California, Alpine Woodfords, 5800 ft., 14.viii.2003. 7, 8. *P. chloridice*. Greece, Thráki, near Pessáni, 110 m, 29.vi.1991.

The larva and pupa of *Pieris krueperi*, and a case of misidentification

The larva and pupa of *P. krueperi*, both of which closely resemble those of other members of the genus *Pieris*, were described and figured respectively in Coutsis (1970: 75, 76; 1973: 290). The larva and pupa of a supposed *P. krueperi*, figured in Toropov & Zhdanko (2013: vol. 1, 99), both exhibit characters common to the larvae and pupae of the *Euchloe ausonia* species-group

specimens (larva with alternating light and dark longitudinal stripes, body above with large, shiny black warts; pupa with pronounced, feebly downwards-curved and distally pointed conical head prominence) and have nothing in common with those of *P. krueperi* (larva overall greenish, with faint yellowish spotting along sides, faint mid-dorsal yellowish line and small greenish warts; pupa without head prominence other than a distally extending very short triangular spine).

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Pyrgus andromedae (Lepidoptera: HesperIIDae) at the southernmost limit of its distribution: the Pirin Mountains in Bulgaria

Nikolay Shtinkov and Zdravko Kolev

Summary. A new record for *Pyrgus andromedae* (Wallengren, 1853) from the Pirin Mts. in Bulgaria is reported, confirming its occurrence in the country. The biology and habitat preferences of this species in Bulgaria are discussed and its projected range is shown to be extremely restricted, covering an area of less than 18 km². The possible threats to its habitat are critically evaluated, its conservation status is discussed and appropriate conservation measures are recommended.

Samenvatting. *Pyrgus andromedae* (Lepidoptera: HesperIIDae) aan de zuidelijke grens van zijn verspreiding: het Piringebergte in Bulgarije

Een nieuwe waarneming van *Pyrgus andromedae* (Wallengren, 1853) wordt vermeld uit het Piringebergte in Bulgarije, waardoor de aanwezigheid van deze soort in Bulgarije wordt bevestigd. De biologie en habitatpreferenties van de soort in Bulgarije worden besproken en er wordt aangetoond dat het mogelijke verspreidingsgebied in dat land erg beperkt is met een oppervlakte van minder dan 18 km². De mogelijke bedreiging van de vindplaats en de beschermingsgraad van de soort worden kritisch besproken, en beschermingsmaatregelen worden voorgesteld.

Résumé. *Pyrgus andromedae* (Lepidoptera: HesperIIDae) à l'extrême sud de sa distribution : les monts Pirin en Bulgarie
On signale une nouvelle observation de *Pyrgus andromedae* (Wallengren, 1853) dans les monts Pirin en Bulgarie, confirmant la présence de cette espèce dans le pays. La biologie et les préférences écologiques de cette espèce en Bulgarie sont discutées, montrant que sa distribution est extrêmement limitée et couvre une aire de moins de 18 km². On envisage les menaces possibles, on discute son statut de conservation et recommande des mesures de conservation appropriées.

Keywords: *Pyrgus andromedae* – Bulgaria – Faunistics

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Introduction

Pyrgus andromedae (Wallengren, 1853) is a European endemic with Arctic-alpine distribution covering the mountains of Fennoscandia, Polar Ural, the Alps, the Pyrenees, the Romanian and Ukrainian Carpathians, and the Dinarid chain in former Yugoslavia (Tolman & Lewington 2008; Settele *et al.* 2008; Kolev 2010). Its occurrence in Bulgaria was first reported from the northern part of the Pirin Mts. “based on two specimens from ISZ” (the collection of the Institute of Zoology – Sofia), with the remark that the occurrence of the species in Bulgaria “needs confirmation” because it is “known by museum specimens only” (Abadjiev 2001). Later, Kolev (2002) gave a compelling justification why these records should be considered doubtful, which is discussed in more detail below; he also reported a third, previously unpublished record from the same region. With only three known specimens and a very restricted range, *P. andromedae* is arguably the rarest and least known HesperIIDae species in Bulgaria. A confirmation of its occurrence (representing the southernmost limit of this species' range) and further studies of its distribution and biology are therefore highly desirable.

The origin of the two ISZ specimens that are the basis for the original report deserves further comment. During a study of the collection of Mr Alexander Slivov now deposited at ISZ, one of us (ZK) discovered a number of specimens with doubtful or erroneous locality data, including specimens that have evidently been collected outside the country but bear labels with Bulgarian location data. The numerous cases of mislabeling lead to

the conclusion that data from Mr Slivov's collection should be considered doubtful and used very carefully, if at all (Kolev 2002). In the course of this study, the two *P. andromedae* specimens mentioned in the original report were also examined as they are part of Mr Slivov's collection. In fact, *P. andromedae* was the only one of six species, reported as new to Bulgaria based on materials from this collection, for which an independent confirmation was obtained: one male reportedly captured in the same region (the Kazana cirque in N Pirin) by Dr Zoltan Varga in 1970 (Kolev 2002). It is to be noted, however, that *P. andromedae* is conspicuously absent from a paper dedicated to the butterflies of the high mountains in Bulgaria, authored by both Dr Varga and Mr Slivov, in which material from N Pirin is abundantly reported (Varga & Slivov 1977). Such omission is difficult to explain, even more so because the authors must have been aware that the species had never been reported from the country. This casts further doubt on the credibility of the three existing records for *P. andromedae* from Bulgaria; thus, although the Northern Pirin locality data seem plausible, they can be accepted only after detailed analysis and independent confirmation.

Material

One of us (NS) has tried unsuccessfully to locate this species during several expeditions in the vicinity of the Vihren peak in Northern Pirin for three consecutive years (2009–2011). Another expedition was undertaken on July 15, 2012, along the trail from the Vihren hut to the Kazana cirque, parts of which were not explored in

previous years. A single female *P. andromedae* was observed, photographed, and collected (coll. Z. Kolev) at an altitude of 2350 m (41°46'2"N, 23°24'42"E). The specimen (shown in Figs. 1 and 2) can be unmistakably identified as *andromedae* by the following characters typical of *P. andromedae*: presence of three basal white spots on forewing upperside, presence of a basal spot in

the discoidal cell of hindwing underside, and white streak-and-dot "exclamation mark" near the anal margin on hindwing underside (Fig. 1: 1–3; see also Dincă *et al.* 2008, Kolev 2010). For comparison, *Pyrgus cacaliae* (Rambur, 1840), the only species with a somewhat similar habitus (which occurs in N Pirin at similar altitudes), is also shown in Fig. 1.

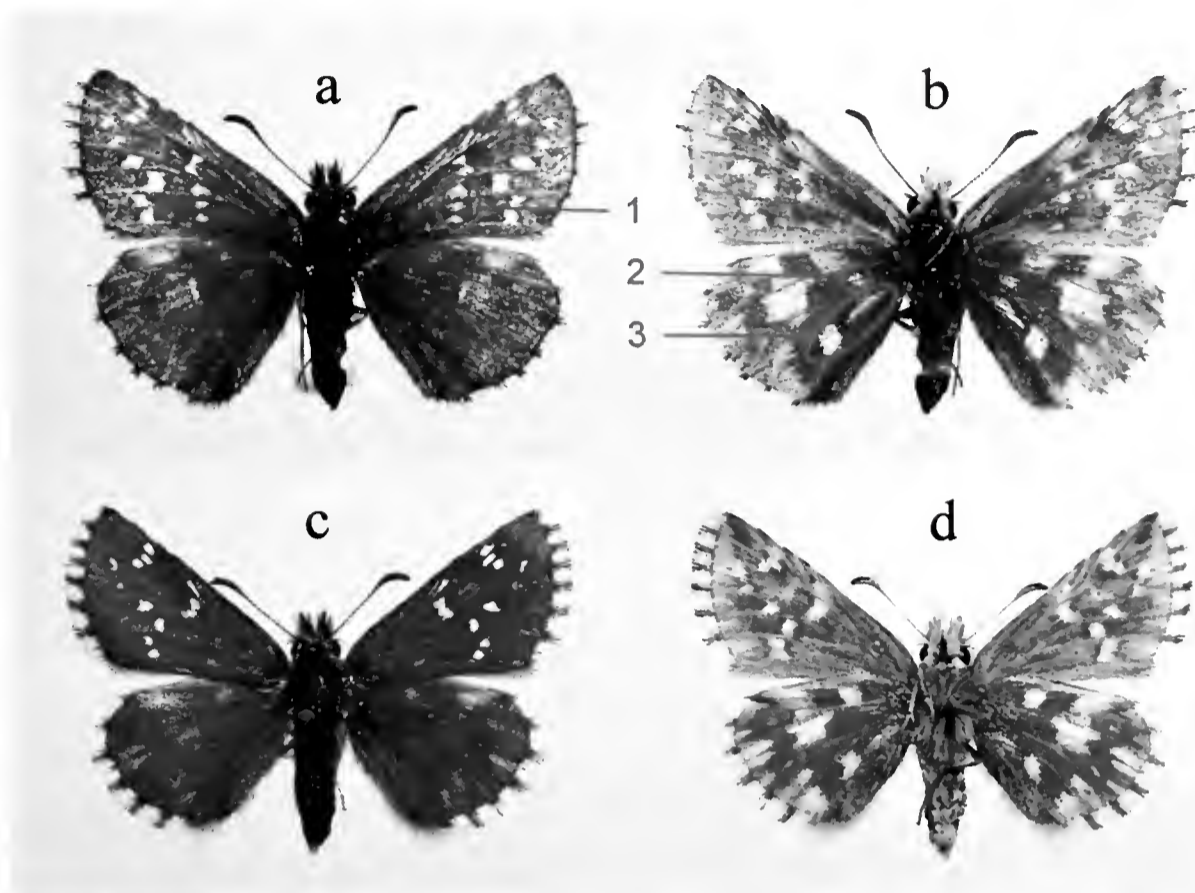


Fig. 1. a, b.—*Pyrgus andromedae*, female, SW Bulgaria, Northern Pirin (41°46'2"N, 23°24'42"E, 2350 m), 15.07.2012, N. Shtinkov leg., in coll. Z. Kolev; a: upperside, b: underside.

c, d.—*Pyrgus cacaliae*, female, SW Bulgaria, Rila, Marishki peak, 2700 m, 2.08.1992, leg. et coll. Z. Kolev. Red symbols: distinguishing characters of *andromedae* vs. *cacaliae*, as follows:

1. presence of three clear white dots in a straight line below the white dot in the forewing discoidal cell;
2. white dot in discoidal cell on hindwing underside;
3. white streak and dot forming an "exclamation mark" between cell and anal margin on hindwing underside.

Habitat

The reported specimen of *P. andromedae* was found on a steep, dry, rocky alpine slope with sparse vegetation (Fig. 2b), less than 100 m from several large patches of *Dryas octopetala* L. (Rosaceae). According to Gros (1998) and Wagner (2003), this is the only larval host-plant of *P. andromedae*; reports for feeding on other plants, e.g. *Potentilla* sp., *Alchemilla glomerulans* Buser (Rosaceae), and *Malva* sp. (Malvaceae) (Tolman & Lewington 2008) seem to be unsubstantiated. The association of *P. andromedae* with this plant has been commented on by other authors (Eliasson *et al.* 2005; Dincă *et al.* 2008) and is corroborated by the present report. It is also confirmed by the communication of Z. Varga that he collected the aforementioned specimen of *P. andromedae* in the Kazana cirque sitting on a cushion of the plant (pers. comm. to ZK, 19.01.2002). *Dryas octopetala* forms localized communities on calcareous terrain in the alpine and subalpine belt of several high mountains in Bulgaria (Roussakova 2011), but is most widespread in Northern Pirin. In the vicinity of the Vihren peak, in particular, *D. octopetala* forms extensive colonies starting at about 2350 m and is absent at lower altitudes (Shtinkov, pers. obs.). Based on these observations, we conclude that

suitable breeding habitat for *P. andromedae* is present throughout the alpine belt of the marble part of Northern Pirin at altitudes above approx. 2300 m.

Range

The inferred range of the species in the Pirin Mts. is shown in Fig. 3. Calcareous rock at suitable altitudes is found in a continuous strip from the Vihren peak (2914 m) north to the Kamenititsa peak (2710 m) and in a small disjunct area in the immediate vicinity of the Sini Vrah peak (2516 m, also known as Sinanitsa) (Zagorchev 1995). It is notable that all four Bulgarian records of *P. andromedae*, regardless of their reliability, come from this region (also shown in Fig. 3). The two ISZ specimens have labels "Pirin, G.[ipfel] Vihren 2400 m, 3.8.1970 Al. Slivov, Wiese" and "Pirin, Kamenit.[itsa] cirkus [=cirque] 1900–2100 m, 24.7.[19]82, Slivov". The first label, although somewhat imprecise, probably refers to the Kazana cirque, which is also the origin of the specimen collected by Dr. Varga (Kolev 2002). The altitude indicated in the second label lies considerably lower than the altitudinal range of the breeding habitat and may have been wrongly recorded; apart from that all three previous records appear plausible.

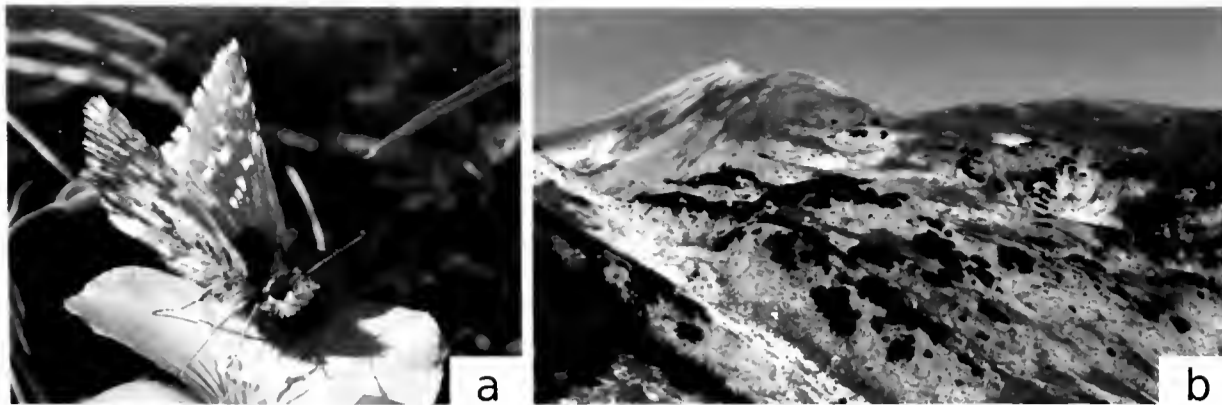


Fig. 2. a.– *Pyrgus andromedae* female, 15.07.2012, Northern Pirin (41°46'2"N, 23°24'42"E, 2350 m); b.– Habitat of *P. andromedae* in Northern Pirin.

The occurrence of *P. andromedae* in other high mountains in Bulgaria seems unlikely as the larval food-plant occupies very limited areas in Rila, Stara Planina, and Slavyanka (also known as Alibotush) (Roussakova 2011). Among those, only Slavyanka has extensive karst areas at high altitude similar to those in Northern Pirin that could support a viable population. A zoogeographic comparison shows that other alpine species characteristic for Northern Pirin such as *Pyrgus cacaliae* (Rambur, [1839]), *Erebia orientalis* Elwes, 1900, *Erebia rhodopensis* Nicholl, 1900, *Erebia cassioides* (Reiner &

Hohenwarth, 1792), *Erebia gorge* (Hübner, [1804]), *Euphydryas cynthia* ([Denis & Schiffermüller], 1775), and *Boloria pales* ([Denis & Schiffermüller], 1775) are absent from Slavyanka which has a maximum altitude of only 2212 m (Abadjiev 2001; Kolev, pers. obs.). On the other hand, unlike those species, *P. andromedae* is known to reach very low altitudes (600–800 m in the Austrian Alps) following the distribution of its larval food-plant (Dincă et al. 2008); thus, its occurrence on Slavyanka cannot be completely ruled out without further studies.

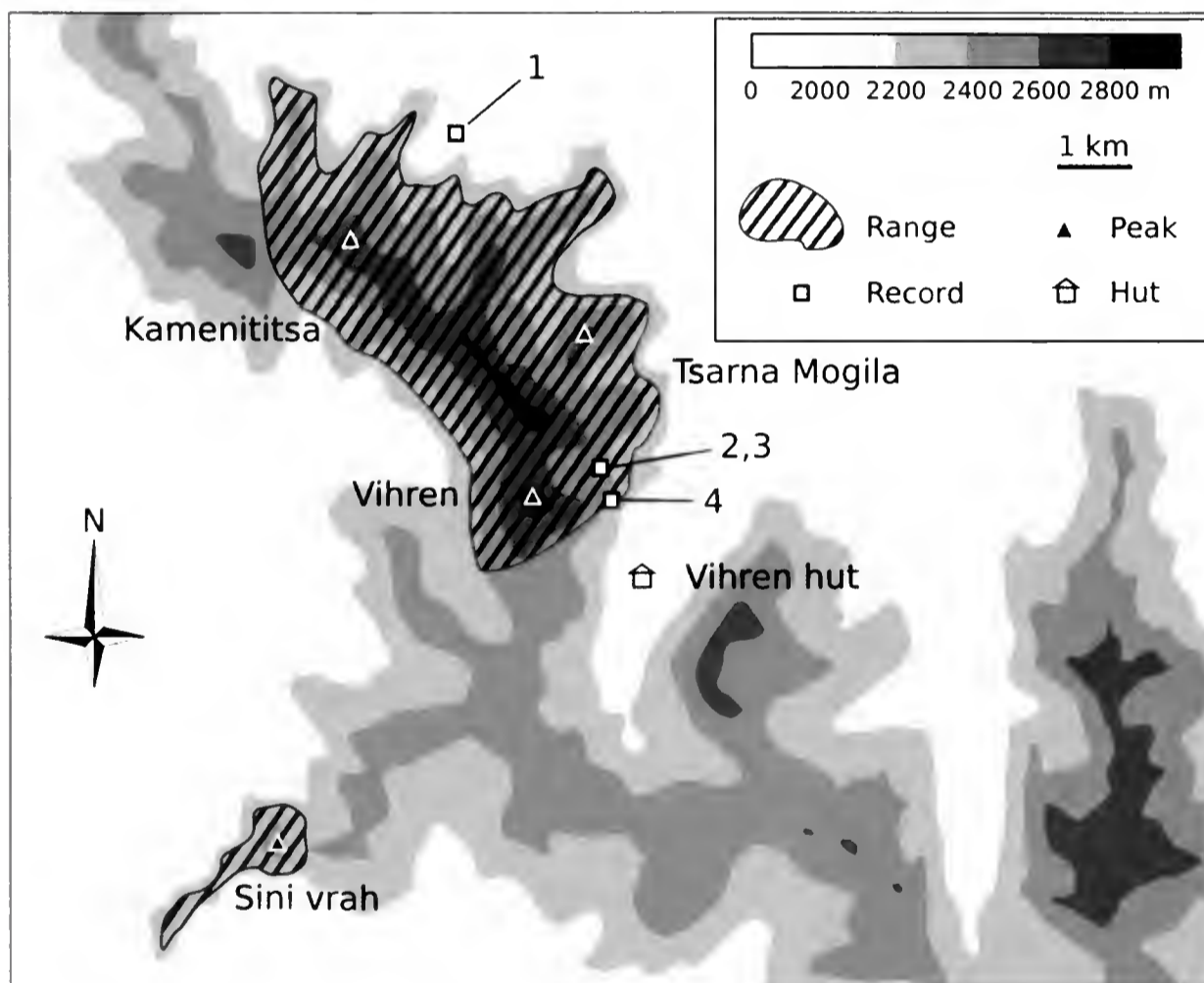


Fig. 3. Distribution of *Pyrgus andromedae* in Northern Pirin and relevant landmarks. Hatched area shows projected range, records are shown with squares.

- 1: Kamenititsa cirque, 1900–2100 m, 24.07.1982 (coll. IZS);
- 2: Vihren, 2400 m, 3.08.1970 (coll. IZS);
- 3: Kazana cirque, 1970 (Kolev, 2002);
- 4: 41°46'2"N, 23°24'42"E, 2350 m, 15.07.2012 (new record).

Conservation status

P. andromedae is a species of considerable conservation interest because of its European endemic status and limited global range; in addition, the population in the Pirin Mts. is the southernmost known location for this species. The estimated range of *P. andromedae* in Northern Pirin (Fig. 3) covers a total projected area of less than 18 km², although the actual area containing suitable habitats is probably much smaller since parts of the area are occupied by moist

alpine meadows with dense, tall grass unsuitable for *D. octopetala*, or by barren rock with no vegetation at all (Shtinkov, pers. obs.). This makes *P. andromedae* the alpine butterfly with the most restricted resident range in Bulgaria. It is also important to note that the entire Bulgarian range of the species lies within the limits of Pirin National Park and the northernmost part around Kamenititsa is within the biosphere reserve Bayuvi Dupki – Dzhindzhiritsa. The area is also part of the Natura 2000 network of protected zones.

Although precise data for the population size and density are lacking, the species appears to be very rare in Bulgaria. This is indicated by the fact that the Pirin region has been extensively studied starting with several expeditions in the beginning of the 20th century (Buresch 1918; Drenowsky 1920); yet for more than 90 years only four specimens have been recorded, including the present report. Part of this is probably due to under-recording because of the difficult terrain and the early flight period of the species: although Bulgarian records span from mid-July to early-August, records from the Romanian Carpathians (Dincă *et al.* 2008) and the Slovenian Alps (Verovnik *et al.* 2012) at comparable altitude and latitude indicate that its flight peak is in late June, which is considerably earlier than the late-July to early-August flight period of most other alpine species. Two further expeditions to N Pirin undertaken by us in 2013 (on July 3 and August 1) were also unsuccessful, in spite of the intensive search in suitable habitat at altitudes 2300–2600 m, and of the fact that the timing of the first expedition was chosen to be near the presumed flight peak of the species. Thus, in spite of possible under-recording, it seems that the population density of *P. andromedae* in N Pirin is rather low.

The mountain communities of *Dryas octopetala* that form an essential part of the habitat base of *P. andromedae* are considered Endangered in the Red Data Book of Bulgaria (Roussakova 2011), with overgrazing and tourism listed as threats. Livestock grazing in the Pirin National Park is strictly regulated (Grancharov 2008); it was much more extensive in Pirin during the last century and has consistently decreased in the Vihren area of Northern Pirin since the mid-1990s (Dimitrova *et al.* 2004: 102). Tourism, too, does not seem to have a major impact on the species habitat base at present. The region is extremely popular with both local and international tourists, with more than 430,000 visitors in 2007 to the Vihren area alone. Most of those visits are during the winter season for ski-tourism, but tourism pressure during the summer months remains high with 9,000–13,000 visits monthly (Grancharov 2008). However, most of the area containing suitable habitat for *P. andromedae* is situated on difficult, steep mountain terrain and only small parts of it are accessible via several narrow hiking trails in the summer. In addition, it is currently not affected by the existing skiing infrastructure which is built mostly on the neighbouring Todorka ridge east of the Vihren hut; this ridge is composed of granitic rock (Zagorchev 1995) unsuitable for the calciphilous *Dryas octopetala*. Therefore, habitat destruction and degradation by tourism are likely negligible for now; however, the plans of the municipal administration for restoration of abandoned infrastructure below the Tsarna Mogila peak (see Fig. 3) and the continuing push for construction of new skiing infrastructure within the limits of the National Park (Anonymous 2012) could

rapidly change the situation. Finally, it is worth noting that a recent assessment of the risk posed by climate change to European butterflies concluded that *P. andromedae* is in the low risk category (Settele *et al.* 2008).

The available data so far do not allow us to assess whether the species satisfies the IUCN criteria for threatened or near-threatened status nationally, and it appears that a Data Deficient status is currently appropriate (IUCN 2012). Nevertheless, *P. andromedae* is of high conservation interest in view of its extremely restricted range in Bulgaria (area of occupancy < 20 km²). Conservation measures should include as a minimum monitoring of the population and enforcement of the existing protection regimes in the park and in the reserve. Further research is needed in order to gather information on the population size and dynamics and on the phenology of the species, establish the exact area of occupancy, ascertain the existence of a population around Sini Vrah, and determine if further conservation measures are needed in Bulgaria. To accomplish these goals, we also recommend including this species in the existing wildlife monitoring scheme in the Pirin National Park.

Conclusion

We report a new record for *Pyrgus andromedae* from Bulgaria (N Pirin Mts.), confirming its occurrence in the country; this record also represents the southernmost known locality for this species. The habitat requirements of the species are analysed based on direct observation and literature data and its projected range is estimated to include the marble ridges of N Pirin situated at an altitude higher than 2300 m, encompassing a total area of less than 18 km². A critical analysis of possible threats shows that habitat destruction or degradation to the extent required for threatened status seem unlikely in the near future; nevertheless, there are reasons for concern. Due to the lack of data on its population size and dynamics, a Data Deficient national red list status is proposed; however *P. andromedae* is of high conservation interest due to its very restricted range in Bulgaria. Recommended conservation measures include monitoring and enforcement of the existing regulations in the protected zones and urgent research.

Acknowledgements

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Nieuwe en interessante keurvondsten aan de westrand van Brussel (Coleoptera: Silphidae & Histeridae)

Willy Troukens

Samenvatting. Recent werden drie merkwaardige keversoorten gevonden aan de westrand van Brussel: *Oiceoptoma thoracicum* (Linnaeus, 1758), *Dendrophilus punctatus* (Herbst, 1792) en *Carcinops pumilio* (Erichson, 1834). Deze laatste is een kosmopoliet die leeft van plantaardig en dierlijk afval.

Abstract. New and interesting records of Silphidae and Histeridae at the westside of Brussels, Belgium (Coleoptera) Recently, three remarkable species were found at the westside of Brussels: *Oiceoptoma thoracicum* (Linnaeus, 1758), *Dendrophilus punctatus* (Herbst, 1792) and *Carcinops pumilio* (Erichson, 1834). The last one is a cosmopolite, living on vegetable and animal relics.

Résumé. Nouvelles découvertes intéressantes de Silphidae et Histeridae à la périphérie ouest de Bruxelles, Belgique (Coleoptera)

Récemment trois espèces remarquables furent récoltées à la périphérie ouest de Bruxelles: *Oiceoptoma thoracicum* (Linnaeus, 1758), *Dendrophilus punctatus* (Herbst, 1792) et *Carcinops pumilio* (Erichson, 1834). Le dernier est une espèce cosmopolite qui vit sur des débris végétaux et animaux.

Key words : Belgium – faunistics – Silphidae – Histeridae – Coleoptera – *Oiceoptoma thoracicum* – *Dendrophilus punctatus* – *Carcinops pumilio*

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In vorige artikels werd in *Phegea* al melding gemaakt van 8 soorten Silphidae (Troukens 2001) en van 12 soorten Histeridae (Troukens 2005). Het is dan ook verrassend dat wij daar na 40 jaar onderzoek, nog enkele soorten aan kunnen toevoegen.

Silphidae

1. *Oiceoptoma thoracicum* (Linnaeus, 1758) (Oranje aaskever) (fig. 1)

De oranje aaskever verschilt duidelijk van andere aaskevers door het rood gekleurde en oranje behaarde halsschild. De dekschilden zijn matzwart. Zij vertonen elk 3 lengteribben; de buitenste voorbij het midden met een hoekige uitstulping. De lengte varieert van 12 tot 17 mm.

Volgens Schilthuizen & Vallenduuk (1988: 80) is *O. thoracicum* een aaskever van bosachtige terreinen. Aan de westrand van Brussel heb ik 40 jaar moeten zoeken om het eerste exemplaar te ontdekken. Dat gebeurde op 11.iv.2011 in het natuurgebied De Wolfspuiten te Dilbeek (VB). Ik vond de kever in een bodemval in een drassig terrein aan de rand van een loofbos. Als aas waren garnaalkoppen gebruikt. Op dezelfde plek volgden nog de volgende waarnemingen: 6.v.2011 1 ex., 13.v.2011 1 ex., 15.vii.2011 2 ex. en 16.viii.2011 1 exemplaar. Ik noteerde de kever ook op een drassige plek in het Zoniënwoud te Sint-Genesius-Rode (VB) op 20.vii.2009 (4 ex.) en op 28.vii.2009 (4 ex.).

O. thoracicum komt verspreid voor in Europa en Azië (Schilthuizen & Vallenduuk 1998: 80). In het Brusselse is hij beslist geen gewone soort.

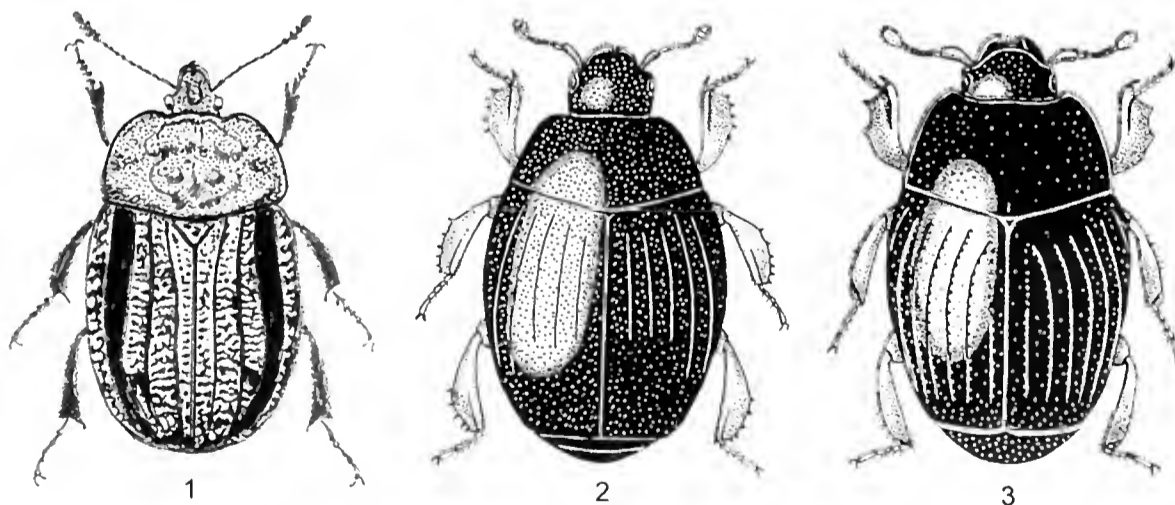


Fig. 1. *Oiceoptoma thoracicum* (Linnaeus, 1758).

Fig. 2. *Dendrophilus punctatus* (Herbst, 1792).

Fig. 3. *Carcinops pumilio* (Erichson, 1834).

Histeridae

2. *Dendrophilus punctatus* (Herbst, 1792) (fig. 2)

Dit ovale spiegelkevertje van 2,6 à 3,8 mm is glanzend pekzwart. De sprieten en poten zijn bruinrood. Kop,

halsschild en dekschilden zijn duidelijk bestippeld. Ook de twee onbedekte achterlijfssegmenten zijn krachtig en diep bestippeld. De dekschilden vertonen elk 5 à 6 rugstrepen maar ze zijn korter en minder diep naar de naad toe (Witzgall 1971: 176).

D. punctatus heb ik nog niet kunnen vinden op dierlijk aas. Volgens Keer (1930: 369) moet men hem in voor- en najaar zoeken achter losse boomschors, in houtmoolm van oude bomen, in wat grotere vogelnesten en aan uitvloeiende boomsappen. Men vindt hem ook regelmatig in nesten van zwarte houtmieren, *Lasius fuliginosus* Latreille, die zich toeleggen op het verzamelen van honingdauw (Mandahl & Barth 1967: 143). De kever laat zich blijkbaar aanlokken door zoete vloeistoffen. In het Haagse Bos (Nederland) werden ooit exemplaren gevangen door achter losse boomschors een recipiënt met gesuikerd bier te plaatsen (Keer 1930: 369).

Deze spiegelkever komt voor in heel Europa, Noord-Afrika, de Kaukasus, evenals in Noord- en Midden-Amerika (Vienna 1980: 204). Aan de westrand van Brussel werd de soort pas onlangs ontdekt: 1 ex. op 23.v.2010 te Dilbeek (VB) in het natuurgebied De Wolfspuiten. Het exemplaar werd geklopt uit een meidoorn (*Crataegus* sp.).

3. *Carcinops pumilio* (Erichson, 1834) (fig. 3)

C. pumilio is een ovaal, zwartbruin spiegelkevertje van 2 à 2,5 mm lengte. Het halsschild is fijn bestippeld; opzij wat krachtiger en vóór het schildje met een klein groefje. De dekschilden elk met 6 volledige, sterk bestippelde lengtestrepen. De 6de streep (naast de naad) vooraan verbonden met de 5de streep en wat verkort. De subhumeraalstreep is volledig ontwikkeld. De sprieten

en poten zijn bruinrood. De voorschenen opvallend verbreed met twee grote tanden en een gekromde einddoorn.

Een oudere naam voor dit spiegelkevertje is *Carcinops quattuordecimstriata* (Stephens, 1835) (Brakman 1966: 88).

Volgens (Keer 1930: 370) is deze soort actief van mei tot juli. Men kan hem aantreffen op plantaardige en dierlijke resten (Schilthuizen & Vallenduuk 1998: 51). In Nederland is hij gevonden in muizennesten, in aardappelkuilen, in uitwerpselen van vleermuizen en eenmaal in een ooievaarsnest.

Aan de westrand van Brussel is *C. pumilio* één keer waargenomen te Vorst (HGB). Remi Guinez ontdekte daar op 22.vii.2009 enkele exemplaren op een dode muis. In Europa komt *C. pumilio* algemeen voor in het Middellandse Zeegebied maar hij wordt zeldzamer naar het noorden toe (Schilthuizen & Vallenduuk 1998: 51). Het genus *Carcinops* is vooral goed vertegenwoordigd in de Nieuwe Wereld. Eurazië en Afrika tellen slechts weinig soorten (Keer 1930: 370).

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