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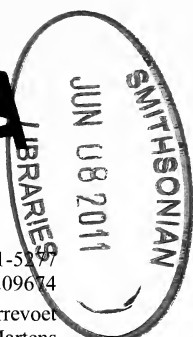


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Een immigrant uit Australië: *Phoracantha semipunctata* (Coleoptera: Cerambycidae)

Willy Troukens

Door de toenemende handelsactiviteiten met Australië en Nieuw-Zeeland worden in Europa steeds meer keversoorten opgemerkt die afkomstig zijn uit deze regio's. Voor sommige soorten blijft het bij een eenmalige waarneming zoals van *Diaphonia dorsalis* Donovan, 1802 (Scarabaeidae) te Ternat (Brabant) op 20 januari 1980 (Troukens 1985: 92). Andere zijn hier ingevoerd met ladingen fruit of hout en zijn erin geslaagd om zich op Europese bodem voort te planten. *Paratillus carus* (Newman, 1840) (Cleridae) is hiervan een schoolvoorbeeld. Dit mierkevertje vestigde zich vanaf 1933 in Engeland en vanaf 1983 in Zuid-Frankrijk vanwaar het pogingen doet om ook Midden-Europa te koloniseren (Chapelin-Viscardi 2009: 354–372).

Mijn buurvrouw, Daniëlle Bouffieux, die geregeld in Portugal verblijft en mijn interesse voor kevers kent, brengt soms ook wel eens een insect mee. Op 24 mei 2005 ving ze in het plaatsje Olhos d'Agua een ongewone boktor van 20 mm lengte. Na heel wat speurwerk bleek het te gaan om *Phoracantha semipunctata* (Fabricius, 1775) (Cerambycidae).

Deze boktor is overwegend zwart. De sprieten en poten zijn bruinrood. De dekschilden vertonen in het midden een typisch geelwitte dwarsband met zwarte stipjes. Elk dekschild draagt in de voorste helft en achteraan nog een vlek van dezelfde kleur. De vlekken achteraan bezitten geen zwarte stippen. Volgens du Chatenet (2000: 299) is deze boktor afkomstig uit Australië waar de larven zich ontwikkelen in eucalyptushout. De kever is tegenwoordig te vinden in het

Middellandse-Zeegebied waar hij zich thuisvoelt in aanplantingen van eucalyptusbossen.

Sama (2010) vermeldt volgende Europese landen: Cyprus, Frankrijk (vasteland en Corsica), Griekenland, Italië (vasteland en Sardinië, Sicilië), Malta, Portugal, Spanje (vasteland, Balearen en Kanarische eilanden). Verder is de soort ook bekend uit Noord-Afrika en het Afrotropische gebied, het Nabije-Oosten, het Nearctische en Neotropische gebied. Enkel in het Oost-Palaeartische en Oriëntaalse gebied blijkt *P. semipunctata* (nog) niet voor te komen (Sama 2010).

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Fig. 1. *Phoracantha semipunctatus* (Fabricius, 1775), Olhos d'Agua (Portugal), 24.v.2005.

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An explanatory note on a previous article of ours, population fluctuations of the imported *Cacyreus marshalli* in Greece, and an assessment of its being a potential threat through larval competition to native butterflies with *Geranium* feeding larvae (Lepidoptera: Lycaenidae)

John G. Coutsis, Hristos T. Anastassiou & Nikos Ghavalas

Abstract. A first record discrepancy for *C. marshalli* in Greece is explained, its population fluctuations in Athens and Spétses Island are presented, and its being a potential threat to native butterflies with *Geranium* feeding larvae is discussed.

Samenvatting. Bijkomende informatie aan het artikel over *Cacyreus marshalli* in Griekenland, populatiedynamiek en de mogelijke gevaren voor inheemse vlindersoorten waarvan de rupsen op *Geranium* leven (Lepidoptera: Lycaenidae)

Cacyreus marshalli was reeds eerder uit Korfoe gemeld, maar wij meldden de soort voor het eerst van het Griekse vasteland. In de stadsomgeving van Athene en op het eiland Spétses was de soort uitermate talrijk in mei-juni 2010, maar zij kon een lange, warme en droge periode blijikbaar niet overleven, want in september werd geen enkele vlinder meer gezien. De kans dat *C. marshalli* ooit een bedreiging vormt voor de inheemse dagvlinders waarvan de rupsen op *Geranium* leven is uitermate klein.

Résumé. Des informations additionnelles sur *Cacyreus marshalli* en Grèce, des fluctuations de sa présence et la possibilité que cette espèce devienne une menace pour les espèces indigènes dont les chenilles vivent sur *Geranium* (Lepidoptera: Lycaenidae)

Avant notre article, *Cacyreus marshalli* était déjà connu de l'île grecque de Corfou, mais nous l'avons mentionné pour la première fois de la Grèce même. En mai-juin 2010 l'espèce était très abondante dans les environs d'Athènes et sur l'île de Spétses. Après une longue période sèche et chaude, l'espèce semble avoir disparu parce qu'en septembre aucun papillon ne pouvait être trouvé. Le risque que *C. marshalli* devienne une menace pour les espèces indigènes dont les chenilles vivent sur *Geranium* est négligeable.

Key words: Lycaenidae – *Cacyreus marshalli* – Greece – Athens – Spétses Island – *Pelargonium* – *Geranium*.

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An explanation

In Anastassiou, Ghavalas & Coutsis (2010) *Cacyreus marshalli* (Butler, 1898) is being reported as new to Greece. This was indeed the case when our joint paper was submitted to *Phegea*, since a photograph record from the Greek island of Kérkira = Corfu (Pamperis 2009) was then considered unofficial, because of its being provided by persons other than the author himself. However, the validity of our record as being new to Greece became untenable after our paper's publication, as in the meanwhile the occurrence of the species on Kérkira was

personally confirmed by Parker (2010). Our own record, therefore, should only be considered as new to mainland Greece, and in particular to the Athens basin, and not to Greece as a whole.

Range extension and population fluctuation

Within a year after the first appearance of *C. marshalli* in the northern suburbs of Athens the butterfly extended its range over the whole of the Athens basin, often flying in great numbers, especially in localities where *Pelargonium* plants, one of its larval host plants, were in abundance. By mid June to mid July 2010, it became, in fact, so numerous that it was even recorded on a daily basis nectaring from flowers grown in pots on the balcony of the first author's 5th floor apartment, located in the heart of Athens. In the period between mid July and end August 2010 Athens was subjected to a continuous heat wave (37°–41°C) and total absence of rainfall, during which time *C. marshalli* suddenly all but disappeared from the scene in the heart of Athens, probably implying its intolerance to extremely high temperatures and protracted dryness. At present (mid September 2010), with temperatures back to normal and with the occurrence of occasional rainfalls, the butterfly has resurfaced, albeit in small numbers. The same sequence of events was also observed in Spétses Island, located off the E coasts of Pelopónnisos = Peloponnese, where the butterfly made its first appearance in early June 2010.

Potential threat to native butterflies

In Greece *C. marshalli* has so far been recorded only in urban areas, where there exists a profusion of *Pelargonium* plants. We still have no evidence of its having invaded rural areas that support native *Geranium* plants (suspected of being a substitute larval host plant source), but are totally devoid of the imported *Pelargonium*. If this proves to be the rule, then there is no need to fear that *C. marshalli* will ever pose a threat to native butterflies with *Geranium* feeding larvae.

Note

The map of Crete in Anastassiou, Ghavalas & Coutsis (2010) was created with DMAP for Windows, version 7.2. (<http://www.dmap.co.uk>).

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Skippers, Butterflies and a Harvester Moth recorded on the Greek island of Sími, late April 2010 (Lepidoptera: Hesperioidea, Papilionoidea, Zygaenidae)

John G. Coutsis & Hristos T. Anastassiú

Abstract. The results of two days' collecting on the Greek Island of Sími are being presented together with an account of the island's previous lepidopterological records. *Gegenes pumilio* and *Nymphalis polychloros* are reported from Sími for the first time and *Jordanita anatolica* is reported as new to the Greek fauna. Moreover, unusual FW upperside and HW underside colour features in male *Satyrium ilicis* are being presented and discussed.

Samenvatting. Vlinders waargenomen op het Griekse eiland Sími einde april 2010 (Lepidoptera: Hesperioidea, Papilionoidea, Zygaenidae)

De resultaten van een tweedaagse trip naar het Griekse eiland Sími worden opgesomd samen met een verslag van de reeds bekende vlindersoorten van dit eiland. *Gegenes pumilio* en *Nymphalis polychloros* worden voor het eerst van Sími vermeld en *Jordanita anatolica* is nieuw voor de Griekse fauna. Verder worden ongewone kleurvormen op de bovenkant van de voorvleugels en de onderkant van de achtervleugels bij het maantje van *Satyrium ilicis* voorgesteld en besproken.

Résumé. Des papillons observés sur l'île grecque de Sími, fin avril 2010 (Lepidoptera: Hesperioidea, Papilionoidea, Zygaenidae)

Les résultats d'une excursion de deux jours sur l'île grecque de Sími, fin avril 2010 sont présentés, en y ajoutant des informations sur les espèces déjà connues de cette île. *Gegenes pumilio* et *Nymphalis polychloros* sont mentionnés pour la première fois de Sími; *Jordanita anatolica* est une espèce nouvelle pour la Grèce. De plus, des aberrations dans les couleurs du dessus des ailes antérieures et du dessous des ailes postérieures du mâle de *Satyrium ilicis* sont présentées et discutées.

Key words: Lepidoptera – Hesperioidea – Papilionoidea – Zygaenidae – *Syrictus tessellum* – *Gegenes pumilio* – *Nymphalis polychloros* – *Satyrium ilicis* – *Jordanita anatolica* – Greece – Aegean – Sími Island – Faunistics

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Introduction

An account of the island's geography and geology is given by Olivier (1991), thus making it unnecessary to provide this information again. During our own two day stay on the island, April 23rd and 24th, 2010, we were able to repeat a number of the older published Lepidoptera records, as well as to add two records new to the island and one new to Greece. Sími's Lepidoptera were investigated at altitudes ranging from sea level to the island's highest peak, located at an elevation of about 600m.

List of species recorded by us

(Species new to Sími or Greece in bold lettering)

1. *Syrichthus tessellum* (Hübner, [1803]). A large number of both males and females was captured, and many more seen, at altitudes ranging from 400 to about 600 m. The skipper was always flying in the vicinity of an abounding yellow flowered *Phlomis*, being used both as a nectar source, as well as, presumably, a larval host-plant. The butterfly is on average a little smaller than its mainland Greek counterpart, and somewhat lighter coloured on HW underside. Its male genitalia (Figs 5–7) differ from those of the mainland population (Figs 1–4) by the somewhat heavier valval cuiller, as well as by the greater length of the cuiller's dorso-proximal spine [for anatomical terms see Higgins (1975)], but are similar to those of specimens from the Near East (Fig. 8). Out of the 60 or so secured specimens a single female has the HW upperside completely devoid of light spots, being dark throughout; a similar looking male previously recorded and figured by Olivier (1991).

2. *Thymelicus sylvestris* (Poda, 1761). A small number of males captured near sea level. Previously recorded by Olivier (1991).

3. ***Gegenes pumilio*** (Hoffmansegg, 1804). **New to Sími.** A single female captured at Pédi, near sea level. Determination based on wing colour and confirmed by genitalia. (Description of *Gegenes* female genitalia in press).

4. *Iphiclides podalirius* (Linnaeus, 1758). Three observed at altitudes ranging from sea level to 300 m. Previously recorded by Koutsaftikis (1974) and Olivier (1991).

5. *Pieris brassicae* (Linnaeus, 1758). A few observed at sea level and one at about 600 m. Previously recorded by Koutsaftikis (1974) and Olivier (1991).

6. *Colias crocea* (Fourcroy, 1785). A small number observed at sea level and a few others at about 300 m. Previously recorded by Koutsaftikis (1974).

7. *Satyrium ilicis* (Esper, [1779]). A few males captured near sea level, all of which exhibit discal orange-tawny scaling on FW upperside, expressed either as mere traces, or as a clear-cut patch (Figs 9, 10). Similar male specimens (f. *cerri*) commonly occur in Spain (Manley & Allcard 1970, Gómez-Bustillo & Fernández-Rubio 1974), often in south France (Lafranchis 2000), and less often in N Italy (Verity 1943), but so far have never been recorded from either mainland Greece, or any other Greek island on which *S. ilicis* is known to occur. Another item of interest is that in S1c of HW underside, and just distad of orange lunule, the butterflies have macroscopically evident silver-blue scaling (Fig. 11), a feature that is absent in specimens from other parts of Greece. Turkish specimens also carry this silver-blue scaling on a regular basis, but apparently lack the orange-brown scaling on male FW upperside (Hesselbarth *et al.* 1995). Previously recorded by Thomson (1985).

8. *Lycaena phlaeas* (Linnaeus, 1761). One second brood male captured at sea level. Previously recorded by Olivier (1991).

9. *Vanessa atalanta* (Linnaeus, 1758). A few observed at all altitudes. Previously recorded by Koutsaftikis (1974).

10. *Vanessa cardui* (Linnaeus, 1758). A few observed at all altitudes. Previously recorded by Koutsaftikis (1974).

11. *Nymphalis polychloros* (Linnaeus, 1758). **New to Sími.** Two fresh ones recorded, one at sea level in a lush, rather well watered locality, and the other at about 500 m, within a rather extensive, natural forest of the spreading form of *Cupressus sempervirens* L.

12. *Maniola telmessia* (Zeller, 1847). Found in great numbers, mostly at low levels. All but a few captures were fresh males, the bulk of females having not quite yet made their appearance. Previously recorded by Turati (1929), Koutsaftikis (1974), Thomson (1985) and Olivier (1991).

13. *Jordanita anatolica* (Naufock, 1929). **New to Greece.** A single male recorded at Pédi, near sea level. Identification based on genitalia (Figs 12–14). The occurrence of this species on the island was not unexpected, as it is common and widespread in much of the Near East, including Turkey's southern coasts, parts of which are only a few miles away from Sími. Previously not reported from Greece (Coutsis 1976; Efetov & Tarmann 1999; Nauman, Tarmann & Tremewan 1999; Efetov 2001).

Previous published records by others, but missed by present authors

1. *Syrichthus proto* (Ochsenheimer, 1808). Recorded by Thomson (1985).

2. *Zerynthia cerisy* (Godart, [1824]). Recorded by Koutsaftikis (1974), Ondrias, Koutsaftikis & Douma-Petridou (1979) and Olivier (1991).

3. *Papilio machaon* Linnaeus, 1758. Recorded by Koutsaftikis (1974).

4. *Pieris rapae* (Linnaeus, 1758). Recorded by Koutsaftikis (1974), and Olivier (1991).

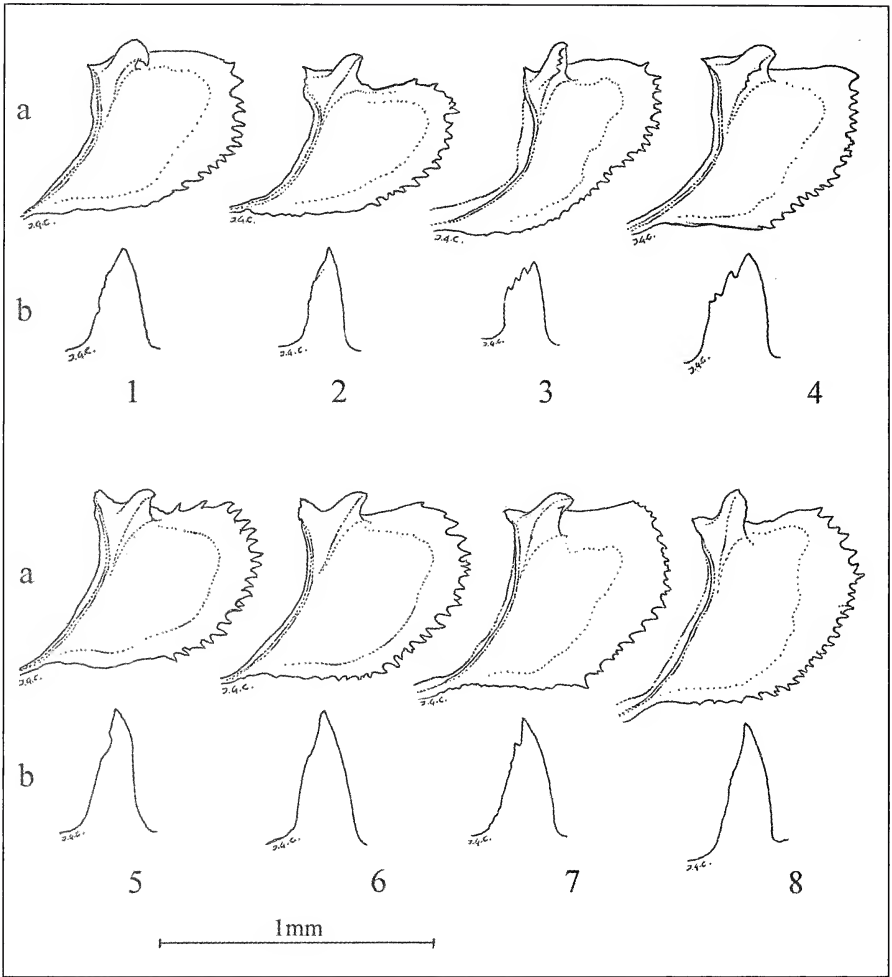
5. *Leptotes pirithous* (Linnaeus, 1767). Recorded by Koutsaftikis (1974).

6. *Hipparchia fatua* (Freyer, [1845]). Recorded by Turati (1929).

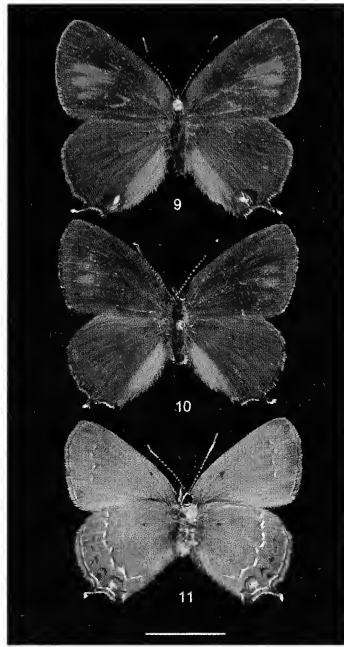
7. *Ypthima asterope* (Klug, 1832). Recorded by Koutsaftikis (1974), and Olivier (1991).

8. *Lasiommata megera* (Linnaeus, 1767). Recorded by Thomson (1985).

9. *Lasiommata maera* (Linnaeus, 1758). Recorded by Thomson (1985), and Olivier (1991).



Figs 1–8. Male genitalia components of *Syrictus tessellum*. **a.**– Lateral aspect of inner face of cuiller. **b.**– Lateral aspect of dorsal spine of cuiller. **1–7.**– Greece. **1–3.**– Makedonía. **1.**– Halkidiki, Mt. Holomón, 800 m, 24.vi.1976. **2, 3.**– Mt. Ólimbos. **2.**– 1000 m, 11.vi.1966. **3.**– 800 m, 28.vi.1970. **4.**– Thessalía, Mt. Pílio, 1000 m, 28.vi.1978. **5–7.**– Sími Island, 500–560 m, 24.iv.2010. **8.**– Israel, N of Dishon, 700 m, 19.iv.1975.



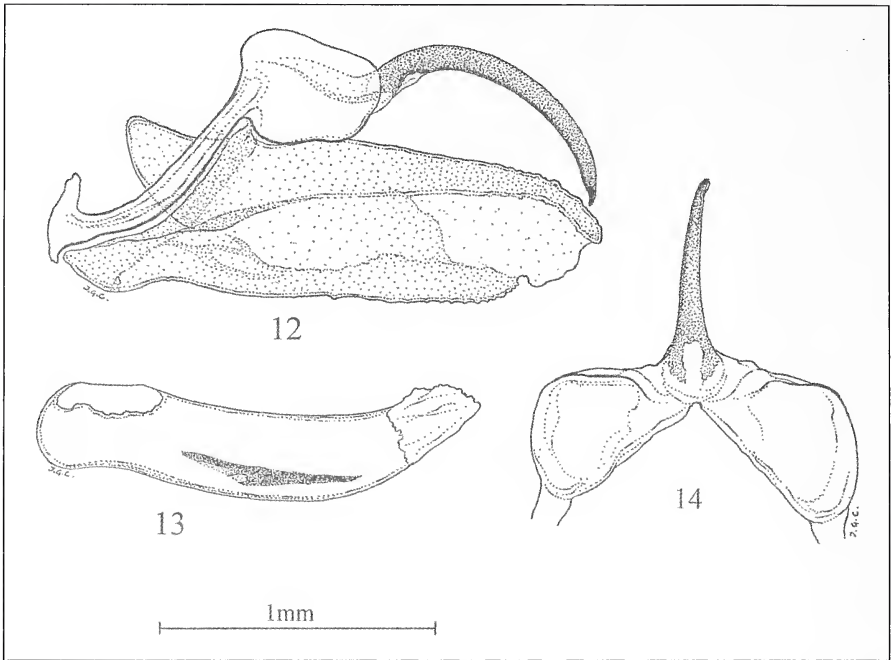
Figs 9-11. Male *Satyrium ilicis* from Greece, Simi Island, Pédi, near sea level, 24.iv.2010. **9, 10.**– Upperside. **11.**– Underside. **9.**– White spot near HW anal angle due to dried abdominal fluid. Scale bar equal to 1 cm.

A hitherto unpublished record

1. *Carcharodus stauderi* Reverdin, 1913. A single male – identified as such by genitalia – originally from the Olivier collection and presently deposited in the collection of Nick Ghavalas, Athens, Greece, bears the following data: Simi Island, Greece, 50 m, 2.vi.1993, leg. Alain Olivier. This specimen was given personally and directly by Olivier to Ghavalas and its data are of unquestionable validity. So far as we are able to tell, this is the first time that this record is being published.

Discussion

Our own original plans were to look primarily for *Z. cerisy* and *Y. asterope*, but both were quite over by the time of our visit, due to an exceptionally early emergence caused by a very mild winter. Fortunately we were on time for *S. tessellum*, which was to us the third species of primary interest.



Figs. 12–14. Male genitalia components of *Jordanita anatolica*, Greece, Sími Island, vicinity of Pédi, near sea level, 24.iv.2010. **12.**– Left side aspect of genitalia, with left valva and aedeagus removed. **13.**– Left side aspect of aedeagus. **14.**– Dorsal aspect of tegumen and uncus.

The total number of hitherto recorded Hesperioidea and Papilionoidea from Sími Island amounts to 22 species, while just one single member of the Zygaenidae family has so far been found there.

It is of interest to note that common spring species, such as *Euchloe ausonia* (Hübner, [1804]), *Callophrys rubi* (Linnaeus, 1758) and *Glaucopsyche alexis* (Poda, 1761), still remain unrecorded on Sími Island. In the case of the former butterfly in particular, which is widespread and common throughout Greece and most of its islands, its absence remains puzzling, but could conceivably be attributed to the scarcity or lack of larval host plants (Cruciferae: *Isatis*, *Sinapis*, *Aethionema*, *Iberis*, *Biscutella*, etc.), none of which were observed on Sími by the present authors.

Despite the paucity of species found on the island, we believe that it is still a place calling for further lepidopterological investigation; species such as *Carcharodus orientalis* Reverdin, 1913, *Thymelicus hyrax* (Lederer, 1861), *Gegenes nostrodamus* (Fabricius, 1793) and *Pelopidas thrax* (Hübner, [1821]) stand a good chance of eventually being found on the island, making future collecting a worthwhile endeavour.

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Hypena obsitalis (Lepidoptera: Noctuidae), een nieuwe soort voor België

Tom Sierens

Abstract. *Hypena obsitalis* (Lepidoptera: Noctuidae), a new species for the Belgian fauna. The first Belgian specimen of *Hypena obsitalis* (Hübner, 1813) is reported from Wenduine at the Flemish coast (province of West-Flanders).

Résumé. *Hypena obsitalis* (Lepidoptera: Noctuidae), espèce nouvelle pour la faune belge. Le premier exemplaire belge d'*Hypena obsitalis* (Hübner, 1813) est signalé de Wenduine, à la côte flamande (Flandre occidentale).

Key words: *Hypena obsitalis* – Faunistics – First record – Belgium.

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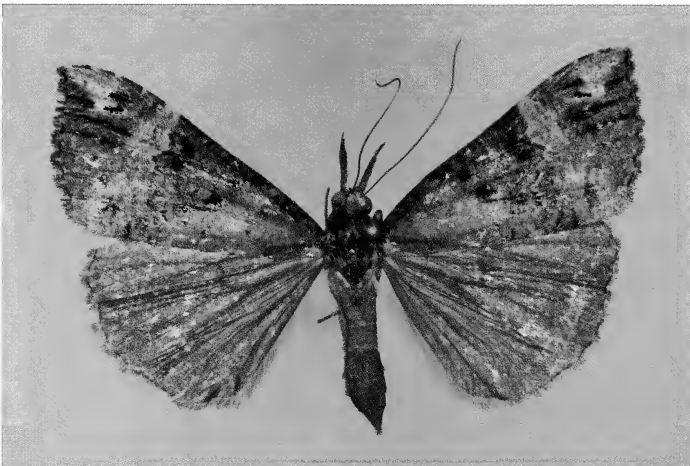


Fig. 1. *Hypena obsitalis* (Hübner, 1813), België, West-Vlaanderen, Wenduine, 05.x.2010, leg. D. Sierens. (Foto: T. Garrevoet).

In het kader van een inventarisatie-oefening van nachtvinders in de natuurreservaten van het Vlaamse Gewest langs de kust, in opdracht van het Agentschap Natuur en Bos (ANB), werd in het najaar van 2010 enkele malen gesmeerd in de duinbossen van Wenduine. Op 5 oktober ving Daniël Sierens hier een exemplaar op smeer van *Hypena obsitalis* (Hübner, 1813). Het is de eerste maal dat deze soort gemeld wordt uit de Benelux.

De vlinder werd vrij laat op de avond gevonden, rond 21u, toen het vrij heftig aan het regenen was en er behalve enkele exemplaren van *Phlogophora meticulosa* geen enkele nachtvlinder meer te bespeuren was. Er was die avond op een twintigtal bomen gesmeerd, goed voor 9 soorten (waaronder *Xanthia gilvago* en *Mythimna l-album*, die hier mogelijk een trekvlinder is) en een 25-tal vlinders, wat eerder weinig is. Andere zoektochten op dezelfde plek op 21 september, 9

oktober, 16 oktober en 31 oktober, leverden meestal (veel) meer vlinders op, maar geen *Hypena obsitalis*.

Hypena obsitalis kent een zomergeneratie en een generatie die uitkomt in het najaar en na overwintering zich voortplant in het vroege voorjaar. Het gevonden exemplaar behoort zeker tot die tweede generatie. De rups zou volgens de meeste literatuur vooral leven op klein glaskruid (*Parietaria judaica*), een in Vlaanderen zeer zeldzame plant die, volgens de Atlas van de Flora van Vlaanderen en het Brussels Gewest van het Instituut voor Natuur- en Bosonderzoek (INBO) (2006), vooral bekend is van oude abdijen en de stadskernen van historische steden, en van de duinen in de westkust. Volgens de verspreidingskaart in de Atlas komt de plant niet voor in Wenduine. Verschillende bronnen geven echter aan dat ook *Urtica* geschikt zou zijn als waardplant van *Hypena obsitalis*.

De duinbossen in Wenduine zijn in de jaren 1990 vrij intensief onderzocht op nachtvlinders (o.a. door Aubin De Turck), en de soort is hier nooit eerder vastgesteld. Het gevonden exemplaar lijkt dan ook niet afkomstig te zijn van een verborgen populatie die hier leeft, maar is vrijwel zeker een trekkend exemplaar van een soort die sinds enige tijd aan een gebiedsuitbreiding naar het noorden bezig is.

Hypena obsitalis staat in het Verenigd Koninkrijk al langer bekend als een zeldzame immigrant, die echter vaste voet aan wal heeft gekregen in Devon, in het zuidwesten van Engeland. Het verspreidingskaartje op de website ukmoths.org laat daarnaast ook vondsten zien aan de monding van de Thames, in Kent, en in Sussex (<http://ukmoths.org.uk/show.php?bf=2478&map=true>). Terecht lijkt de soort in het UK "predominantly coastal" genoemd te worden (cf. ook <http://www.hantsmoths.org.uk/species/2478.php>).

De Franse website Lépi'net, "Les carnets du lépidoptériste français", signaleert dat *Hypena obsitalis* "a fortement progressé vers le nord ces dernières années (nombreuses citations franciliennes depuis 2000)" (<http://www.lepinet.fr/especes/nation/lep/index.php?id=46720>). Het verspreidingskaartje laat zien hoe de soort, die traditioneel thuishoort in het zuiden en zuidwesten van Frankrijk, al opgerukt is naar de departementen Seine-Maritime in Normandië en Oise in Picardië.

Het mag dus niet echt een verrassing heten dat de soort nu ook een eerste keer opduikt aan de Belgische kust. Wordt wellicht vervolgd!

Referentie

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Aspilapteryx limosella (Lepidoptera: Gracillariidae), new to the Belgian fauna

Jean-Yves Bagnée & Willem N. Ellis

Résumé. *Aspilapteryx limosella* (Lepidoptera: Gracillariidae), espèce nouvelle pour la faune belge

Durant l'automne 2009, plusieurs mines d'*Aspilapteryx limosella* (Duponchel, 1843) ont été trouvées sur *Teucrium chamaedrys* L. (Lamiaceae) dans deux localités xérothermiques du sud de la Belgique, respectivement à Resteigne (province de Luxembourg) et à Dinant (province de Namur). C'est la première fois que cette rare espèce est renseignée dans un pays du Benelux. Les informations relatives à la biologie et à la répartition du papillon sont résumées.

Samenvatting. *Aspilapteryx limosella* (Lepidoptera: Gracillariidae), een nieuwe soort voor de Belgische fauna

Tijdens het najaar 2009 werden enkele bladmineers van *Aspilapteryx limosella* (Duponchel, 1843) op *Teucrium chamaedrys* L. (Lamiaceae) gevonden op twee xerothermofiele plaatsen in het Zuid-België, respectievelijk te Resteigne (provincie Luxemburg) en te Dinant (provincie Namen). Het is de eerste maal dat deze zeldzame soort uit Benelux wordt vermeld. Details over de levenswijze en de verspreiding worden gegeven.

Key words: *Aspilapteryx limosella* – Lepidoptera – Gracillariidae – Belgium – Faunistics – Xerothermic grassland.

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The small genus *Aspilapteryx* Spuler, 1910 (Lepidoptera: Gracillariidae) was revised and divided by Triberti (1985) in two subgenera: subg. *Aspilapteryx* and subg. *Sabulopteryx*. However, the second subgenus is now regarded as synonym to *Aspilapteryx* (De Prins & De Prins 2009). This genus, which includes eleven species in the world (De Prins & De Prins 2009) and five species in Europe (Buszko 2009), was hitherto represented in Belgium only by *Aspilapteryx tringipennella* (Zeller, 1839), a leafminer on *Plantago* (De Prins & Steeman 2009).

A second species, *Aspilapteryx limosella* (Duponchel, 1843), has been recently recorded for the first time from Belgium in two xerothermic stations of the south of country. On 30 October 2009 ten mines of this rare moth were discovered on *Teucrium chamaedrys* L. (Lamiaceae) in the nature reserve "Tienne des Vignes" at Resteigne (prov. of Luxembourg). Afterwards, on 11 November 2009, four mines were observed on the same plant in the nature reserve "Vallon d'Herbuchenne" at Dinant (prov. of Namur). Both sites belong to the Meuse basin and are situated on chalky south slopes at an altitude of 200–230 m. Three mines from Resteigne each contained a young caterpillar (fig. 4). These observations increase the number of species of the Belgian Gracillariidae to 99 (De Prins & Steeman 2009).

The *Aspilapteryx* species are little moths with a wing span of 8–14 mm which rest in a *Caloptilia* manner, with the forepart of the body raised on the front legs. *Aspilapteryx limosella* is very close to *A. inquinata* Triberti, 1985, a little-known Asian taxon. Adults of both species are strongly variable in wing coloration but differ clearly in their genitalia. The fore wings are usually pale ochreous with faint brown blotches. The head and face are ochre, with pale brownish ringed antennae. In addition the legs are dark brown except for the white tarsi (Triberti 1985, Huemer 1994). The early stages of *Aspilapteryx* are poorly known and those of *Aspilapteryx limosella* still remain undescribed, but the caterpillar of the species is well pictured by Stainton (1864, plate 3a).

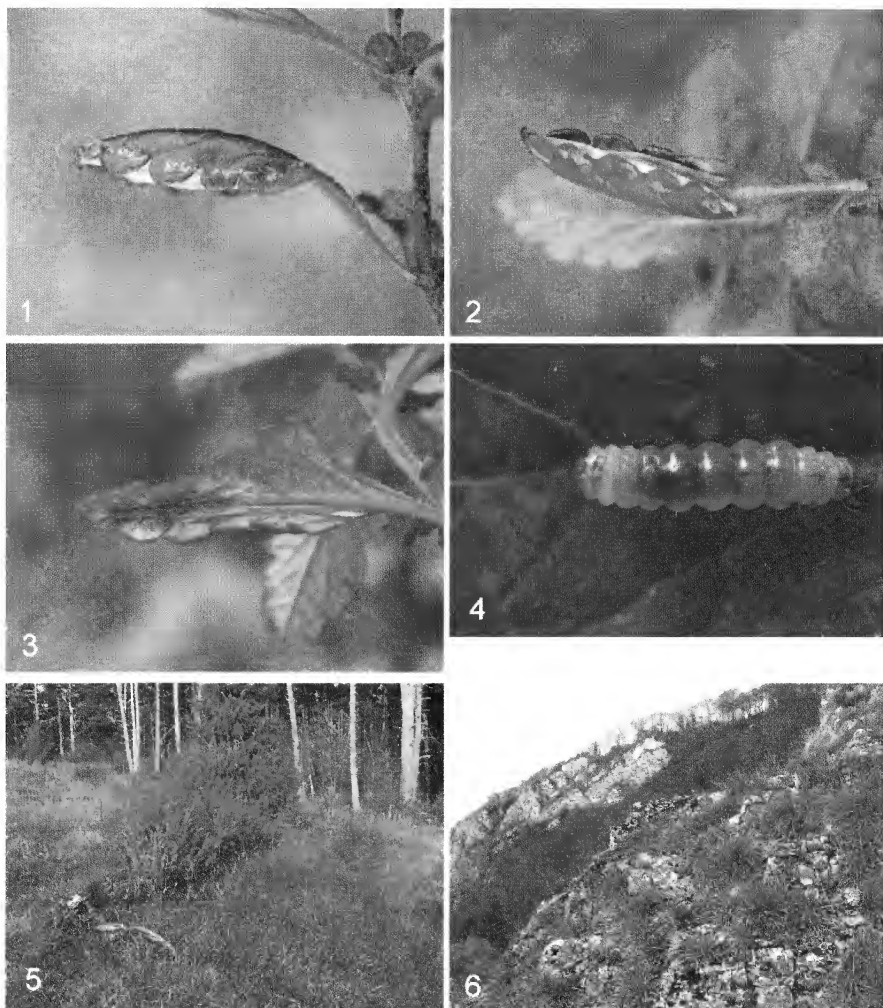
Distribution

Aspilapteryx limosella is a west-Palaeartic species which occurs in central, south and oriental Europe as well as in the Near East. It was previously recorded from Albania, Austria, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, France (incl. Corsica), Germany, Greece, Hungary, Israel, Italy, Macedonia, Poland, Portugal, Romania, southern and central Russia, Serbia, Slovakia, Slovenia, Spain, Switzerland, Turkey, Ukraine, Yugoslavia (Budashkin 2004, De Prins & De Prins 2009, Buszko 2009, Koçak & Kemal 2009).

In Germany, the species is quite rare and essentially widespread in the southern half: Rhineland-Palatinate, Bavaria, Saarland, Saxony, Saxony-Anhalt, Thuringia, Baden-Württemberg (Schütze 1931, Gaedike & Heinicke 1999, Tolasch 2004). However, it reaches Mecklenburg-Vorpommern northwards (Deutschmann 2008). In Saarland only two localities are recorded (Werno 2008).

In mainland France, *Aspilapteryx limosella* appears to be well-distributed in the southern and central parts of the country but it is little observed. Lhomme (1946–1963) cites the species from the departments of Alpes-Maritimes, Ardèche, Cher, Côte-d'Or, Lot and Seine-et-Oise (region of Paris). Recent occurrences were mentioned from the Dordogne (Fennell 2009) and some more northern departments such as Moselle and Meuse where the species is regarded as common by Courtois (1993). No data of the species are known from the Great Duchy of Luxembourg and it is missing in the collections of the national museum (M. Hellers, in litt. 2010).

Clearly, the Belgian localities now mark the extreme north-western border of the European distribution of *Aspilapteryx limosella*.



Figs. 1–2. *Aspilapteryx limosella* (Duponchel, 1843), Belgium, Luxembourg, Resteigne, 30.x.2009, mines on *Teucrium chamaedrys*; 3.– Young mine on *Teucrium chamaedrys*, Belgium, Namur, Dinant, 11.xi.2009; 4.– Larva (L= 3.2 mm) ex. mine on *Teucrium chamaedrys*, Belgium, Luxembourg, Resteigne, 30.x.2009; 5.– Habitat, calcareous grassland, Belgium, Luxembourg, Resteigne, 30.x.2009; 6.– Habitat, rocky calcareous grassland, Belgium, Namur, Dinant, 11.xi.2009 (all photos J.-Y. Baugnée).

Biology

During its larval stage *Aspilapteryx limosella* is a permanent miner on the Lamiaceae *Teucrium chamaedrys* and *T. montanum* (Klimesch 1951, Triberti 1985). Old references of the species on *Jurinea* (Asteraceae) and *Genista* (Fabaceae) seem quite doubtful and need to be confirmed (see review in De Prins

& De Prins 2009). The larva causes a tentiform mine on the lower surface of the leaf, like those of *Phyllonorycter* spp. (figs. 1–3). The upper convex surface of the mined leaves is often purplish brown while the lower surface is white to pale green. Larvae occur in May to September (in Belgium also in October–November) and pupate in a cocoon within the mine, but they may leave the mine to live between spun leaves on the host plant (Hering 1957, Ellis 2007). According to Klimesch (1951) the caterpillar feeding on *Teucrium montanum* moves three to four times to another leaf depending on the leaf size. The species overwinters as a pupa. Adults fly mainly in May–June and in August in two generations (Schütze 1931, Klimesch 1951).

The parasites and predators of *Aspilapteryx limosella* are almost unknown. Four parasitic wasps species of the family Eulophidae are described from central Europe: *Sympiesis gregori* Bouček, 1959, *Cirrospilus staryi* Bouček, 1958, *Cirrospilus viticola* Rondani, 1877, and *Sympiesis euspilapterygis* Erdős, 1958 (Bouček 1959a-b, Bouček & Askew 1968).

Like its foodplants, *Aspilapteryx limosella* is a typical element of xerothermic habitats, particularly calcareous grasslands (figs 5–6). In Belgium *Teucrium chamaedrys* is confined on the chalk hillsides of the Meuse basin, especially in the valleys of the Meuse (above Namur), Viroin, Lesse and Ourthe where it is locally abundant (Van Rompaey & Delvosalle 1979). On the other hand, the endangered *Teucrium montanum* is at present known only from very scarce isolated localities in the south of country (Saintenoy-Simon *et al.* 2006). These plants grow in rocky and sunny places, within the Xerobromion communities. Considering the regional distribution of the first (main?) larval host plant, we presume that *Aspilapteryx limosella* has a wider distribution in suitable habitats.

Acknowledgments

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Distribution and conservation status of *Pseudophilotes bavius* (Lepidoptera: Lycaenidae) in Dobrogea (south-eastern Romania)

Vlad Dincă, Sylvain Cuvelier & Morten S. Mølgaard

Abstract. *Pseudophilotes bavius* (Eversmann, 1832) is a butterfly species of European conservation concern (listed in Annexes II and IV of the Habitats Directive 92/43/EEC) with a restricted and fragmented distribution. In Romania, where it reaches the north-western limit of its range, *P. bavius* has disjunct populations: Transylvania in the north-west and Dobrogea in the south-east, with a gap of about 400 km between the two. In this study we provide an overview on the distribution of *P. bavius* in Dobrogea, while reporting three new sites which double the number of known localities and extend the species' distribution about 60 km north in this region. The known and potential distribution, habitat, phenology and conservation status of *P. bavius* in Dobrogea are discussed.

Samenvatting. Verspreiding en beschermingsstatus van *Pseudophilotes bavius* (Lepidoptera: Lycaenidae) in Dobrogea (Zuidoost-Roemenië)

Pseudophilotes bavius (Eversmann, 1832) is een dagvlindersoort met aandacht voor het Europees behoud (vermeld in de bijlage II en IV van de Habitatrichtlijn 92/43/EEC) met beperkte en gefragmenteerde verspreiding. In Roemenië, de noordwestelijke grens qua voorkomen van de soort, heeft *P. bavius* gescheiden populaties: Transylvanië in het Noordwesten en Dobrogea in het Zuidoosten. Een afstand van 400 km scheidt beide populaties. In dit artikel brengen we een overzicht van de verspreiding van *P. bavius* in Dobrogea terwijl we ook drie nieuwe vindplaatsen vermelden. Hierdoor verdubbelt het aantal gekende plaatsen en is het voorkomen van de soort 60 kilometer noordwaarts uitgebreid. De gekende en potentiële verspreiding, habitat, fenologie en behoudsstatus van *P. bavius* in Dobrogea worden besproken.

Resumé. *Pseudophilotes bavius* (Eversmann, 1832) er en dagsommerfugleart med europæisk bevaringsstatus (inkluderet i tillæg II og IV i Habitatdirektivet 92/43/EØF) og med en begrænset og opsplittet udbredelse. I Rumænien, hvor nordvestgrænsen for udbredelsen går, forekommer *P. bavius* i følgende to adskilte områder: Transsylvanien i den nordvestlige del af landet og Dobrogea i sydøst, med en afstand på 400 km imellem dem. I denne artikel bringer vi en oversigt over udbredelsen af *P. bavius* i Dobrogea, herunder tre nyopdagede lokaliteter, hvilket fordobler antallet af kendte lokaliteter og udvider artens kendte udbredelse med ca. 60 km nordpå i denne region. Den kendte – og potentielle – udbredelse, habitat, fenologi og bevaringsstatus for *P. bavius* i Dobrogea tages op til diskussion.

Key words: *Pseudophilotes bavius* – Romania – Dobrogea – distribution – habitat – conservation

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Introduction

Already since the 19th century (Mann 1866), the particular butterfly fauna of Dobrogea has attracted numerous researchers who published valuable data on the Lepidoptera assemblages present in this area. One of the most important features that make Dobrogea a very interesting region from a lepidopterological (and not

only) point of view is its geographic position which determines multiple biogeographical influences translated into a meeting point of Balkanic, Minor Asian and south Russian steppe elements. The main ecological and faunistical characteristics of Dobrogea have been discussed by several studies (e.g. Rákósy & Székely 1996, Rákósy & Wieser 2000, Dincă *et al.* 2009). Although some of Dobrogea's most valuable faunistical elements are certainly the many taxa reaching their western or northern distributional limit on its territory, there are also other very localized and endangered butterfly species that have populations in this area. It is for example the case of *Plebejus sephirus* Frivaldsky, 1835, and *Pseudophilotes bavius* (Eversmann, 1832), both of them steppe specialists which have a disjunct distribution in Romania, being restricted to the north-west (Transylvania) and the south-east (Dobrogea) of the country (Rákósy *et al.* 2003, Székely 2008). The populations of *P. bavius* from Dobrogea are of particular interest as they seem to be very isolated from the rest of the species' range lying about 400 km south-east from the Transylvanian ones and equally distant from the ones known from southern Ukraine and Turkey (Kudrna 2002). However, according to the distribution maps of Tshikolovets (2003) and Nekrutenko & Tshikolovets (2005), *P. bavius* occurs in southern Ukraine until the border with northern Dobrogea, meaning that the gap between the populations from Dobrogea and the Ukrainian ones may be actually smaller (about 200 km). Comprehensive data on the distribution and conservation status of *P. bavius* in Dobrogea is still poor as the species has been recorded only from three small sites in the extreme southern part of the province (Fig. 1). Moreover, with the exception of one site, these records were based on very few specimens and on single recording dates. The purpose of this article is therefore to improve the knowledge on the distribution of *P. bavius* in Dobrogea and to tentatively assess its conservation status in this region.

Methods

Between 28th of April and 1st of May 2010, we investigated all the localities with published records of *P. bavius* in Dobrogea as well as other areas that we considered to be potentially suitable for this species. Special attention was paid to sites where *Salvia nutans* (Lamiaceae), the larval food plant of the species, was present. Collecting was done using the insect net.

Results and discussion

Material. 5♂, 2♀, Gura Dobrogei (Constanța county), 28.iv.2010; 2♂, south of Șipote (Constanța county), 29.iv.2010; 6♂, 3♀, south-east of Șipote (Constanța county), 29.iv.2010 and 30.iv.2010; 6♂, 7♀, north of Șipote (Constanța county), 30.iv.2010 and 1.v.2010. We found *P. bavius* at four sites, out of which three represent new records for Dobrogea (Table 1, Fig. 1).

Table 1. Localities in Dobrogea with records of *Pseudophilotes bavius*. Numbers correspond to the localities in figure 1.

No.	Site	Protected area	Date visited	Alt. (m)	County	Lat. N	Long. E	Records of <i>P. bavius</i> in Dobrogea
1	Gura Dobrogei	yes	28.iv.2010	30-100	Constanța	44° 27'	28° 29'	this paper
2	Canaraua Fetei	yes	1.v.2010	25-60	Constanța	44° 03'	27° 38'	Székely 1994
3	N Șipote	no	30.iv.2010 1.v.2010	50-90	Constanța	44° 03'	27° 57'	this paper
4	S Șipote	no	29.iv.2010	70	Constanța	44° 01'	27° 57'	this paper
5	SE Șipote	no	29.iv.2010 30.iv.2010	50-100	Constanța	44° 01'	27° 59'	Rákosy & Székely 1996; this paper
6	Dumbrăveni	yes	30.iv.2010	80-100	Constanța	43° 56'	27° 59'	Dincă & Vila 2008

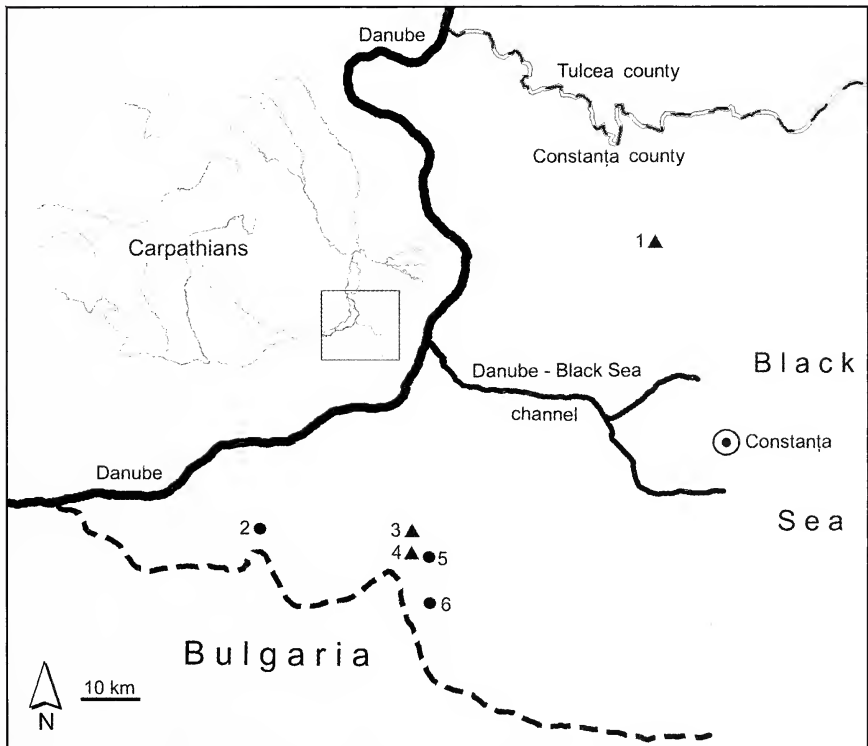


Fig. 1. Distribution of *Pseudophilotes bavius* in Dobrogea. ● – records of *P. bavius* found in literature; ▲ – new records of *P. bavius* (this paper). The upper left corner indicates the position of Dobrogea (dark grey) in Romania and the part of this province illustrated in the main figure. Numbers refer to localities in table 1.

Certainly, the most important of our findings is the discovery of this species at Gura Dobrogei (Figs. 2, 3), site located in central Dobrogea, about 60 km north-east from the nearest *P. bavius* populations in the southern part of the province (Fig. 1). Gura Dobrogei is a protected area (242.7 ha) of botanical, zoological, geological and speleological interest. The site has a pronounced steppe and (to a lesser extent) forest-steppe character but it also features karstic areas. Although little studied by lepidopterists, previous visits determined promising results (Dincă *et al.* 2009) and determined us to further investigate the area. *Pseudophilotes bavius* was found on grassy calcareous slopes where *S. nutans* was also present. Other species flying in the same area were *Pseudophilotes vicrama* (Moore, 1865), *Colias erate* (Esper, 1805) and *Euchloe ausonia* (Hübner, 1804). It is worth noting that, although the steppe area of Gura Dobrogei is quite large, both *P. bavius* and *S. nutans* were very local and not abundant in the area. As a matter of fact, all specimens we found were confined to a few hundreds of meters long valley and only seven adults were identified during several hours of intensive search by the three authors. The presence of *P. bavius* in Gura Dobrogei considerably extends the known range of this species in Dobrogea (Fig. 1). However, this population is likely to be isolated because, with the exception of Cheile Dobrogei lying only three kilometres to the north, most land in the central part of Dobrogea is used for agriculture and does not offer suitable habitats for this species. At a larger scale, the presence of *P. bavius* in Gura Dobrogei suggests this species may have been more widespread in the past (when maybe larger areas of suitable habitat were probably available), with a potentially more or less continuous distribution between Asia Minor, the Balkans and southern Ukraine. Indeed, by examining the species' distribution map from Kudrna (2002) and taking into account the maps from Tshikolovets (2003) and Nekrutenko & Tshikolovets (2005), it appears that the only large "missing link" between the populations from Asia Minor, the Balkans and southern Ukraine is represented by Bulgaria. However, the presence of *P. bavius* in this latter country is very likely at least in the north-east (near the border with Romanian Dobrogea), where potentially suitable habitats are present (Abadjiev & Beshkov 2007).

Besides Gura Dobrogei, we also identified *P. bavius* in three sites from the surroundings of Şipote village (Constanţa county) (Table 1, Figs. 1, 4–8). At least two of these represent new records for Dobrogea. The species has already been recorded from one site near this village (Rákosy & Székely 1996, Jutzeler *et al.* 1997). However, more precise locality details were not provided and we cannot be sure to which of the three sites investigated by us this citation corresponds (if it corresponds at all). In either case, the population reported from Şipote in the two above-mentioned papers seems to be one of the largest in Dobrogea as 19 males and 12 females were collected in a single day. In table 1, we assigned this population to the site south-east of Şipote (Fig. 5), where we also identified *P. bavius*.

All three sites in the surroundings of Şipote are a mixture of sylvo-steppe areas and calcareous grasslands with small groups of *S. nutans* lying on slopes with steppe-like vegetation. These sites are actually part of a small assemblage of patches of forested areas surrounding the village of Şipote. The entire region is mostly used for agriculture, resulting in a fragmented landscape. Therefore, although the three sites where *P. bavius* was found are separated by no more than five kilometres (site 4 and 5 by only 2 km, see Fig. 1), they are rather isolated from each other by intervening agricultural fields. Preliminary studies focused on a population of *P. bavius* from Transylvania suggested that this species is sedentary, with adults rarely covering distances of up to 330 m (Vizauer & Adumitroaie 2005). In this respect, an interesting observation is that we found no *P. bavius* resting on or flying closely to *S. nutans* and several specimens were found flying rather far from this plant (up to 300 m away). Moreover, at the site north of Şipote (Fig. 7), several specimens (including females) were found on a small calcareous gravel slope flying together with *Scolitantides orion* (Pallas, 1771), about 250 m away from the steppe slopes with *S. nutans*. This is in contrast to the behaviour observed by us in populations of *P. bavius* from Transylvania, where the butterflies were very often resting or flying in the immediate vicinity of *S. nutans*.

The populations of *P. bavius* from southern Dobrogea have been assigned to subspecies *egea* (Herrich-Schäffer, 1852) occurring in Asia Minor (Székely 1994, Rákosy & Székely 1996, Jutzeler *et al.* 1997). The subspecific status of these populations is beyond the scope of this study. However, we are able to report that the populations from Dobrogea do not necessarily fly later compared to the ones in Transylvania as previously mentioned (Székely 1994). It is true that previously available data on *P. bavius* in Dobrogea suggested a later flight time compared to Transylvania since all records were made between 23rd of May and 1st of June. However, our data indicate that the species may well fly during the second half of April (some of the specimens from Gura Dobrogei and Şipote were already very worn out at the end of April), similarly to the populations from Transylvania. Although further research is needed, two variants should be taken into account: (1) the species has considerable variations in phenology depending on climatic particularities of each spring, or (2) it has a prolonged period of emergence.

Conservation of *Pseudophilotes bavius* and its habitats in Dobrogea

Pseudophilotes bavius is currently known from six sites in Dobrogea, out of which three are reported here for the first time (Table 1, Fig. 1). For two of these sites there are only one (Dumbrăveni) and two (south of Şipote) known specimens. For a third one (Canaraua Fetei), there are only three specimens ever collected and none after 1992, despite many visits by lepidopterists in the area since then. Provided directed research is made in suitable habitats, the species might be discovered in a few other sites in Dobrogea. However, one cannot

expect a spectacular improvement in terms of total area of occurrence since only few and highly fragmented patches of steppe and sylvo-steppe areas still survive in Dobrogea, where most of the land is used for agriculture.

The species currently occurs in three protected areas (Table 1). However, none of the sites near Şipote (two of which seem to host the largest populations of the species in Dobrogea), is included in the national network of protected areas. Our observations strongly suggest that these sites are valuable strongholds of the once much more widespread steppe and sylvo-steppe areas from southern Dobrogea, now largely transformed into agricultural fields or intensively grazed pastures. Besides *P. bavius* (a species that already opens the possibility for the designation of Natura 2000 sites), during only two visits at these sites (29th–30th of April 2010 and 5th of July 2010) several other species of conservation concern have been observed:

Lepidoptera:

- *Maculinea arion* (Linnaeus, 1758): one specimen identified on 5th of July 2010 at the site south-east of Şipote (observed by V. Dincă). The species is listed in Annex IV of the Habitats Directive 92/43/EEC and as endangered in the European Red List of Butterflies (Van Swaay et al. 2010).
- *Cupido osiris* (Meigen, 1829): five males observed mud puddling on 5th of July 2010 at the sites south and south-east of Şipote (observed by V. Dincă and S. Cuvelier). The species is protected by law in Romania. In Dobrogea it has not been recorded during more than 140 years (Mann 1866), and never from the southern part of the province.
- *Cupido alcetas* (Hoffmannsegg, 1804): one male observed mud puddling on 5th of July 2010 at the site south of Şipote (observed by V. Dincă). The species is protected by law in Romania and is very poorly known from Dobrogea, with only four reported localities in the whole province (Skolka 1994, Székely et al. 2011).

Other orders:

- *Testudo graeca ibera* Pallas, 1814: several specimens (including one copula) observed on 29th–30th of April 2010 at the site south-east of Şipote (observed by all three authors). The species is listed in Annexes II and IV of the Habitats Directive 92/43/EEC.
- *Hyla arborea orientalis* Bedriaga, 1890: one specimen observed on 30th of April 2010 at the site south-east of Şipote (observed by V. Dincă). The species is listed in Annex IV of the Habitats Directive 92/43/EEC.

The number of protected species occurring in these areas may increase considerably if further research covering a wider spectrum of taxonomic groups is made. With an appropriate documentation, it would be possible to include at least some of these sites into the national network of protected areas. Such a decision would certainly be highly beneficial for *P. bavius* given its apparently small populations (in terms of both area of occupancy and number of individuals) and high habitat fragmentation.

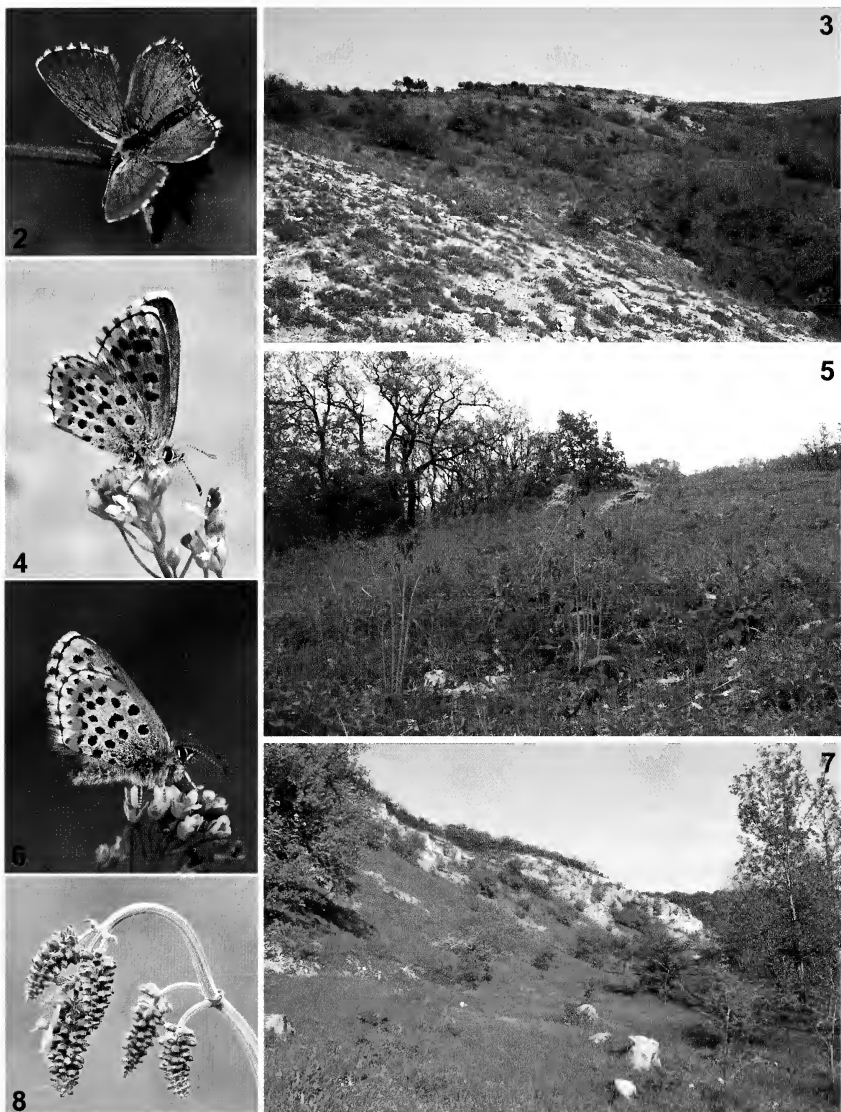


Fig. 2.– Male of *Pseudophilotes bavins*, Gura Dobrogei, 28.iv.2010 (Photo V. Dincă); Fig. 3.– Habitat of *P. bavins* at Gura Dobrogei, 28.iv.2010 (Photo V. Dincă); Fig. 4.– Male of *P. bavins*, south of Șipote, 29.iv.2010 (Photo S. Cuvelier); Fig. 5.– Stepic slope with *Salvia nutans* at the site south-east of Șipote, 30.iv.2010 (Photo V. Dincă); Fig. 6.– Male of *P. bavins*, south of Șipote, 29.iv.2010 (Photo V. Dincă); Fig. 7.– Habitat of *P. bavins* at the site north of Șipote, 30.iv.2010 (Photo S. Cuvelier); Fig. 8.– Flowering buds of *S. nutans*, south-east of Șipote, 30.iv.2010 (Photo S. Cuvelier).

If the suitable sites are saved from agriculture, urbanization or land burning, then the long term survival of *P. bavius* in Dobrogea may only need the maintenance of undisturbed steppe meadows with its larval food plant, *S. nutans*. This could be done with little or no intervention and, only if applicable, through controlled grazing to prevent the habitat being overgrown by bushes and trees.

Pseudophilotes bavius is a species of European conservation concern listed as endangered in the Red Data Book of European butterflies (Van Swaay & Warren 1999) and recently added to Annexes II and IV of the Habitats Directive 92/43/EEC (with the accession of Romania and Bulgaria in 2007). However, in the recent European Red List of Butterflies (Van Swaay *et al.* 2010), based on IUCN conservation criteria, *P. bavius* appears as "least concern" in Europe and as "not evaluated" in the EU member countries. This status is rather surprising if we compare it to many much more common and/or widespread European species listed under higher risk categories ("near threatened", "vulnerable" or "endangered"), among which even some congenics such as *Pseudophilotes panoptes* (Hübner, [1813]) or *P. vicrama*, both evaluated as "near threatened". According to Van Swaay *et al.* (2011), it is a Species of European conservation Concern of the third category (SPEC3), with decline of more than 10% in at least a third of European countries. On the other hand, according to the Climatic Risk Atlas of European Butterflies (Settele *et al.* 2008), *P. bavius* is a species under very high climate change risk, with potential future loss of suitable climatic niche of up to 85%–95%. As *P. bavius* is currently known to occur in only two countries in the European Union (Romania and Greece) and in the vicinity as well from local populations in Serbia, Former Yugoslav Republic of Macedonia and Albania (Kudrna 2002, Slamka 2004, Radović *et al.* 2008), we hope the results presented in this study will stimulate further research on this threatened butterfly and will also contribute to a better knowledge on its distribution and conservation status in Europe.

Acknowledgements

We are grateful to Tibor-Csaba Vizauer for information on the dispersal traits of *P. bavius* in a Transylvanian population and to Llorenç Saez for plant identifications during the preparation phase of our field research. We thank Salvador Carranza for information on amphibian species. Support for this research was provided by the Ministerio de Ciencia e Innovación project (CGL2007-60516/BOS), and a predoctoral fellowship from Universitat Autònoma de Barcelona to V. Dincă.

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Boekbespreking

Eckweiler, W. & Bozano, G. C.: *Guide to the butterflies of the Palearctic region. Satyrinae Part IV, Tribe Satyrini, Subtribe Maniolina*, Maniola, Pyronia, Aphantopus, Hyponephele. 21 × 29 cm, 102 p., doorlopend geïllustreerd in kleur, Omnes Artes s.a.s., Via Castel Morrone 19, I-20134 Milano, paperback, 2011, EUR. 32,- (ISBN 978-88-87989-12-0).

Dit vierde deel over de Satyrinae is alweer het dertiende deel in de hele reeks over de dagvlinders van het Palaearctisch gebied. Het subtribus Maniolini bevat de vier genera *Maniola*, *Pyronia*, *Aphantopus* en *Hyponephele* met in het totaal iets meer dan 50 soorten. Sommige van die soorten zijn over een enorm gebied verspreid, o.a. *Maniola jurtina*, *Aphantopus hyperantus* en *Hyponephele lycaon*, terwijl andere slechts in enkele bergketens voorkomen zoals vele Centraal-Aziatische *Hyponephele*-soorten of *H. halicarnassus* die alleen voorkomt op het Bodrum-schiereiland en op het Griekse eiland Nisiros.

De soorten met een grote verspreiding worden opgedeeld in een aantal subspecies waarvan de waarde betwist kan worden. Anderzijds worden tal van namen naar de synonymie verwezen. Volgens de auteurs moeten de vroeger als soort beschouwde *Maniola chia*, *cypricola* en *halicarnassus* nu ingedeeld worden bij *M. jurtina* en *telmessia*, op basis van DNA-onderzoek. Andere taxonomische ingrepen zijn de beschrijving van vijf nieuwe subspecies, alle behorend tot *Hyponephele*-soorten uit Centraal- of Oost-Azië.

Het boek is, zoals gebruikelijk in de hele reeks, bijzonder rijkelijk geïllustreerd. Naast boven- en onderkanten van vele exemplaren per soort worden ook de mannelijke genitalia afgebeeld (tekeningen of foto's). Bij enkele soorten staan ook reproducties in kleur uit de oude entomologische literatuur van Esper, Lederer, Ernst & Engramelle enz. De verspreiding van alle behandelde soorten wordt op schematische kaartjes voorgesteld.

Wie geïnteresseerd is in Palaearctische dagvlinders, vindt in dit keurig uitgegeven werk zeker zijn gading.

Willy De Prins

Skinner, B. & Wilson, D.: *Colour identification guide to moths of the British Isles. Macrolepidoptera*. (3rd revised and updated edition).

20 × 25 cm, 325 p., 51 kleurenplaten, 57 tekstfiguren, Apollo Books, Kirkeby Sand 19, DK-5771 Stenstrup, apollobooks@vip.cybercity.de, 2009, gebonden, EUR 69,- (ISBN 978-97-88757-90-3).

Het grote verschil met de tweede editie van dit bekende, en vooral in Groot-Brittannië veel gebruikte werk zijn de drie extra kleurenplaten waarop nieuwe soorten worden afgebeeld die sinds 1998 in het land werden waargenomen. Verder zijn er 6 kleurenplaten waarop “moeilijke” soorten in een vergroting van 2× staan afgebeeld, o.a. soorten uit de genera *Xanthorhoë*, *Perizoma*, *Epirrhoe*, *Cyclophora*, *Idaea*, *Mythimna*, *Chortodes*, *Hoplodrina*, *Noctua* en *Zanclognatha*. Geen *Eupithecia*'s want die zijn reeds uitvoerig afgebeeld in het boekje “British Pugs”. Alle vlinders staan op egaal grijze achtergrond zodat de kleuren mooi uitkomen. In de tekst wordt naar deze figuren verwezen en in de legende bij de kleurenplaten wordt terug verwezen naar de tekst. Hierdoor is het boek praktisch in gebruik en wordt overbodig heen-en-weer zoeken in indexen vermeden.

De bestaande tekst is slechts hier en daar aangepast met nieuwe verspreidingsgegevens of informatie over de biologie (vliegtijd en voedselplanten van de rups). De nieuw opgenomen soorten worden uiteraard even uitvoerig behandeld als de eerdere soorten. De tekstfiguren bestaan uit pentekeningen van voorvleugels waar telkens duidelijk is aangegeven wat de morfologische verschillen zijn waarop moet gelet worden bij de determinatie.

Het boek is zeer keurig uitgegeven en mag niet ontbreken in de bibliotheek van iedere ernstige entomoloog die geïnteresseerd is in Europese nachtvlinders.

Willy De Prins

Psammotis pulveralis (Lepidoptera: Crambidae), a new species for the Belgian fauna

Steve Wullaert

Abstract. The first Belgian specimen of *Psammotis pulveralis* (Hübner, 1796) was observed during a nocturnal excursion at Rongy (Province of Hainaut) on 01 August 2009. Information on the biology and distribution of this species is presented.

Samenvatting *Psammotis pulveralis* (Lepidoptera: Crambidae), een nieuwe soort voor de Belgische fauna

Het eerste exemplaar van *Psammotis pulveralis* (Hübner, 1796) werd gevonden tijdens een nachtvangst in Rongy (Provincie Henegouwen) op 1 augustus 2009. De biologie en verspreiding van deze soort worden kort besproken.

Résumé. *Psammotis pulveralis* (Lepidoptera, Crambidae), une espèce nouvelle pour la faune Belgique.

Le premier exemplaire belge de *Psammotis pulveralis* (Hübner, 1796) fut trouvé lors d'une excursion nocturne dans une forêt à Rongy (Province du Hainaut) le 1^{er} août 2009. Des informations concernant la biologie et la distribution de cette espèce sont présentées.

Key words: *Psammotis pulveralis* – Faunistics – First record – Belgium.

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Figs. 1–2. *Psammotis pulveralis* (Hübner, 1796). Belgium, Hainaut (Henegouwen), Rongy, Bois de Rongy, 01.viii.2009, leg. Werkgroep Bladmineerders. Photo's Steve Wullaert.

Introduction

On 1st August 2009, the Workgroup Leafminers organised an excursion to a forest near Rongy (province of Hainaut). Together with Chris Snyers and Dries De Vreeze, the author collected a lot of leaf mines in the forest during daytime and at night moths were attracted to sugar, wine-ropes and at light. With the first two methods 47 species were recorded and on light 152 different species were noted. Among these was a rather small moth that we could not identify at first sight. It resembled *Pyrausta despicata* (Crambidae) or some species of Herminiinae (Noctuidae). It turned out to be the first specimen of *Psammotis pulveralis* (Hübner, 1796) (Crambidae: Pyraustinae) ever recorded in Belgium.

Features

Wingspan 23–25 mm. Forewing broad, pointed at apex, ochreous irrorate ferruginous; first line indistinct, angled, consisting of a sparse scattering of dark scales; second line fine, straight, bent above middle; subterminal line obscure, slightly darker than the ground colour, parallel to termen; discal spot crescentic; veins in terminal region darker than ground colour, reddish brown as other markings; fringe ochreous with two broken ferruginous lines. Hindwing full and broad, light ochreous finally irrorate fuscous brown; postmedian line fine, dark reddish brown, curved parallel to termen; a rather broad brownish subterminal band and fine fuscous terminal line; fringe whitish with broken brown subbasal line.

The labial palpi of this species are porrected, not ascending, and are hardly longer than the head (Goater 1986: 79–80).

Biology

Psammotis pulveralis flies in June and July and a second generation starts in August until September. This second generation occurs only on the continent. (Goater 1986: 80). In West Germany the species has been recorded from 22 June till 20 August (Mörtter & Kinkler 2011: 108).

The species has as hostplants *Mentha aquatica*, *M. piperita*, *M. arvensis* and *Lycopus europaeus* (Lhomme 1935: 104). In localities where the hostplant occurs the moths can easily be disturbed from the vegetation. The grey-violet caterpillars with blackish head can be found on the underside of the leaves during August and September (Spuler 1910: 222, Lhomme 1935: 104).

Distribution

Psammotis pulveralis is widespread in Europe, but is missing on most of the Islands except the Britain Isles, Corsica and Sardinia. The species is also present in most of the countries on the continent, but there are still no data for Belarus, Czech Republic, Portugal, Slovenia, Ukraine, and a few smaller countries. In the Benelux the species was missing thus far only in Belgium (Karsholt & van Nieukerken 2007).

In The Netherlands, *Psammotis pulveralis* was found for the first time already in 1875 by Van Medenbach de Rooy in the city of Arnhem, a second specimen was found later near Nijmegen, both in Gelderland (de Graaf & Snellen 1879). Till 1923 some more single specimens were found in the provinces of Gelderland, Noord-Brabant and Limburg. But then it took 63 years before the species was observed again: Kortgene in Zeeland (Kuchlein 1993: 299).

In the British Isles the species is found as a scarce immigrant which can temporarily establish there from time to time, as at Folkestone and in the Isle of Wight in 1869 (Goater 1986: 79–80, Kimber 2009). It took more than one hundred years to find it again, on 28 July 1995 there was a specimen lured by a U.V. light in North-East Dorset and a second specimen the same night in

Hampshire. In 2006 there were even 4 specimens captured in England. All of them in the month of July in Weymouth, Portland and Trigon (Terry Box 2009).

The species is recorded from all the Bundesländer in Germany (Gaedike & Heinicke 1999: 123) though never abundant. Mörtter & Kinkler (2011: 195) mention some recent records from Rheinland-Pfalz, Nordrhein-Westfalen and Saarland.

In France the species is mainly known from the north and the west, but it is never common and has been observed from July till September. Lhomme (1935: 103) gives the following départements: Ardenne, Aube, Doubs, Eure, Eure-et-Loire, Gironde, Indre, Landes, Maine-et-Loire, Mayenne, Nord, Oise, Hautes-Pyrénées, Seine-et-Marne, Seine-et-Oise, Deux-Sèvres, and Vienne.

In Sweden the species is observed more frequently, like on 27 July 2009 on the small Island of Öland nearby the south-east coast of Sweden, where 15 specimens were observed by Norra Möckelby in the small village Gårdby (Unger 2009).

Acknowledgements

Thanks to the members of the Workgroup Leafminers, Chris Snyers and Dries De Vreeze and to Willy De Prins for commenting on the paper.

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Boekbespreking

Székely, L.: *Moths of Romania 1. Fluturi de noapte din România 1.*

20 × 29 cm, 264 p., 10 kleurenplaten, Disz Tipo, Săcele-Braşov, te bestellen bij de auteur Székely Levente, Str. Viitorului 31, B/9, RO-505600 Săcele, levi.székely@gmail.com, paperback, 2010, prijs niet meegegeed (ISBN 978-973-0-08135-0).

Na de publicatie in 2008 van “*The Butterflies of Romania*”, stort de auteur zich nu op de nachtvlinders. Een eerste doel is de determinatie vergemakkelijken van de ca. 4000 Lepidoptera-soorten die in Roemenië voorkomen, en een tweede de verspreiding van de kennis over het voorkomen van die soorten in dit weinig onderzochte land. De tekst is uitermate kort gehouden; behalve een inleiding met gegevens over de geografie, het klimaat en de vegetatie en met een kort historisch overzicht van wat er zich tot nu toe op lepidopterologisch gebied heeft afgespeeld in Roemenië, komt er in feite geen tekst voor. Na deze inleiding volgt een systematische lijst van de in dit deel behandelde soorten, nl. uit de families Hepialidae, Limacodidae, Cossidae, Thyrididae, Lasiocampidae, Endromidae, Saturniidae, Lemoniidae, Sphingidae, Drepanidae, Thaumetopoecidae, Notodontidae, Pantheidae, Lymantriidae en Arctiidae.

Alle overige informatie staat in grafieken en kaartjes samengevat. Op twee kaartjes wordt de geografische verspreiding in Roemenië aangeduid, het type habitat wordt met staakwoorden aangegeven, de hoogte van voorkomen in een grafiekje, de biologische cyclus met symbolen voor ei, rups, pop en vlinder in een halfmaandijks overzicht. Verder worden de voedselplanten opgesomd, de beschermingsstatus in Roemenië en in vele gevallen een lijstje met literatuurverwijzingen. Achteraan volgt trouwens een uitgebreide literatuurlijst.

Wat tegenvalt zijn de 10 kleurenplaten; behalve de tiende zijn die allemaal van zeer twijfelachtige kwaliteit. Het moet met de moderne digitale apparatuur toch mogelijk zijn om opgezette exemplaren te fotograferen zonder dat men op deze platen de pixels kan tellen. Het is te hopen dat dit in volgende delen wordt verbeterd.

Willy De Prins

Bence, S., Chauliac, A., Maurel, N. & Drouet, E.: *Papillons de jour. Rhopalocères et zygènes. Atlas de Provence-Alpes-Côte d'Azur.*

21 × 28 cm, 192 p., 93 kleurenfoto's, Naturalia Publications, te bestellen via www.naturalia-publications.com, paperback, 2009, EUR 36,- (ISBN 978-2-909717-65-8).

Niet minder dan 220 soorten dagvlinders komen voor in Zuid-Oost-Frankrijk, op de 250 soorten die in heel Frankrijk voorkomen. Deze atlas is het resultaat van meer dan tien jaar intensief onderzoek en het bijeenbrengen van gegevens die soms een mensenleven lang zijn verzameld, nl. meer dan 160.000 nagekeken records van ca. 550 medewerkers.

De soorten worden ingedeeld in twee groepen: “Espèces remarquables” en “Autres espèces”. De eerste worden volledig in kleur behandeld op een volledige pagina, terwijl de tweede het moeten doen met zwart-wit en een halve pagina. Door het gebruik van verschillende symbolen kan men van de kaartjes tamelijk snel aflezen of een soort vooruit of achteruit gaat in het gebied. Naast een foto van de vlinder en soms ook van de biotoop, een kaartje en een grafiek met het voorkomen in de hoogte, geeft de tekst informatie over de vliegtijd, de voedselplanten van de rups, taxonomische details en de mate van bedreiging. Er volgt nog een kort hoofdstukje over moeilijke te onderscheiden soorten zoals *Leptidea sinapis* en *L. reali*, *Zygaena purpuralis* en *Z. minos*.

Het werk is vooral bedoeld om een snel overzicht te hebben over het voorkomen van de dagvlindersoorten en bloeddropjes in de zes departementen. Het zal vooral gebruikt kunnen worden door natuurliehebbers, beheerders van natuurterreinen en iedereen die begaan is met de dagvlinderfauna van dit uitzonderlijk vlinderrijke gebied. Het geheel is keurig uitgegeven.

Willy De Prins

Bembecia lingenhoelei, a new Clearwing moth from Tajikistan (Lepidoptera: Sesiidae)

Theo Garrevoet & Walter Garrevoet

Summary. A new species of *Bembecia* Hübner, [1819] was collected in Tajikistan (Central Asia) in the Hissar Mountains north of the capital Dushanbe. Both genders and their genitalia as well as the egg are described and illustrated.

Samenvatting. *Bembecia lingenhoelei*, een nieuwe wespvlinder uit Tadjikistan (Lepidoptera: Sesiidae)

Een nieuwe soort *Bembecia* Hübner, [1819] werd in Tadjikistan (Centraal-Azië) in het Hissargebied ten noorden van de hoofdstad Dushanbe verzameld. Beide sexen, hun genitaliën en het ei worden beschreven en afgebeeld.

Zusammenfassung. *Bembecia lingenhoelei*, eine neue Glasflüglerart aus Tadjikistan (Lepidoptera: Sesiidae)

Eine neue Art von *Bembecia* Hübner, [1819] wurde in Tadjikistan (Zentral Asien) im Hissar Gebirge nördlich der Hauptstadt Dushanbe gesammelt. Beide Geschlechter samt ihrer Genitalstrukturen sowie das Ei werden beschrieben und illustriert.

Résumé. *Bembecia lingenhoelei*, une espèce nouvelle de sésie du Tadjikistan (Lepidoptera: Sesiidae)

Une espèce nouvelle du genre *Bembecia* Hübner [1819] a été capturée au Tadjikistan (Asie Centrale) dans les monts Hissar au nord de la capitale, Dushanbe. Les deux sexes, ainsi que leurs genitalia et l'œuf sont décrits et illustrés.

Key words. Lepidoptera – Sesiidae – *Bembecia* – taxonomy – new species – Palaearctic Region – Central Asia – Tajikistan.

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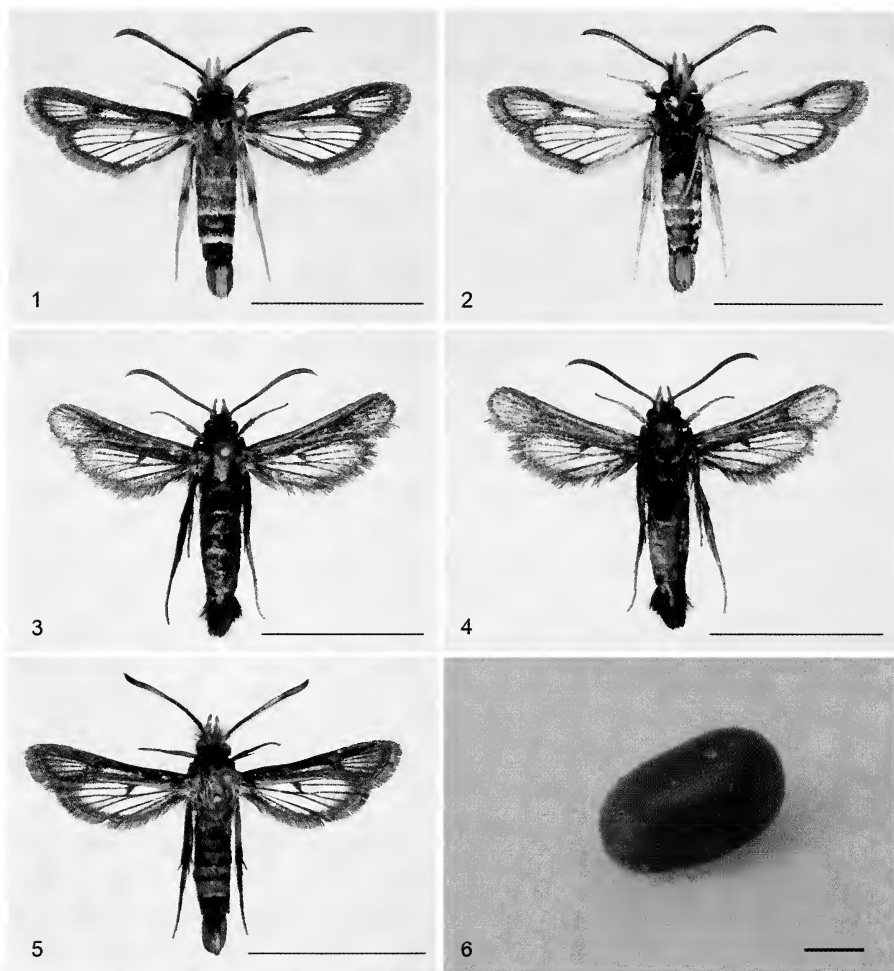
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Introduction

The Sesiidae fauna of most Central-Asian countries was subject of investigation by several authors (Špatenka 1987; Špatenka 1997; Špatenka, Petersen & Kallies 1997; Gorbunov 2001; Špatenka & Kallies 2001; Špatenka & Kallies 2006; Špatenka & Bartsch 2010; Stalling, Altermatt, Lingenhölle & Garrevoet 2010).

Nevertheless it is obvious the clearwing fauna is still insufficiently known and there is need for more detailed investigation. Especially Tajikistan, victim of a civil war in the recent past, was virtually inaccessible since the use of pheromones became common practice in the study of Sesiidae. With this in mind, two expeditions –in 2009 and 2010– to this beautiful and interesting country were organised, mainly to study this fascinating moth family.

As a result, some hitherto unrecorded species belonging to the genus *Bembecia* Hübner, [1819] were collected. One of these is described here.



Figs 1–6. *Bembecia lingenhoelei* sp. n.

1.– Holotype ♂, dorsal view, Tajikistan, Region Sughd, 3 km SE of Anzob, 65 km N of Dushanbe, 2150 m, 16.VII.2009; 2.– Holotype ♂, ventral view;

3.– Paratype ♀, dorsal view, Tajikistan, Region of Republican Subordination, 2 km S of Anzob Pass, 2450 m, 25.VII.2009, leg. T. & J. Garrevoet; 4.– Paratype ♀, ventral view;

5.– Paratype ♂, dark morph, dorsal view, Tajikistan, Region of Republican Subordination, Safedorak, 2350 m, 17.VII.2009, leg. T. & J. Garrevoet. All scale bars 10 mm.

6.– Egg. Scale bar 0.2 mm. (Photos T. Garrevoet).



Fig. 7. Male genitalia of *Bembecia lingenhoelei* sp. n., paratype, Tajikistan, Region Sughd, 3 km SE of Anzob, 2150 m, 16.VII.2009, leg. T. & J. Garrevoet, prep. TG2010-005. Scale bar 1 mm. (Photo T. Garrevoet)

Fig. 8. Female genitalia of *Bembecia lingenhoelei* sp. n., paratype (Tajikistan, Region Sughd, 3 km SE of Anzob, 2200 m, 17.VII.2010, leg. T., W. & J. Garrevoet, prep. TG2011-008. Scale bar 1 mm. (Photo T. Garrevoet)

Fig. 9. Habitat of *Bembecia lingenhoelei* sp. n., Tajikistan, Region Sughd, 3 km SE of Anzob, 65 km N of Dushanbe, 2150 m. (Photo J. Garrevoet).

Materials and Methods

The majority of the specimens was collected using a synthetic pheromone originating from PRI, Plant Research International, Wageningen, The Netherlands, which contains (Z,Z)-3,13-Octadecadienyl acetate and (E,Z)-3,13-Octadecadienyl acetate in a 1:9 ratio. A few specimens were attracted to the old pheromone for *Synanthedon myopaeformis* "Schwarzes Band" BASF, Germany, having an unknown composition. Some animals, including two females, were netted without the use of pheromones.

Abbreviations. CTG – collection of T. & W. Garrevoet; CAL – collection of A. Lingenh le; CDB – collection of D. Bartsch.

Bembecia lingenhoelei sp. n. (figs 1–8)

Holotype ♂, Tajikistan, Region Sughd, 3 km SE of Anzob, 65 km N of Dushanbe, 2150 m, N39°09'05.1" E068°50'55.2", 16.VII.2009, leg. T. & J. Garrevoet (CTG; the holotype will be deposited in the State Museum of Natural History, Stuttgart, Germany).

194 Paratypes: CTG: 16♂, same data as holotype, 9.VII.2009; 50♂, id., 16.VII.2009, 18♂, Region of Republican Subordination, Safedorak, 37 km NE Dushanbe, 2350 m, 17.VII.2009, N38°51'24.1", E69°00'03.2"; 51♂ + 1♀, Region of Republican Subordination, 2 km S of Anzob Pass, 55 km N of Dushanbe, 2450 m, 25.VII.2009, N39°03'59.7", E68°51'00.0"; leg. T. & J. Garrevoet; 4♂ + 1♀, Region Sughd, 3 km SE of Anzob, 65 km N of Dushanbe, 2200 m, 17.VII.2010, N39°09'06.6" E068°50'46.5"; 1♂, Region of Republican Subordination, 3 km N of Anzob Pass, 60 km N of Dushanbe, 2750 m, 08.VIII.2010, N39°06'35.4" E068°51'17.2", leg. T., W. & J. Garrevoet.

CAL: 24♂, Hissar Mountains, Anzob Pass Nordseite, 2150 m, 8.VII.2009, N 39°09'05" E68°50'50"; 7♂, same data, 16.VII.2009; 2♂, Anzob Pass S dseite, 2450 m, 24.VII.2009, N39°03'47", E68°51'18"; 11♂, 50 km n rdlich Dushanbe, Safedorak, 2350 m, 17.VII.2009, N38°51'24", E69°00'03", leg A. Lingenh le.

CDB: 1♂, Tajikistan, Distr. Dushanbe, Hissar mountain range, northern ascent to Anzob Pass, 2150 m, 23.VII.2010, pheromone, N39°09'05" E68°55'50", leg. D. Bartsch; 1♂, same data, 16.VII.2009, leg A. Lingenh le; 1♂, Safedorak, 2350 m, N38°51'24" E69°00'03", 17.VII.2009, leg A. Lingenh le; 5♂, Region of Republican Subordination, 2 km S of Anzob Pass, 55 km N of Dushanbe, 2450 m, 25.VII.2009, N39°03'59.7" E68°51'00.0", leg. T. & J. Garrevoet.

Etymology. This new species is named after Arthur Lingenh le, a fine companion during many entomological trips and a renowned specialist on Sesiidae.

Description

Male. Holotype (figs 1–2) ♂ Wingspan 23 mm, forewing length 10 mm, body length 14 mm, antenna 6 mm.

Caput. Antenna black with some yellow scales especially dorso-medially; labial palp yellow, laterally with long black hair like scales; frons black; vertex with long gray-yellow scales.

Thorax. Black with a yellow scapular spot at forewing base; patagia black; tegula black, pale yellow distally.

Fore legs. Coxa black. Femur yellow, black dorsally. Tibia yellow, dorsally with yellow and black hair-like scales. Tarsus yellow.

Hind legs. Coxa black. Femur black with long yellow hair like scales. A very distinct black area at the mainly yellow spurs. Tibia and Tarsus completely yellow.

Abdomen. Brown-black. Tergite IV and VI clearly contrasting yellow distally. Sternite IV faintly yellow distally. Anal tuft yellow, black laterally.

Forewing. Well developed transparent areas. Costa broad, black. Anal area orange. Discoidal spot black, faintly orange distally. Posterior transparent area narrow and short, anterior transparent area long and broad. External transparent area broad, containing 4 cells. Apical area narrow, orange. All veins black except M1 and M2 which are orange with sparse black scales. Under side all veins orange with sparse black scales. Outer margin rather broad, greyish-brown. Fringes also greyish brown.

Hindwing. Veins and discoidal spot black, the latter reaching M3; fringes brown-black, anal area very contrasting grey yellow. Underside discoidal spot orange; veins orange with dispersed black scales; outer margin broad with greyish-brown fringes.

Male genitalia (Fig. 7). Valva elongate, rounded; crista sacculi rather short, reaching middle of valva, with discontinuous row of pointed setae. Just after this gap, the crista sacculi ends distally with a slightly upwards bended group of densely implanted blunt scale-like setae. Tegumen-uncus complex simple, gnathos without crista medialis. Aedeagus straight, slender, as long as valva.

Female. Paratypus (figs 3–4) ♀ Wingspan 20 mm, forewing length 9 mm, body length 14 mm, antenna 6 mm; Tajikistan, Region of Republican Subordination, 2 km S of Anzob Pass, 55 km N of Dushanbe, 2450 m, N39°03'59.7" E068°51'00.0", 25.VII.2009, leg. T. & J. Garvoet.

Caput. Almost completely black; antenna with ample yellow scales especially ventrally at the segment intersections, labial palps ventrally with long brown-black scales intermixed with yellow ones; scales of vertex very long.

Thorax, abdomen and legs. Completely black; scales of posterior border of segments II–VI with dark blue metallic shine, especially dorsally. Foreleg with a few yellow scales on femur and dorsal side of tibia. A clear yellow ventral side on the latter; tarsus with sparse yellow hair-like scales. Tibia and tarsus of hindleg sparsely mottled with yellow, hair-like scales.

Wings. Black throughout, forewing without transparent areas, only external transparent area a little less densely scaled; discoidal spot barely visible. Hindwing with medial part hyaline with dispersed black scales; broad margins and anal area more or less densely covered with scales; discoidal spot reaching M3.

Female genitalia (Fig. 8). Due to the fact that the abdomen of the female was filled with dried eggs some fine structures (e.g. anterior and posterior

apophyses) were apparently irreversibly glued to these eggs causing artefacts at the preparation. Nevertheless, sufficient characteristics remained to rectify the description and illustration. Lamella postvaginalis weakly sclerotised. Antrum long, of equal length as the ductus bursae. Corpus bursae damaged but obviously elongate.

Variability. Typical specimens vary only slightly in colour and colour intensity but, exceptionally, very dark specimens occur (Fig. 5). In some specimens tergite II of the abdomen shows a small, faint additional yellow ring distally. The size of the type series varies from 14–24 mm; the majority of the specimens ranges from 21–23 mm.

Differential diagnosis. *Bembecia lingenhoelei* **sp. nov.** is easily distinguished from the resembling species by using only external morphological characteristics. It resembles mostly *Bembecia guesnoni* (Špatenka & Toševski, 1994) from Northern India, which is more slender, with larger external transparent area and without scapular spot at the forewing base. The male genitalia of *B. guesnoni* differ by the very long crista sacculi, which extends to the apex of the valva. Some superficial resemblances exist also with *Bembecia pashtuna* Špatenka, 1997 from Pakistan and *Bembecia nivalis* Špatenka, 2001 from Northern India. *B. pashtuna* is more uniform brown and lacks the yellow markings on legs, labial palps and anal tuft and the orange colouration of the forewing. *B. nivalis* can be distinguished by the extraordinary long hair-like scales on the labial palps, the larger external transparent area and the completely black anal tuft. Furthermore, both species lack the yellow fringes at the hind wing anal margin.

Bionomics. Both larva and foodplant are unknown. As potential hosts, a lot of different Fabaceae grow at the biotopes where *Bembecia lingenhoelei* **sp. nov.** was observed. The egg (Fig. 6), obtained from the dissected female, is dark brown, smooth and of ellipsoid shape which is typical for Sesiidae.

Distribution. Known only from the north-eastern Hissar Mountains north of the Tajik capital Dushanbe (Fig. 9).

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The authors want to thank their respective son and brother Jan Garrevoet for his invaluable support in collecting and the care for the technical aspect of all our entomological trips. Also most pictures in free nature are his work.

Finally we also want to express our gratitude to Daniel Bartsch (Stuttgart) for his constructive comments on this article.

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Boekbespreking

Askew, R. R. & van B. Stafford, P. A.: *Butterflies of the Cayman Islands*.

17 × 24 cm, 169 p., 6 kleurenplaten, 119 kleurenfoto's in de tekst, Apollo Books, Kirkeby Sand 19, DK-5771 Stenstrup, apollobooks@vip.cybercity.dk, gebonden, 2008, EUR 47,- (ISBN 978-97-88757-85-9).

Dit sympatieke boekje ontstond als een "bijproduct" tijdens een ecologische expeditie. Beide auteurs keken ook naar de dagvlinders en vergeleken hun resultaten met die van een expeditie in 1938. Hierdoor was het mogelijk een vergelijking te maken tussen de toenmalige samenstelling van de fauna en de huidige, zodat nogal wat verschuivingen duidelijk werden. Het boekje geeft een volledig overzicht van alle soorten dagvlinders die ooit op de drie Cayman eilanden waargenomen werden. De tekst bevat info over de algemene verspreiding, het voorkomen, met ups en downs, op de eilanden en de biologie. Op de zes kleurenplaten worden alle soorten afgebeeld, soms iets verkleind, wat de kwaliteit niet altijd ten goede komt. De tekst zelf is verlucht met foto's van rupsen en vlinders in hun natuurlijk omgeving. Achteraan volgt een overzicht van de voedselplanten van de rups en, wat maar zeldzaam voorkomt in de literatuur, een lijst van de nectarplanten van de adulten. Een mooi uitgegeven boekje met een volledig overzicht van de Caymanse dagvlinderfauna.

Willy De Prins

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