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

Jean-Yves Baugnée & 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 bladmijnen 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.

Baugnée, J.-Y.: Service Public de Wallonie, Département de l'Etude du Milieu naturel et agricole, Observatoire de la Faune, de la Flore et des Habitats, Avenue de la Faculté, 22, B-5030 Gembloux, Belgium. jybaugnee@gmail.com.

Ellis, W.N.: Zoölogisch Museum, Universiteit van Amsterdam, Plantage Middenlaan 64, NL-1018 DH Amsterdam. wnellis@bladmineerders.nl.

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).

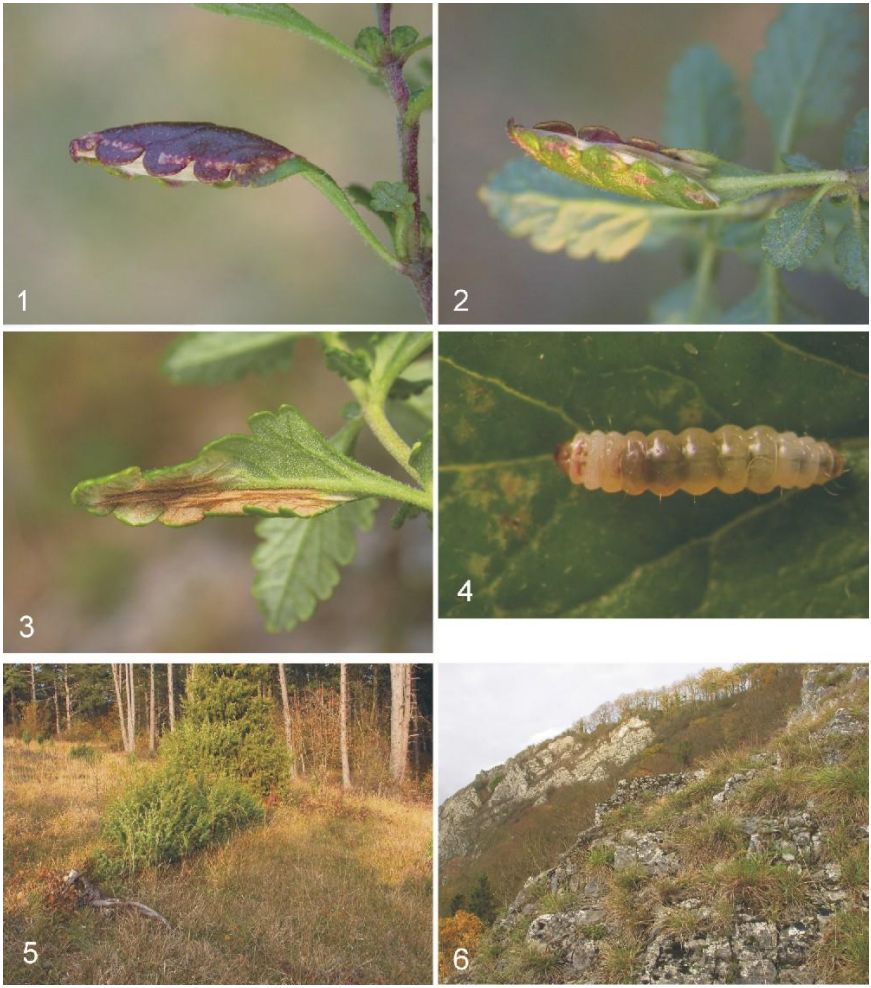
Distribution

Aspilapteryx limosella is a west-Palaearctic 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* Erdös, 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.

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