

Tischeria decidua (Lepidoptera: Tischeriidae), new to the Belgian fauna

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Abstract. On 05 October 2006, two leaf mines of *Tischeria decidua* Wocke, 1876 were collected on *Quercus robur* near the ring road around Antwerpen close to Berchem railway station. Unfortunately, they only produced an Eulophid parasite. Anyway, the record stands as the leaf mine of *T. decidua* can easily be distinguished from the other oak mining *Tischeria* species. This is the first record of *T. decidua* known to the Belgian fauna.

Samenvatting. *Tischeria decidua* (Lepidoptera: Tischeriidae), nieuw voor de Belgische fauna
Op 05 oktober 2006 werden twee bladminen van *Tischeria decidua* Wocke, 1876 verzameld naast de Ring rond Antwerpen in de buurt van het spoorwegstation te Berchem. Jammer genoeg leverden de mijnen geen vlindertjes, maar twee parasieten uit de familie Eulophidae. De soort kan wel als nieuw voor de Belgische fauna vermeld worden omdat de bladmine van *Tischeria decidua* gemakkelijk kan onderscheiden worden van de mijnen veroorzaakt door de andere *Tischeria*-soorten die op eik mineren.

Résumé. *Tischeria decidua* (Lepidoptera: Tischeriidae), espèce nouvelle pour la faune belge
Le 05 octobre 2006, deux feuilles minées par *Tischeria decidua* Wocke, 1876 furent trouvées près du ring d'Anvers, près de la gare de Berchem. Malheureusement, seulement deux parasites appartenant à la famille des Eulophidae sont éclos. L'identification de *Tischeria decidua* est cependant certaine puisque les mines causées par cette espèce sont très différentes de celles des autres espèces de *Tischeria* sur chêne. L'espèce est donc mentionnée ici pour la première fois de Belgique.

Key words: *Tischeria decidua* – Belgium – Faunistics – First record.

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Introduction

On 05 October 2006 two leaf mines were collected on oak (*Quercus robur*) near the ring around Antwerp city in the vicinity of Berchem railway station. All oak trees in this area were infested with the rather small, round and almost pure white leaf mines of *Tischeria ekebladella* (Bjerkander, 1795). Some trees contained more than 100 such mines, mainly situated on the lower branches. The two mines collected, however, were ochreous and not round, more or less sickle-shaped and they occupied a much larger area on the leaf. Therefore, they were

identified as the work of *Tischeria decidua* Wocke, 1876. The mines were taken indoors, put into a petri dish of about 12 cm diameter and allowed to hibernate in a climate room at 2°C and 95% RH. At the end of February 2007, the petri plates were first placed in a cool, dark room for a week and subsequently at room temperature. On 10 and 15 March 2007 respectively, two Eulophid wasps emerged from the mines and hence, no moths were obtained. The record of *Tischeria decidua* as a new species for the Belgian fauna has been confirmed, however, by later observations in other Belgian localities (see below).



Fig. 1.– *Tischeria decidua* Wocke, 1876, young mine on *Quercus robur*, Sampont, Marais de Sampont (LX) 15.ix.2012; 2.– *Tischeria dodonaea* Stainton, 1858, mine on *Quercus robur*, Lavaux-Sainte-Anne, Le gros Tienne (NA) 22.ix.2012; 3.– *Tischeria ekebladella* (Bjerkander, 1795), full-grown mine on *Quercus robur*, Ename, Bos t'Ename (OV), 11.viii.2012, the circular pupation chamber is clearly visible; 4.– *Tischeria ekebladella*, several mines on the same leaf and plant, Ename - Grotenbos Noord (OV) 01.viii.2012, all leg. and photographs Steve Wullaert.

In Europe, there are 4 *Tischeria* species, all producing leaf mines on oak species (*Quercus* sp., Fagaceae). Three of these have been reported from Belgium thus far.

***Tischeria decidua* Wocke, 1867**

T. decidua is the most rare *Tischeria* species in Belgium. Apart from the first record mentioned above, one leaf mine was found on 23 September 2007 at Resteigne (LX), leg. J. & W. De Prins, which did not produce any moth nor a parasitoid. On 01 October 2007, mines were observed at Villers-sur-Lesse (NA), leg. J.-Y. Baugnée and the locality at Berchem was confirmed by a record of a mine on 10 October 2007, leg. C. Snyers. The species seems to be widespread in Belgium but very local and it is rarely met with. It is currently known from AN, LX and NA. *T. decidua* feeds on *Quercus robur* but also on *Q. acutissima*, *Q. dentata*, *Q. mongolica*, *Q. petraea*, *Q. pubescens*, *Q. serrata*, *Q. variabilis* and also on *Castanea sativa*. The larva makes a rather large blotch mine on the upper side of the leaf, coloured yellowish brown to ochreous with a lot of dark green to brownish lines, arranged as concentric arcs directed towards the centre of the mine. Almost in the centre of the mine, the larva constructs a circular chamber in which it rests in a bend position between feeding activity. When it is full-grown it cuts a rather large circular portion from the epidermis of the leaf and subsequently drops to the ground inside that pupation chamber where it hibernates. Tenanted mines can be observed from August till early November. *T. decidua* has a Palaearctic distribution. It occurs from Spain and France in the west to the far eastern regions of Russia and even in Japan. It has not been found yet in the UK, nor in the GD Luxembourg.

***Tischeria dodonaea* Stainton, 1858**

T. dodonaea Stainton, 1858 is much less common in Belgium than *T. ekebladella* and before 1980 the species had been recorded only from a few localities in the provinces of Brabant and Hainaut. Later on it became known also from Luxembourg and Namur, and now it is known from all Belgian provinces. Many Belgian records originate from the limestone area of Namur, e.g. observations in the period 1993–2012 have been made at Belvaux, Bohan, Lavaux-Sainte-Anne, Lessive and

Sosoye, leg. J. & W. De Prins, C. Steeman and S. Wullaert. Lately, some leaf mines were reported from Torhout (WV), Sampont and Chantemelle (LX), leg. S. Wullaert, and from Chaudfontaine (LG), leg. J.-Y. Baugnée (De Prins & Steeman 2012: 99). The larva constructs a relatively small reddish-brown mine on the upper side of the leaf. More or less like in the mine of *T. decidua*, the mine of *T. dodonaea* contains some arc-like, brownish, concentric lines around the oviposition place. The species feeds mainly on *Quercus robur* but also on *Q. petraea*, *Q. pubescens*, *Q. cerris* and also on *Castanea sativa*. It has a similar distribution as *T. ekebladella*.

***Tischeria ekebladella* (Bjerkander, 1795)**

T. ekebladella is the most common one and found almost everywhere in stands of oak. It occurs in all Belgian provinces and is recorded every year from many localities. The upper side mine is mostly, but not always, relatively small, mainly whitish to almost pure white and the caterpillar constructs an almost perfect circular chamber at the upper epidermis in which it rests in a bend position during pauses between feeding activity. The larva pupates inside the chamber which remains attached to the leaf and turns into different shades of orange or brown (figs. 3–4). Tenanted mines can be found from early July onwards till well in November. The species feeds mainly on *Quercus robur*, but it also occurs on *Q. petraea*, *Q. pubescens*, *Q. cerris* and also on *Castanea sativa*. It is distributed over most of North and Central Europe, from Great Britain in the west to the Caucasus in the east, and from Scandinavia and Finland in the north to South France and Greece in the south.

T. ekebladoides Puplesis & Diskus, 2003 is the only European *Tischeria* species lacking in Belgium. It was described after specimens from Tunisia, Portugal and South Spain. and it has thus far been mentioned only from these countries. The species feeds on *Quercus suber* and *Q. mirbeckii* (Puplesis & Diskus 2003: 108).

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References

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