

American Oak Skeletonizer moth invades Europe

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Bucculatrix ainsliella adult. Credit: photo Erik van Nieuwerkerken

The North American Oak Skeletonizer, a very small moth, has invaded North West Europe since 1989, and feeds commonly on planted Northern Red Oaks in the Netherlands, Belgium and adjacent Germany. This is only the second North American insect ever found in Europe on the American Red Oaks.

It is hypothesized that cocoons attached to any material were transported by air, eg by NATO aircraft, after which the moths found their favourite

hostplant commonly planted.

The finding of an unknown small moth by Dutch amateur moth hunter Hans Huisman in his backyard led to the discovery that the American Oak skeletonizer (*Bucculatrix ainsliella*) is invading North West Europe on planted Northern Red oaks (*Quercus rubra*), a North American tree.

"The finding is unusual", says Erik J van Nieuwerkerken of Naturalis Biodiversity Center (Leiden, Netherlands), "because until recently few insects attacked this North American tree outside its [natural habitat](#)." He and co-authors just published a paper on this species in the journal '*Nota Lepidopterologica*', a specialist journal for the study of moths and butterflies (Lepidoptera) in Europe.

Northern Red oaks are widely planted in Europe since the introduction in the 17th century, and the tree is important as a timber tree. Only one North American aphid, specializing on this kind of oaks has previously crossed the ocean. "The Red oaks are too different from European oaks to attract many of the specialist insects that feed on those," says Van Nieuwerkerken, "and we usually only see [insects](#) that are common on many [tree species](#)." The identity was also shown by DNA [barcodes](#) showing no difference between European and American populations.

Bucculatrix ainsliella is now common in most of the Netherlands, the northern part of Belgium and adjacent parts of Germany. The researchers expect it to be already more widely spread, and it will possibly invade most of Europe the coming years. Despite its abundant occurrence, it has nowhere led to any visual damage, although it is known to be a pest occasionally in North America.

After the discovery was announced online and in the Dutch media in 2011, it turned out that many moth photographers and collectors in the Netherlands and Belgium had seen or collected the moth before, but

were unable to identify it correctly. The earliest specimens of *Bucculatrix ainsliella* were found in the Netherlands as early as 1989, as was shown by overlooked specimens in the collection of Naturalis Biodiversity Center in Leiden. They were found in Amersfoort, a city close to a former NATO air base. It is very well possible that the small [cocoons](#) (with pupae) of the species, attached to any object, were transported by air. The emerging moths could immediately find their favourite food in the many Red Oaks that are planted in the Netherlands close to the airbase.

The larva of the newly discovered moth makes small leafmines in the oak leaves and later starts feeding on the leaf underside, eating the green tissue and leaving the veins intact. The effect of this feeding lead to the English name "Oak Skeletonizer". The caterpillar later makes a beautiful white ribbed cocoon that it fastens on leaves, trunks or any other item in its way. The small [moth](#) (wingspan 8 to 9 mm) can be found from April to October, and is attracted to light during the night.

Provided by Naturalis Biodiversity Center

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