

**Tilia cordata - a new foodplant for Incurvaria pectinea (Lep:Incurvariidae): a detective story!**

On 4th June 2006 Rob Edmunds found Incurvaria mines on the suckers of Small-leaved lime (*Tilia cordata*) in Fleet. This was an Incurvaria species food-plant he was unfamiliar with.

Consulting Hering (*Bestimmungstabellen der Blattminen von Europa*) it seemed as if it could be either *Incurvaria masculella* or *Incurvaria koernerella*; the latter would be a new species for the UK.

The mines had the following appearance:



Image: © Rob Edmunds

The larvae were photographed, but did not seem to match descriptions of larvae in either Hering or the *Moths and Butterflies of Great Britain and Ireland*.

The ventral view of a larva from the first case:



Image: © Rob Edmunds

Little seemed to be known about the larval morphology and whether the sclerotizations changed between instars and so it was decided, with John Langmaid's encouragement, to attempt to breed them through.

Rob sent four cases to Ben Smart and kept four himself. Ben successfully bred through one moth - a female, which emerged on 15th April 2007.

Superficially it resembled *Incurvaria pectinea*, but the frons was yellow (an uncommon colour for *pectinea*) and this foodplant was unknown in Europe for *I.pectinea*.



Image: © Ben Smart

Shane Farrell then set the moth:



Image: © Shane Farrell

To determine the species it was necessary for Shane to dissect the female. A problem with this was that little information was available on the reproductive structures of this little studied group.

A critical feature for identification of females of this group is the shape and serrations of the ovipositor (seen at the top opposite)

Shane's dissection of the miner on *T.cordata* is seen opposite.

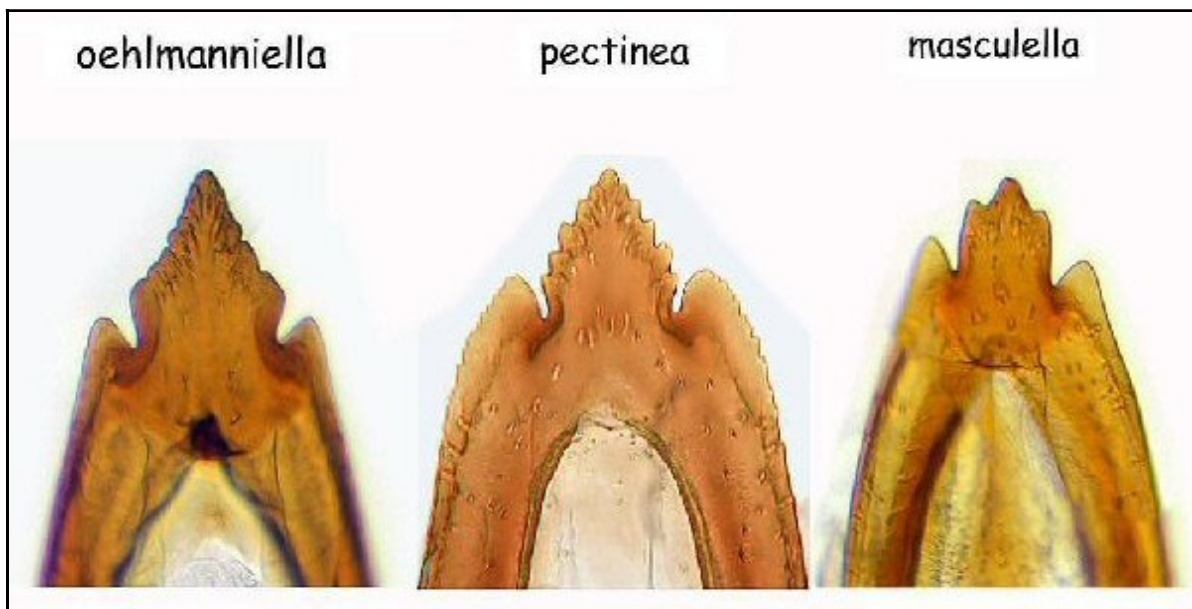
Shane enlisted the help of the dissection group ([www.dissectiongroup.co.uk](http://www.dissectiongroup.co.uk)) who discussed the problem of identification. Brian Goodey and Patrick Clement, of this group, dissected females from their collections of *Incurvaria pectinea*, *masculella* and *oehlmanniella* to try and determine the species

The ovipositor combs they dissected are seen below and it shows that the *Incurvaria* bred from *T.cordata* was indeed *I.pectinea* - a first record of the foodplant for this species in the UK (and possibly Europe).

Keith Bland confirmed that the moth was *Incurvaria pectinea*.



Image: © Shane Farrell



Images: © Patrick Clement and Brian Goodey

Thanks to Keith Bland, Patrick Clement, Willem Ellis, Shane Farrell, Brian Goodey, John Langmaid and Ben Smart for their help in identifying this leafminer.

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