

Editorial

A new year brings a new format of newsletter, which I hope meets with your approval. By making it this format I hope that it will facilitate printing and storage.

We are just renewing our website for the third time and have now been running for four years. Thanks go to you for your support and also to Paul Talbot of Pennine Books for his enthusiastic and continuing sponsorship. (www.penninebooks.co.uk)



The site keeps on expanding. Our first site was below 30Mb and illustrated around 210 species. It has now grown to 160 Mb and incorporates almost 400 species!

We were pleased to incorporate some European leaf miners in our last update and this European flavour is continued in this newsletter.

Best wishes for 2007 from the leafmine team:

Barry Dickerson, Rob Edmunds, Martin Ellis, Ian Kimber, David Manning, Brian Pitkin, Colin Plant

Sawfly leafminers of Sycamore (*Acer pseudoplatanus*)

The discovery of a new species to the UK, by Andrew Liston (*Heterarthrus cuneifrons*, in Kent in July 2005) means that we now have two sawfly leaf miners identified on Sycamore.

Ewald Altenhofer has written a guide to the sawfly miners on this host, based on his experience of these in Austria.

It will be worth carefully checking Sycamores in the coming season.

Hinatara excisa (unknown in the UK):

This has so far only been collected in lower regions of Austria, mostly to the end of May. The larva has typical tarsal claws (the thoracic legs are not much reduced).

The mine starts at tip of a leaf.

The larva leaves the mine to make a cocoon in the soil (this lack of a disc, in which the pupa forms, distinguishes it from the *Heterarthrus* species on this host)

(<http://www.leafmines.co.uk/html/Hymenoptera/H.excisa.htm>)

Heterarthrus species:

These have much reduced thoracic legs and a short segment with a small spine. The head is flat

Heterarthrus aceris and Heterarthrus cuneifrons (both are UK species):

These mine in the second half of June (in the lower regions of Austria). They form a disc-shaped cocoon, which is cut from the mine.

H. aceris is also found in mountain regions (mining to the first half of August). The mine starts at tip of leaf.

(<http://www.leafmines.co.uk/html/Hymenoptera/H.aceris.htm>)

H. cuneifrons has so far only been collected in the lower regions. The mine starts near the base of the leaf (between ribs). (Andrew Liston discovered this miner in shade in the UK).

Heterarthrus leucomela (unknown in the UK):

This is the biggest species. The mine starts at the tip of a leaf and the cocoon stays within the mine. The first mines, with ready cocoons, are found from the end of July (in lower regions in Austria). In mountain regions the larvae complete their development until the beginning of September.

(<http://www.leafmines.co.uk/html/Hymenoptera/H.leucomela.htm>)

Rearing leaf miners:

(i) Nepticulidae:

Erik van Nieurkerken gives advice on rearing some nepticulidae:

'I have always used simple jam jars, and for some years now I have used smaller polystyrene containers made by Thornton Plastics (<http://www.thorntonplastics.com/>). I got this idea from American colleagues, but ordering these can be expensive because of high shipping costs.

For Ectoedemia species I usually put a small layer of earth/peat, the normal kind for potted plants, in the jar, about 0.5-1 cm thick. Make sure it is not too dry (and certainly not too wet). I put the leaves on top of it until the mines are vacated, and take out the leaves. I always keep the lid on the jar. After October I keep it in an out-house until about March-April (depending on species: the Rosaceae feeders usually later). Then I take it in, dry the walls of the container and lid, and await emergence. If needed I put a few drops of water in, now and then, or dry out with tissue. Almost all species emerge in good numbers, but the Rosaceae feeders do usually a little less well (although I also reared large numbers of rubivora, angulifasciella and spinosella this way). In this way the Populus feeders start emerging in April, the Oak ones in late April-May (occasionally June) and the Rosaceae feeders from May onwards (always earlier than in the field.)

Actually this method works well for many Stigmella species. Some can also be reared on paper tissue—but this works best with Southern European (+ Australian and Tropical) species and Trifurcula species. It also is good for rearing spinosella. I once bred a spinosella inside the herbarium...(I found the adult later between the blotted paper with the leaves!).

In general, breeding success for Nepticulidae is not as good as Gracillariids. I find 20-40% adult emergence is a good result, but some Ectoedemia actually do much better.'

John Langmaid uses an alternative method for rearing Stigmella species saying 'I must admit to having been signally unsuccessful in following Maitland's methods, but there is no doubt that he himself was quite successful. Last year I met Duncan Williams of Lairg, Sutherland, who has been extremely successful with a method which Maitland didn't recommend! This was to crumple up a bit of kitchen paper and lay it across the bottom of an ordinary plastic larval breeding box, then to cover that with a layer of squeezed-out sphagnum moss, then to place the mined leaves on top and remove them when the mines are vacated. Then to leave the boxes, sealed with their lids on, in an outhouse or shed for the winter and to bring them in shortly before emergence is due.

I did try this method this year, and had rather more success than previously, but not totally so. All in all.....it's a gamble!

Rob Edmunds has success with rearing Nepticulidae (and many other leaf mining species) by placing the leaf into a container with some damp tissue (or sphagnum moss), as seen below with a Bramble (Rubus fruticosus agg) leaf mined by Stigmella aurella.

(Note the cocoon also at the bottom right edge of the container):



Photo: © Rob Edmunds

(ii) *Incurvaria pectinea*:

Incurvariidae can be difficult to rear successfully. **John Langmaid's** method has met with some success by **Richard Moore** who says: 'I collected my mines before they had cut out their cases. Once that happened I transferred my cases to a pot (with a drainage hole) half-filled with damp grit and sprinkled with a few fresh birch leaves, then covered the top with a section of tights. I kept this outside until the spring, and every few days supplied new leaves.

From the 6 mines I got a couple of emergences, I suspect that when I brought the pot indoors in the spring I allow things to become too hot and dry. I should probably have kept them in cooler more moist conditions. When the weather was dry during the summer I did water my pot from bottom so that the grit remained somewhat damp.

The mines collected were on Corylus but I was able to get them to transfer successfully to Betula, as that was more convenient for me!

Recent miner articles:

Collins,G (2006) The early stages of *Elachista obilella* Zeller (Lep: Elachistidae), *Entomologist's Rec J.Var.* 118, p198-199

Nieurkerken,E (2006), Records of mining Lepidoptera in Belgium with nine species new to the country (Nepticulidae, Opostegidae, Tischeriidae, Lyonetiidae), *Phegea* (34),4 p125-144

Liston,A. & Blank,S (2006) New and little known British xylidae and Tenthredinidae (Hymenoptera, Symphyta). *Ent .Mon Mag* (142), p219-227

Further leafminer sites:

Finnish leaf mining sawflies:
<http://cc.oulu.fi/~tonyman/Leafminers.htm>

Forest Research in Hungary:
<http://www.forestpests.org/leafminers/index.html>

New leafminer species for Menorca

Rob Edmunds visited Menorca in late October, 2006 and recorded the following leaf miners, which Martin Honey (who is studying the Lepidoptera of the Balearic Islands) indicated were new to the island.

Martin also provides further information on some of these species in Mallorca (another of the Balearic Islands).

Acalyptis platani on *Platanus* sp. - Mao.

Erik van Nieurkerken confirmed this sighting (see photo) and said that Klimesch found this species in 1969 in Mallorca

Acrocercops brongniardella on *Quercus ilex* - Alayor (Very common!)

In Mallorca Martin, with David Gibbs, recorded this species for the first time in spring (2006). It was common in the one area they looked and Martin bred out one specimen.

Chrysoesthia druella on *Atriplex* sp - Mao.

Martin indicates that there are also quite a few Mallorca records for this species.



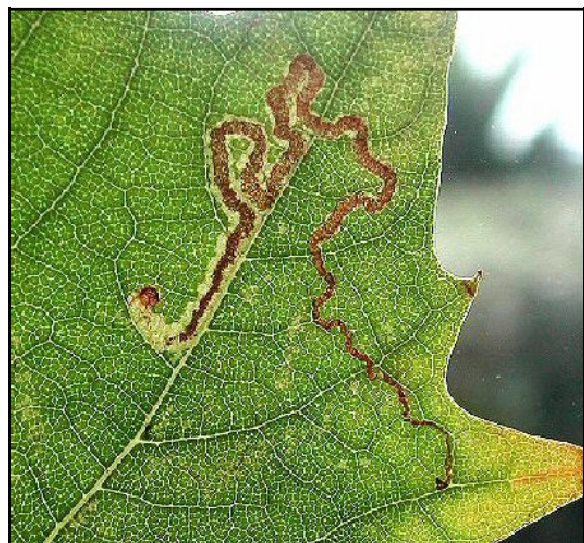
A.brongniardiella, Alayor © Rob Edmunds

Cosmopterix pulchrimella on *Parietaria judaica* (Pellitory of the wall) - Es Castell and Mao.

Martin has recorded this species as new to Mallorca also.

Phyllocnistis citrella on *Citrus limonum* - Alayor

Martin says that 'it's a species that has been spreading in recent years. It was reported as new to Mallorca (and the Balearic Islands) in September 1994 by Santana et al. (1996). I recorded my first specimens on holiday in Mallorca in October 2000'.



A.platani, Mao © Rob Edmunds

A new foodplant for *Coleophora albitarsella*



Coleophora albitarsella © Andy Banthorpe

The publication of the complete hostplant list of Plant and Pitkin (<http://www.leafmines.co.uk/html/plants.htm>) is already throwing up potentially new foodplants.

Andy Banthorpe discovered cases on Lemon Balm (*Melissa officinalis*) in 2005 which were thought to be *Col.albitarsella*. He found them again in June 2006, in a garden in Lower Stondon, Bedfordshire VC30 and bred them through.

David Manning has confirmed that they are this species.

It is presumably a new foodplant for *Coleophora albitarsella*.

Colin Plant would be pleased to learn of other new foodplants for leafminers.

Further details of this will be published in The Entomologists Record (www.entrecord.com)

Leafminer key available as a download

Barry Dickerson's key to leaf miners, which he developed with kind permission of Harley Books, is now available from the leafmine site as a download.

http://www.leafmines.co.uk/html/Mine_Guide.htm

It encompasses lots of the *lepidopterous* leaf miners you would meet on a field excursion and has been developed as Barry has lead such field trips.

He is refining and updating it.

We hope you find it useful.