Newsletter: February 2007

Rearing leaf miners:

Brian Elliott has a successful method of rearing leaf miners. By using his system he has been able to rear over 300 individuals in a year! He says that their special problems in rearing are either mould or desiccation and that his method addresses both.

He uses 500g Yoghurt pots—the ones with a tight fitting clear plastic lid. His person choice is 'Yeo Valley' yoghurt. Once the yoghurt is eaten he hand washes the pot to remove the residues (do not use the dishwasher as it distorts the pot).

Brian says 'next you need to put some holes in the bottom of the container to give good drainage. I use a heated screwdriver to melt holes through.

'Now put in a good inch (2.5 cms) of pea gravel in the bottom of the container, then add some sharp sand, then some sterile garden compost. You are now about a third of the way up the pot.

'The final layer, to bring you about halfway up the pot, is a thin layer of sphagnum moss, which is pressed down fairly hard to give everything some solidity. The moss can be gathered sometime previously and kept in a sealed bag, by gathering a quantity and being allowed to die. In this way, when the time comes, it should be soaked in water and hand squeezed until it feels dry. The residual moisture will aid the survival of the leaf mines until they become vacated.

'When you collect leaf mines you can place them in the prepared pot and put on the plastic lid. Now the leaf mines can be checked daily and removed when empty, until all are removed (Check, of course, that none have pupated on the leaves. If this is the case, cut round the mien and leave in the pot).

'The next task is to remove the lid and replace with the toe of some tights etc, secured with an elastic band.

'Now the pot needs to be placed out in the garden in a shady place with a minimum of sunshine and left with a suitable label indicating possible emergence date (with a month or so leeway). It is important to check whether the species is single or double brooded of course.

'When the calculated time becomes due then simply remove the pot to a sheltered place, **but still outside**, and take away the nylon toe and replace the clear plastic top. This needs checking daily for moisture formation. When the first imagine emerges then the pot can be brought indoors.

'Generally Nepticulidae seem to emerge in the morning and become active mid to late afternoon, when they run around the rim of the pot - so look directly from above. In some cases the method does not work well, but this will come with experience.

'Some, where the plant deteriorates quickly, will need the leaf, with some stalk, kept in water and packed to prevent drowning. The larvae will be individually transferred to the breeding pot with a fine brush when they vacate the mine. One that comes to mind here that needs this treatment is Trifurcula cryptella.

'Some species like to pupate in soil and where this occurs then some of the soil and leaf mould (suitably sterilized by heating) should be used. In this category beech leaf mould should be used for both Stigmella tityrella and Stigmella hemargyrella.

'With regard to moving larvae into the prepared pot with a brush - this can be done with most species of course, if the leaf mines are kept in a plastic box and time is available to check twice daily'.