

Identifying Those Tricky Little Micro-moths

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What Is A Micro-moth?

- This is a tricky question to answer as there no taxonomic difference, as in butterflies and moths. Even that is a bit blurred.
- So far as I can tell, the larger moths are those that were described in South vols 1 and 2, and the rest are the micro-moths.
- In the olden days when we used a light trap there were so many large moths that we were never tempted by the micro's that were trampled by the *Noctua pronuba* (Large Yellow Underwing) which came in their hundreds.
- Micro's were collected by rearing out series collected off food plants and mines.
- The first (and current) editions of “The Field Guide To The Smaller Lepidoptera” contains no illustrations of adult moths at all.

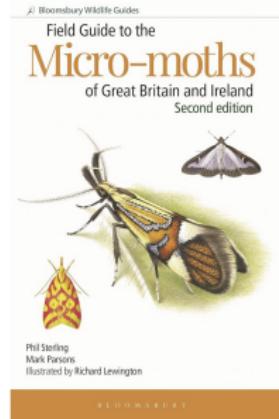
Wot! No Illustrations?

Don't worry, I will use them later in this presentation.

- Without illustrations the emphasis for identification rested on descriptions of the larval behaviour and food plants plus the overall appearance of the adult being consistent with the overall family and genus of the specimen.
- Just to emphasise, you had to be really proficient with your plant identification too.
- My old copy of Clapham, Tutin, and Warburgh "The Excursion Flora Of The British Isle" was also without images.
- To those of you only used to modern illustrated field guides this must sound very strange, but the point I make is that a good identification is based on a collection of evidence which is used to eliminate all but one possibility.

First Steps

- Light traps catch fewer moths these days, so the micro-moths are more obvious.
- The publication of the excellent illustrated 'Field Guide to the Micro-Moths of Great Britain and Ireland' has helped popularise this group further.
- BUT, the temptation for beginners is to 'pattern match' from a field guide.
- The availability of 'Apps' reinforces this approach.



Field Guide to the Micro Moths

Identification Is A Process

- Examine your specimen closely.
- Treat ID as process and start by writing down everything that you know and can see.
- Use these notes to try and work out the Family.
- There is a good visual key to families in 'Field Guide to the Micro-Moths of Great Britain and Ireland'.
- Lepidoptera keys to species level are few and far between.



A key to the Micro Moths

A Tricky Moth For ID

- Making a list of candidate species is a tedious and time-consuming process.
- You should now have a list that includes: size, locality and type of habitat; date; and other obvious features.
- A photograph is also helpful - look at the posture and position of the antennae.



What can we see here?

We will illustrate the ID process by following one moth tricky moth through its journey.

Getting To The Family

- The antennae are laying flush along the body
- This is a member of the Pyraloidea super-family.
- The face has a distinctive 'nose' and face:
- So this is a member of the Crambidae family, and a member of an informal group colloquially known as 'Grass moths'.
- *We have reduced the number of candidate species to about 17.*



Note the posture of this living moth.

The Answer Must Be In This Book

- Text
- Text.
- Text.

Place holder

More text

Confirming the ID

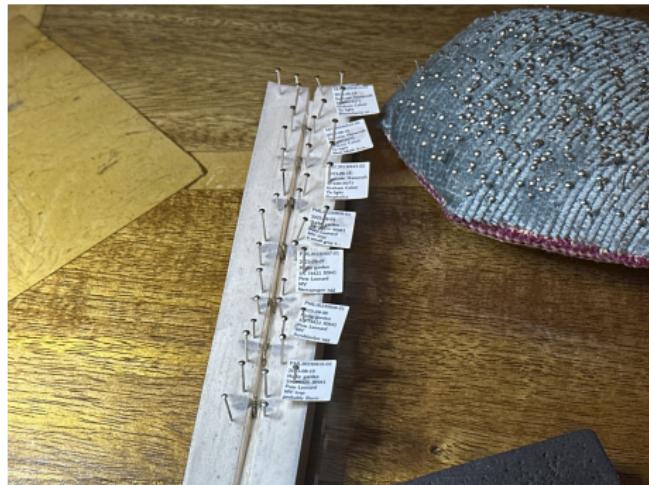
- We have gone as far as we can with external features.
- The set moth, which by the way, was rather battered before setting, does not reveal any useful features for ID.
- The way forward is examination of the genitalia - **GenDet**.
- We start by relaxing the dead moth



More text

Setting

- The relaxed moth is pinned and spread on a setting board.
- Note how everything is carefully labelled.
- It is then dried for a couple of weeks.
- This process allows us to preserve as much of the specimen as possible.



A group of moths on the setting board.

Now we know it is a Cranbid (Grass Moth)

- Date: 2021-07-25, VC55;
Recorder: Pete Leonard; Size:
FL 12 mm.
- Could this be *Pediasia contaminella* which is rare in
VC55?
- This specimen lacks the cross
lines the dark point in the discal
region typical of *Pediasia contaminella*.
- But *Pediasia contaminella* said
to have a distinctive upwards
resting posture.

Specimens seen in Sussex by PJP were all well marked and instantly recognisable in both posture and appearance.



The set moth is not a perfect match for any of the 17 species.

Clarification

- The abdomen is removed from the moth and 'cooked' for 30 minutes at 70 degrees in 10% KOH.
- A label is placed in the tube using paper and ink that can survive this process.
- A body swap would be a disaster.



Equipment used for clarification

This process is loosely called *clarification* as it dissolves the soft tissues. Different authors use the term to describe rather different processes.

Dissecting

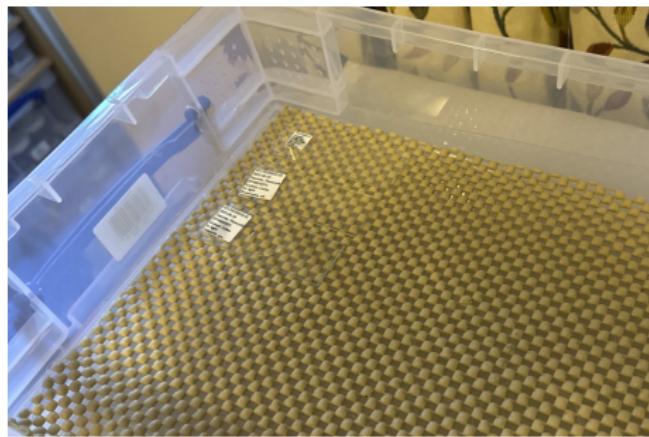
- The genitalia are very small so a range of bought and homemade tools are used to dissect out the parts needed.
- They are also very fragile, so you only get one chance on a moth this size.
- No pressure when you are doing this for someone else!



The smaller the dissection the more important the work space.

Mounting The Dissection

- The parts are washed in de-ionised water.
- Soaked in a little aqueous mountant.
- Placed on a slide and a coverslip placed on top.
- Finally, a temporary label is glued to the slide



Slides are left for a few days to cure.

Ringing The Slide

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- Text.
- Text.

Place holder

More text

Examination Under The Microscope

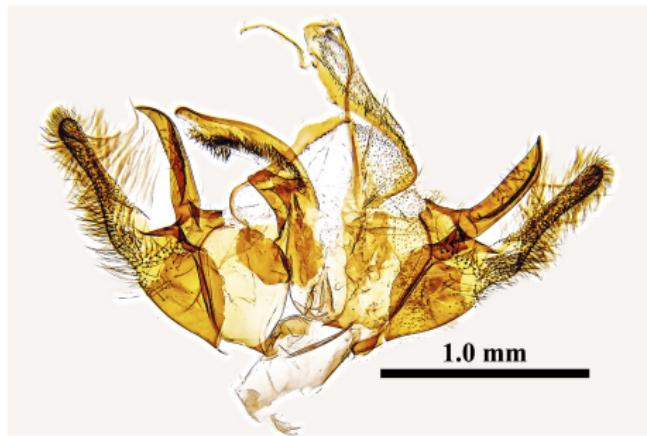
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Raw image

Finished Image

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