The fallen-letter beetle

by Maria Fremlin

Back in early May 2009 I was hiking in a forest with my family when I spotted some neatly rolled leaves on the ground.

At first, considering that we were in Japan, the land of origami, I thought that they were the work of someone rather fidgety. But, as they kept cropping up and all looked very similar (Figure 1a & 1b) my curiosity got the better of me and I decided to investigate.

Figure 1a & 1b - Leaf-rolls. Chiba Peninsula, Honshu Island, Japan. Photo taken on 13.05.2009.

The first step was to see what was inside. As the leaves were very fresh I had no trouble unrolling one and was rewarded with a lovely yellow egg suspended by a thread at the very tip of it (Figure 2); after that I could not resist keeping some to see the final results.

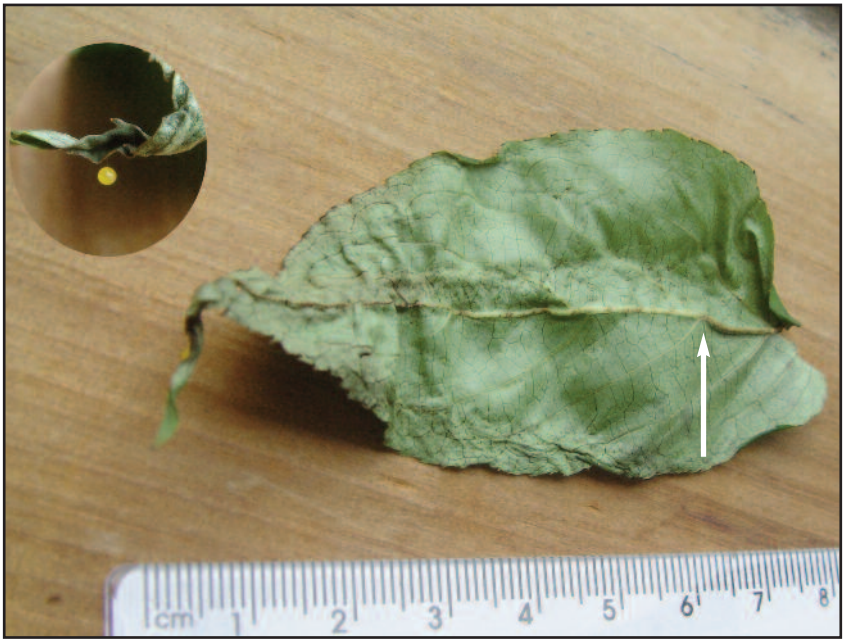

Figure 2 - Underside of an unrolled leaf and the egg, inset. Note the regular notches along the midrib (one is arrowed); they make it easier to roll.

And in less than three weeks out popped some rather fetching little beetles, leaving behind neat emergence holes on the rolled leaves (Figures 3-4). Some had more than one hole; remarkably the larvae ate very little.

Turn the page to see the beetles

Figure 3 - Freshly emerged beetle, ~ 7 mm.
Photo taken on 30.05.2009.

The next challenge was to find out what they were and for that I did some searching in the Internet. Soon I came across a press article in English describing the doings of "otoshi-bumi", the fallen-letter beetle, a red weevil, alas the wrong colour, nevertheless it gave me an important clue: the family Attelabidae (Leaf-roller weevils). Armed with that I quickly found in a Japanese website a photo which matched perfectly: *Apoderus balteatus*, but as I could not read it I was not sure of my identification.

Then, I emailed around and finally a stag beetle expert, Dr Masahiko Tanahashi, generously confirmed that my guess was indeed correct but I had a "uso-mon-otoshi-bumi", that is a light-coloured-fallen-letter beetle, and that they were rolling the leaves of "kibushi"/spiketail (*Stachyurus praecox*).

The fallen-letter is a love letter which has never been posted, instead rolled and thrown into the river.

Just imagine all those love letters were the single-handed work of tiny female weevils on leaves many times their size; this in order to prepare a cradle for their off spring! Now I regret not having looked up; I would have enjoyed seeing them folding those leaves. It surely is a very skillful process, an astonishing nesting instinct; a labour of love.

Coincidentally, after that I was delighted to see in the BBC Madagascar series the giraffe-necked weevil (*Trachelophorus giraffe*) making some fallen-letters. They also belong to the same family but, unlike *Apoderus balteatus*, the males have a much longer neck and fight for the females, like stag beetles do.

If you have missed that program, there is a video clip available here http://www.bbc.co.uk/nature/life/Giraffe_weevil

Figure 4 - Leaf-roll with an emergence hole, right.
Photo taken on 30.05.2009.

Unfortunately, in the UK there are no fallen-letter beetles; instead the leaf-rollers leave their cradles still attached to the leaf. In a way this makes it easy to spot them and, at the same time, you will learn how to identify a few trees.

So if you are curious, from spring onwards look out for leaf-rolls on the leaves of birch, poplar, hazel and aspen trees. On oak and chestnut trees you might find a pea sized cradle hanging on their leaves throughout the summer. These will eventually fall down and the weevils will overwinter as larvae.

Anyway, soon you will find out that not all leaf-rolls are the work of weevils and lots of other things besides…
Good hunting!

Further reading

Here is a rather interesting article which has a very good description of the rather elaborate leaf-rolling process:

Leaf-Rolling Weevil, *Homoeolabus analis* (Illiger) (Coleoptera: Attelabidae: Attelabinae) and Thief Weevil, *Pterocolus ovatus* Fabricius (Coleoptera: Rhynchitidae: Pterocolinae),
Donald W. Hall and Lyle J. Buss, 2009.
http://edis.ifas.ufl.edu/in753

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