When three moths become six!

It is surprising how often it is found that a species that is common and widespread is in fact a mixture of two or more species – this occurs with annoying regularity in diptera! For many years we had just the one Common Rustic, one Copper Underwing and one Gold Spot until it was realised that there were two of each. Given the fact that it took so long to split them, it is not surprising that identification of the new species is not always straightforward. I hope this short note will help.

Common Rustic/Lesser Common Rustic

Positive identification of these two can only be done by examination of the genitalia. The books say that a blackish insect with chalky-white stigmas is probably a Lesser but for recording purposes that is not good enough. The two probably occur together so we can more or less assume the range of both by recording Common Rustic agg.

Copper Underwing /Svensson's Copper Underwing

These two species *Amphipyra pyramidea* and *A. berbera svenssoni* were first recognised as being distinct in 1967. However, before then it was realised that there were differences. If you look at the plate in South's Moths of the British Isles he unwittingly illustrates both species – long before it was realised that there are two. Looking at the two side-by-side *pyramidea* looks much brighter and more contrasty; *berbera svenssoni* looks much drabber. An early name for *berbera svenssoni* was Drab Copper Underwing. Another feature, mentioned in the new field guide is the amount of copper colouring on the underside of the underwing – not easy to see on a live specimen. In *pyramidea* the copper colouring is restricted to a marginal band whereas in *berbera svenssoni* it spreads towards the base of the wing.

A feature that is not mentioned but which was used in the Guide to Critical Species published in the 1970s for the first Macro-moth Atlas, involves the degree of black on the sides of the abdomen. In *pyramidea* the black forms an extensive chequered pattern whereas in *berbera svenssoni* it is indistinct. The following photos, courtesy of Shane Farrell, show this nicely.

Copper Underwing

Svensson's Copper Underwing

I am grateful to Shane Farrell for bringing another identification criterion to my attention. It was published in BENHS Journal October 1988, Vol.1, Part 3 and involves looking at the palps. I quote this extract:

To the naked-eye they look longer, narrower and evenly tapered throughout the second and third segments in *A.pyramidea*, compared with the more robust shape and clear junction of the second and third segments in *A.berbera svenssoni*. Structurally, in fact, they are almost identical and examination with a hand-lens reveals that colouration is responsible for the disparity.

The palps of both species have long hairs projecting anteriorly from the first segment, giving a bearded appearance to the second. Together, the second and third segments measure approximately 3.00mm. The tip of segment three is whitish in both species, but in *A.pyramidea* it is confluent with a predominance of pale cream or ochreous scales down the front of this and the second segment. A variable number of dark scales are intermingled among these to produce a greyish colour, blending with the 'beard' and adding to the impression of length. There is also a distinct division between the pale front and dark-brown or blackish sides, which are virtually devoid of the light-coloured scales and account for the tapered effect and accentuated lateral flattening. In *A.berbera svenssoni*, on the other hand, chocolate-brown scales uniformly clothe all except the tip, which stands out as a bright point. Some have white scales sprinkled across the front and onto the sides of segments two and three without affecting the overall dark appearance. When in sufficient quantity, however, there is a silvery sheen and the sides look darker, but with no clear line of contrast and a white tip remaining the prominent feature. Others lack white scales altogether and evidence suggests these are mainly from northern localities (Beaumont, pers.comm.). The 'beard' in *A.berbera svenssoni* tends to be overlooked against a background of light-fuscous hair and the proximal end of the second segment, being considerably darker, is clearly outlined. The following pictures, courtesy of Ben Smart illustrate this point

Svensson's Copper Underwing
Note dark palps with a pale tip

Copper Underwing
Note uniformly pale palps

As far as recording goes; if you have not specifically separated the two then you must record them as Copper Underwing agg.

Gold-spot / Lempke's Gold Spot

These two species *Plusia festucae* and *P. putnami gracilis* were separated in 1966. They can mostly be identified on wing pattern but a few will need genitalia examination. I am grateful to Shane Farrell for the two photos used here. There is only a single record of Lempke's for the county – a moth taken in 1990 on Gnosall disused railway line.

Gold Spot

Often darker; and because of this the outer cross lines are not so contrasty. The best feature is the gold spot on the edge of the wing which is longer, narrower and pointed on its inner edge

Lempke's Gold Spot

Often paler and more orange; the outer cross lines are more obvious; often smaller too. The best feature is the gold spot on the edge of the wing which is short and broad and abruptly terminated at the cross-line on its inner edge.

The Guide to Critical Species mentioned earlier states that the two large gold spots are closer together and almost touching in Lempke's. They are indeed closer in this photo but the shape of the spots is variable.

It would appear that while Gold Spot is double-brooded, Lempke's is not and that a moth caught in August/September is probably a Gold Spot

Acceptance of records of Lempke's will require genitalia confirmation or (if a 'classic' specimen) a quality digital photograph. In some cases dissection will be required in any case as there is a fair degree of overlap between the features of these species.

David Emley; September 2004