

# **Lepidoptera Conservation Bulletin**

incorporating

The National Moth Conservation Project

**Number 2**

April 2000 - March 2001

Compiled by

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### Introduction

Welcome to the second Lepidoptera Conservation Bulletin. As last year, the Bulletin is intended to reflect the broad diversity of projects and organisations attempting to tackle the conservation of moths and butterflies in the UK. We again present a summary of the work of the Government's Conservation Agencies and the wildlife non-governmental organisations such as the Royal Society for the Protection of Birds (RSPB), Wildlife Trusts (WT), National Trust (NT), and the British Entomological and Natural History Society (BENHS) to conserve Lepidoptera. The Bulletin then reviews much of the conservation work of Butterfly Conservation (BC) concentrating on our efforts for the Priority Lepidoptera.

The Bulletin also gives an opportunity for the National Scarce Moth Recording Scheme to give feedback to the many co-ordinators recording the scarcer moths. The good news on this project is that Dr Paul Waring's review of the status of these moths, including distribution maps, is due to be published by the Joint Nature Conservation Committee (JNCC) this year (see page 3). The mailing list has been expanded. Recipients now include the County Moth Recorders, BC Branch Moth Officers and other members of the National Moth Recording Network, the BC Branch Conservation Officers and representatives of our conservation partners. If you are aware of other key organisations and people who would like to receive this Bulletin please let us know.

Nigel Bourn, Mark Parsons and David Green  
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### Acknowledgements

The production of this Bulletin was made possible by the financial support of JNCC, English Nature (EN), Scottish Natural Heritage (SNH) and Countryside Council for Wales (CCW).

We would like to thank **all** the individuals and organisations associated with the projects mentioned in this bulletin. To give a full list of all those who deserve our gratitude would take up a large part of it and it is gratifying to know that the interest in the recording and conservation of our Lepidoptera is so high. It would be invidious to single out any anyone for special mention but, nevertheless, we would like to take this opportunity to express our particular thanks to the County Recorders, BC Branch Moth and Conservation Officers, organisers of local moth groups and the many other individuals who have voluntarily contributed time and expertise, both by assisting with direct conservation actions and by supporting the National Scarce Moth Recording Scheme over the years. Without them, only a fraction of the projects outlined in this publication would have been possible. Finally, we would like to take this opportunity to thank personally all the contributors to this Bulletin.

### Reports from the Agencies and NGOs

#### Conservation of butterflies and moths: English Nature (EN) input in 2000

Much of the research and survey on the English butterflies and moths has been contracted out to BC (Action for Butterflies, BAP for Butterflies & Action for Threatened Moths projects) and Dr Paul Waring (Rare Moths Project). These are discussed elsewhere in this Bulletin. In addition to these, EN is part-funding a series of other Lepidoptera species projects.

Dr Julian Hill/Zoe Ringwood (Writtle College): PhD study on the ecology and habitat requirements of **Fisher's Estuarine Moth** *Gortyna borelii lunata*.  
Graham Collins: Current status of the **Shoulder-striped Clover** *Heliothis maritima*.  
Tony Rouse: Current status of the **Fiery Clearwing** *Pyropteron chrysidiformis*.

Prof. Chris Thomas/Zoe Davies (Leeds University): PhD study on the conservation biology of the **Silver-spotted Skipper** *Hesperia comma* (part funded with Countryside Council for Wales and Leeds University).

Prof. Chris Thomas/Caroline Bulman (Leeds University): PhD study on the conservation biology of the **Marsh Fritillary** *Eurodryas aurinia* and its parasitoids.

Dr Andrew Pullin/Melissa Jacobs (Birmingham University): PhD study on the landscape scale habitat requirements of the **Large Copper** *Lycaena dispar*.

Peter Worth/James Sadd (Long Sutton Butterfly & Wildlife Park) and John Calvert (Stratford Butterfly Farm): Maintaining the captive colonies of the **Large Copper** *Lycaena dispar*.

Dr Graham Holloway/Tracy Earwaker (Reading University): Studies on the feeding ecology of the **Heath Fritillary** *Melitaea athalia*.

Dr Neil Ravenscroft/Suffolk Wildlife Trust/RSPB/Forestry Commission: Habitat requirements of the **Pearl-bordered Fritillary** *Boloria euphrosyne*.

The Trustees of Bentley Wood, Wiltshire: Habitat management for and population monitoring of the **Pearl-bordered Fritillary** *Boloria euphrosyne* and the **Marsh Fritillary** *Eurodryas aurinia*.

Butterfly Conservation: Site assessments for recolonisation by the **Marsh Fritillary** *Eurodryas aurinia* in Cumbria.

Butterfly Conservation: **Marsh Fritillary** *Eurodryas aurinia* – Survey of potentially suitable habitat in the Bodmin Moor Natural Area (part funded with the Environment Agency and BC).

Butterfly Conservation: Population monitoring of the **Sussex Emerald** *Thalera fimbrialis*.

Dr Andrew Pullin/Domino Joyce (Birmingham University): Genetic studies on various Lepidoptera.

EN was also pleased to provide a financial contribution towards the writing of BC's English Regional Action Plans.

Dr David Sheppard (david.sheppard@english-nature.org.uk)  
English Nature, Northminster House, Peterborough, PE1 1UA

### **Countryside Council for Wales (CCW)**

Building on from last year's surveys, the **Marsh Fritillary** *Eurodryas aurinia* was the subject of much conservation effort during 2000. Increased protection for several populations can be anticipated from the identification of additional candidate Special Areas of Conservation for this species. Twenty-seven Welsh populations are included in the proposals and ten previously unprotected populations will be notified as Sites of Special Scientific Interest as a result. In April, CCW seconded Julian Woodman, a Monitoring Ecologist from our Cardiff Office, to work part-time as Marsh Fritillary Project Officer. This project involved undertaking assessments of habitat condition on thirteen metapopulations in South Wales to determine what management is necessary to restore habitat quality. Julian discussed management issues with landowners and occupiers and distributed an advisory leaflet that CCW published during the summer. Finally, in October a Marsh Fritillary Action Group for Wales was formed when forty conservationists from all the major organisations with an interest in or responsibility for Marsh Fritillary conservation gathered at Bridgend for a one-day seminar. Many important topics were discussed and there was an encouraging willingness to collaborate on action to ensure that the Marsh Fritillary thrives in its Welsh strongholds.

A meeting to discuss actions required to secure the status of the **High Brown Fritillary** *Argynnis adippe* in Wales and hosted by the Glamorgan Coastal Heritage Centre in April brought together CCW and BC staff and amateur lepidopterists involved in the surveying and monitoring of the few existing populations. Progress towards agreed recommendations will be reviewed this winter. CCW grant-aid to BC established a base-line to assess the response of populations of both the **Pearl-bordered Fritillary** *Boloria euphrosyne* and their foodplant violets *Viola* spp. to recent National Trust management initiatives at its four remaining sites in Ceredigion.

Adrian Fowles (A.Fowles@ccw.gov.uk) & Mike Howe (M.Howe@ccw.gov.uk)  
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For news of current CCW projects on **Belted Beauty** *Lycia zonaria britannica*, see the “Update on UK Biodiversity Action Plan Moths” section of this bulletin.

### **Moth Reviews - two Joint Nature Conservation Committee (JNCC) publications on their way**

The long awaited Macrolepidoptera Review compiled by Paul Waring is in the final stages of editing at JNCC and will be produced in 2001. The Review will be a full treatment of all the Red Data Book and Nationally Scarce species in Britain and will include species accounts and distribution maps for all the species covered. The next volume of the Microlepidoptera Review; which covers the five families Incurvariidae, Heliozelidae, Psychidae, Tineidae and Ochsenheimeriidae, is also nearing completion. The reviews will be published on the JNCC web site, as well as more conventionally in the form of bound reports. These reviews will contribute to moth conservation in many ways - not least of which will be to stimulate further recording and research.

I would like to take this opportunity to thank once again the many moth recorders involved for the records and observations that they have contributed directly or via publications; these reviews would not be possible without your hard work and dedication.

Deborah Procter, (Deborah.Procter@jncc.gov.uk, www.jncc.gov.uk/species)  
Joint Nature Conservation Committee, Monkstone House, City Road, Peterborough, PE1 1JY

### **Forestry Commission plan to save woodland butterflies**

The Forestry Commission (FC) have made a new commitment to help stem the decline of threatened woodland butterflies in their woods. The Species Action Plan for Butterflies of Forest Enterprise land lists 58 class A woods which are targeted for action because they contain Priority butterflies listed in the government’s Biodiversity Plan and 55 class B woods which contain important populations of other declining species. The plan has been produced in close collaboration with BC who provided information on the important FC woods.

As many of the target species require sunny clearings, new management will include the creation of more open space in woodlands through coppicing and ride widening, and the planning of felling cycles to provide better continuity of new clearings. Most of the woods involved are either very large (>100 ha), or comprise extensive complexes of woods, and the aim is to initiate management practices that will conserve the species at a landscape level.

Copies of the plan have been sent to all FC district offices and BC Branches who will help monitor the results. BC staff will also be helping FC assess progress nationally in meeting the new targets. In a letter sent to BC branches, their Environment Manager for England, Rod Leslie, said “Butterflies are a top priority for Forest Enterprise... we look forward to working with you in making the ambitions in this plan a reality over the next few years”.

A new publication *Managing rides, roadsides and edge habitat on lowland forests* (Bulletin 123) is available from the Forestry Commission.

<b>Priority butterflies targeted for action</b>	<b>No. of sites</b>
Pearl-bordered Fritillary <i>Boloria euphrosyne</i>	76
Chequered Skipper <i>Carterocephalus palaemon</i>	12
High Brown Fritillary <i>Argynnis adippe</i>	8
Marsh Fritillary <i>Euphydryas aurinia</i>	8
Heath Fritillary <i>Melitaea athalia</i>	2
Northern Brown Argus <i>Aricia artaxerxes</i>	2+
Adonis Blue <i>Polyommatus bellargus</i>	1

The Silver-studded Blue *Plebeius argus* will be covered by FC's heathland action plan. Other important butterflies targeted include, Grizzled Skipper *Pyrgus malvae*, Dingy Skipper *Erynnis tages*, Wood White *Leptidea sinapis*, Black Hairstreak *Satyrrium pruni*, Brown Hairstreak *Thecla betulae*, Duke of Burgundy *Hamearis lucina*, Purple Emperor *Apatura iris*, Small Pearl-bordered Fritillary *Boloria selene* and Large Heath *Coenonympha tullia*.

### **Lepidoptera recording at RSPB reserves, 1999 and 2000**

Six butterfly and 19 moth species are UK Biodiversity Action Plan Priorities that occur at RSPB reserves where there are opportunities to monitor at least their continued presence and in some instances their population. Specific management is being undertaken for a few species.

Population monitoring is being carried out on: -

**Brown Hairstreak** *Thecla betulae* eggs in Somerset and Oxfordshire.

**Swallowtail** *Papilio machaon* larvae and food plant at Strumpshaw Fen (Norfolk).

**Silver-studded Blue** *Plebeius argus* adults at South Stack (Anglesey).

**Northern Brown Argus** *Aricia artaxerxes*, **Pearl-bordered Fritillary** *Boloria euphrosyne* and **High Brown Fritillary** *Argynnis adippe* - all at Leighton Moss and Warton Crag (Lancashire).

**Heath Fritillary** *Melitaea athalia* at Blean Woods (Kent).

**Large Heath** *Coenonympha tullia* at Campfield Marsh (Cumbria).

The population of the **Queen of Spain Fritillary** *Issoria lathonia* that became temporarily established naturally on the Suffolk coast seems to have died out, the last being seen at Minsmere in 1999.

The continued presence of the **Dingy Mocha** *Cyclophora pendularia* at Arne (Dorset) was confirmed and the **Triangle** *Heterogenea asella* continues to be recorded at Stour Wood (Essex). RSPB reedbeds are a rich hunting ground for wainscots. A 'blitz' by the Suffolk Moth Group and BENHS at the new Suffolk Wildlife/RSPB reserve of Dingle Marshes (Suffolk) in August 2000 turned up **Fenn's Wainscot** *Photedes brevilinea*, but not the **White-mantled Wainscot** *Archanara neurica*, which occurs at nearby Minsmere. The **Flame Wainscot** *Mythimna flammea* has been recorded at Titchwell Marsh (Norfolk) since 1996, while Fowlmere (Cambridgeshire) produced the **Mere Wainscot** *Photedes fluxa*. In early April 2000, 28 **Rannoch Sprawler** *Brachionycha nubeculosa* were trapped at Insh Marshes (Invernesshire) where the **Cousin German** *Paradiarsia sobrina* was the commonest moth in late July. A search in early August for the **Dark Bordered Beauty** *Epione vespertaria* around Aspen *Populus tremula* stands at the site was, however, unsuccessful.

Among the very local micros recorded at RSPB reserves were the pyralid *Pima boisduvaliella* and the tineid *Monopis monachella* at both Minsmere and Dingle Marshes. Another pyralid, *Platytes alpinella* was once more recorded at Minsmere. The presence of *Ethmia bipunctella*, *Coleophora galbulipennella* (= *otitae*) and the pyralid *Cynaeda dentalis* was confirmed at the Dungeness (Kent) reserve.

The RSPB would sincerely like to thank all individuals and local groups who have given their time to recording Lepidoptera at the Society's reserves. Please keep coming!

James Cadbury  
RSPB, The Lodge, Sandy, Bedfordshire SG19 2DL

### **The Wildlife Trusts and Lepidoptera conservation**

#### **Small Pearl-bordered Fritillary *Boloria selene* in Cheshire (Cheshire Wildlife Trust)**

There is now just one site in Cheshire for Small Pearl-bordered Fritillary *Boloria selene*, a privately owned SSSI surrounded by agricultural land. Two other previously occupied sites have recently lost the species. The sites had been under little or no management and in 1997 only between two and nine Small Pearl-bordered Fritillaries were recorded. The same year, the Cheshire Local Biodiversity

Action Plan Group for Butterflies was set up. The group contains members of Cheshire and Peak District Branch of Butterfly Conservation, Cheshire Wildlife Trust, Cheshire County Council, and Liverpool Museum. Small Pearl-bordered Fritillary was included and an action plan produced.

Things did not stop with the plan, however. Access to the site was improved by the construction of bridges paid for by the owner, and encroaching scrub removed by British Trust for Conservation Volunteer's new deal team. In 1999 further scrub removal took place and Congleton Borough Council paid for the planting of plugs of Marsh Violet *Viola palustris* and Marsh Cinquefoil *Potentilla pallustris*, the butterfly's larval food plant and preferred nectar source at this locality.

Regular monitoring and recording has taken place on the site and in summer 2000 between 18 and 20 butterflies were seen, a doubling of numbers! Currently large areas of scrub are being removed and fencing paid for by EN is being erected. This will allow controlled grazing by cattle to occur, and prevent the site suffering the same fate as many similar ones have. BC members have been heavily involved in supervising the management and carrying out survey.

In the future, with continued management and survey, we hope to record fritillary numbers of over 100+ again. This project is an excellent example of what a LBAP group can achieve with sufficient support and funding.

Emma Broad, Cheshire Wildlife Trust

### **UK BAP moths at Broughton Down Reserve (Hampshire Wildlife Trust)**

Thanks to a grant from the BENHS, Hampshire Wildlife Trust (HWT) member Tony Dobson was able to carry out survey work for a series of rare moths at one of the Trust's reserves. In terms of Lepidoptera, Broughton Down HWT reserve is probably best known for its **Silver-spotted Skipper** *Hesperia comma* population, but several UK BAP-listed moths have also been recorded from the reserve, some with rather different habitat requirements to the skipper.

The project focused on two species, the **Barred Tooth-striped** *Trichopteryx polycommata* and the **Chalk Carpet** *Scotopteryx bipunctaria*. The former was of particular concern, since its foodplant is Wild Privet *Ligustrum vulgare*, some of which had been cleared on the reserve to maintain open grassland for the skipper. Thanks to Tony's work, the Wildlife Trust now has a map of the Privet on the site, showing locations where adults and larvae of the Barred Tooth-striped were found. Future management should ensure that a suitable balance between scrub and grassland is maintained. Adults of the Chalk Carpet were seen during the survey period, but larvae of this species have so far proved more elusive.

Martin Harvey, Data Officer, Hampshire Wildlife Trust

### **Butterflies in Cumbria (Cumbria Wildlife Trust)**

#### **Large Heath** *Coenonympha tullia*

Work started this year on felling pine on Bellart How, a Cumbria Wildlife Trust reserve and part of Foulshaw Moss, now part of the Witherslack Mosses cSAC, South Cumbria. A fairly large colony of Large Heath still exists here despite coniferisation of the whole moss in the 1950s and 1960s. Where the timber crop has failed, the bog vegetation is still in evidence. Hand felling of about one hectare has taken place so far with more work scheduled. In 2001, larger scale felling on Foulshaw and Meathop Mosses will further benefit the Large Heath.

#### **Scotch Argus** *Erebia aethiops*

Smardale Gill NNR/Wildlife Trust reserve is one of two sites in England for Scotch Argus. The site consists of a three and a half mile section of disused railway-line and adjacent woodland and grassland. The Scotch Argus colony is very large and spread throughout the reserve, but there has been a worrying decline in numbers over the past four years. The latest revision of the management plan (produced this year) addresses this decline and suggests a shorter rotation of scrub cutting on

critical parts of the old railway line to maintain suitable conditions for the Scotch Argus on a larger area.

Kerry Milligan, Senior Reserves Officer, Cumbria Wildlife Trust

### **Surveys for UK BAP moths on National Trust (NT) land**

During this year, NT funded moth surveys conducted by specialists and undertaken at selected coastal properties where particular species such as **White Spot** *Hadena albimacula* and **Scarce Blackneck** *Lygephila cracca* were targeted for survey. Populations of Nottingham catchfly *Silene nutans* at properties near Dover, Kent and on the Isle of Wight were examined for larvae of White Spot but without success, though at neither site is the occurrence of the moth entirely ruled out. These larval searches were supplemented by light trapping which revealed a number of other notable species. Furthermore, at the Dover site larval searches were made for **Straw Belle** *Aspitates gilvaria*, another UK BAP species, which confirmed the presence of a resident population in an area of grassland which has been managed under a grazing scheme aimed at improving the quality/diversity of the chalk grassland sward for a variety of Downland species. Work on the Scarce Blackneck in Cornwall and Devon was successful in revealing a few previously unrecorded sites. In Devon the foodplant, Wood Vetch *Vicia sylvatica*, has proved to be widespread on some NT properties along the north coast and is believed that the moth will be similarly distributed – unfortunately at most localities the plants are wholly inaccessible for larval sampling.

As part of the Trust's continuing programme of biological surveys of its properties, some UK BAP moths were recorded this year. Early in the summer, adults of **Narrow-bordered Bee Hawk-moth** *Hemaris tityus* were encountered at two localities. One is a previously known site on the Gower in South Wales, whilst the second, a north facing chalk grassland site in Dorset where adults were taking nectar exclusively at Chalk Milkwort *Polygala calcarea*, appears to have no previous records of the moth. It is unclear whether the bee hawk has colonised the site recently or been a long term resident. The site is regularly monitored for its butterflies and it would seem unlikely that such an obvious species would have been overlooked, especially as **Marsh Fritillary** *Euphydryas aurinia* is one of the key species at the site and shares the same foodplants as the moth. Later in the summer, the Biological Survey Team spent much of the summer in the Chilterns where particular attention was given to searching for larvae of **Striped Lychnis** *Shargacucullia lychnitis* wherever the foodplant, Dark Mullein *Verbascum nigrum*, was observed. Of the properties visited, four had stands of Dark Mullein and larvae of the moth were present at three of these. One is a previously known site, but two appear to be previously unrecorded populations, one of these, at the Hughenden Estate on the outskirts of High Wycombe, supports a substantial population on formerly arable farmland which is being allowed to revert to calcareous grassland.

Many thanks to all those enthusiasts who have submitted records of moths to NT this year – special mention must go to Mark Tunmore who managed to light trap four NT properties in Cornwall during National Moth Night! As always any moth records are welcome as our national database continues to be updated.

Andy Foster, (XEAAPF@smtp.ntrust.org.uk)

The National Trust, Biological Survey Team, 33 Sheep Street, Cirencester, Glos., GL7 1RQ

## **Scheduled Moth Species covered by Schedule 5 of the Wildlife and Countryside Act**

### **Update on UK Scheduled Moth Species - a summary for the year 2000**

Summary compiled with contributions by Paul Waring (Barberry Carpet, Black-veined Moth, Reddish Buff - all UK BAP Priority Species), Tony Rouse (Fiery Clearwing - UK BAP Priority Species), Zoe Ringwood (Fisher's Estuarine Moth) and Sean Clancy (Sussex Emerald).

### **Barberry Carpet *Pareulype berberata***

There are now nine colonies with positive records from the last two years. These are mainly in Wiltshire, but with one each in Gloucestershire and Dorset. All were monitored during 2000. Former sites in Suffolk and Hampshire were also searched. Further to this, there have been site visits with landowners to discuss and arrange management of barberry *Berberis* spp. hedges and bushes. Searches for larvae in places where mature barberry stands have been reported covered localities in Bedfordshire, Devon, Essex, Gloucestershire, the Isle of Wight, Northamptonshire, Nottinghamshire, Oxfordshire, Sussex and Wiltshire. Unfortunately, all produced negative results except for one site in Wiltshire.

At the new Wiltshire site a translocation is planned of some bushes that were due to be uprooted during the winter of 1999/2000 to allow gravel extraction. A postponement of the uprooting by one year was obtained to allow searches for larvae during both the generations in 2000. There were no previous records of the moth from the site and the bushes were only discovered in 1999. Six larvae were found on 19th June and nine larvae on 31st August. Because the bushes will be removed during the winter of 2000/2001, the larvae were collected for rearing and to provide a captive stock for use at the translocation site. Most interestingly, one of the first generation produced a parasitoid, a small black wasp with yellowish legs, as did three of the second-generation larvae. This is almost certainly the first documented case of parasitism of larvae, at least in recent decades.

The establishment trial that has been running for the last two years in south Wiltshire has done well this year, with good numbers of moths and larvae seen and colonisation of additional bushes. A new generation of larvae was present at the establishment trial in rural Northamptonshire but none were found at the urban trial site just a few miles away, nor at the Lincolnshire trial site. Top-up releases of larvae took place at these sites. Two further establishment trials were initiated during the year, one in each of Suffolk and Bedfordshire.

### **Black-veined Moth *Siona lineata***

All four known populations of the Black-veined Moth, all in Kent, are monitored annually. In 2000, the numbers of adult moths at one of these were the highest (with 1999) since counts began in the mid 1970s. This is due to the sympathetic conservation management the site has received in recent years, mostly by cutting and raking, with some grazing. Numbers at a second site are well below levels recorded over the same period, this directly related to overgrazing. The moth is adversely affected by spring grazing, as this can lead to the removal reduction in the herbs needed by the overwintered larvae prior to the spinning of cocoons in spring. Management that is more appropriate has been promised for the coming year. At the other two sites, both in private ownership, numbers have declined to some extent over the last two years but the swards are now being managed sensitively, without grazing. Four other potential sites for the Black-veined Moth were searched during the year, with negative results.

Another small site appears to have been colonised in 2000. This site has been inspected almost annually since 1987, without any sightings. This is less than a mile from a rough downland site on which a single moth was seen for the first time in 1999. The latter was searched again this year, with negative results. Hopefully the species will persist on this potential fifth site, though there are doubts as to whether the site is big enough to support a self-sustaining population. Suitable chalk grassland swards are being restored on several nearby sites, most under the Countryside Stewardship Scheme and one by the Kent Wildlife Trust.

An experiment to investigate larval survival rates in net cages at one of the occupied sites was completed in 2000. This showed that of 100 eggs placed in one cage, on the grass stems on which they were laid, only two larvae survived to the winter and both had disappeared by the spring. A freshly mated fertile female placed in the other cage resulted in three larvae surviving to the winter with these too disappearing by spring. The results have important implications in trying to decide the numbers of eggs or larvae that might be needed for releases to establish new colonies.

### **Fiery Clearwing *Pyropteron chrysidiformis***

During 2000, egg counts were once again undertaken at the Fiery Clearwing's best-known locality. Numbers were up on 1999 although in contrast, only 74 exuviae were found, this being lower than last year. The highest recent count of exuviae was in 1996, when 105 were located. Scrub clearance was undertaken in the winter of 1999/2000 and eggs were noted on plants in four of the five areas cleared. As in 1999, further plants have disappeared this year; the cause of this is unknown.

During 2000, 28 potential sites from Hampshire to Kent were surveyed for signs of the moth. Nearly all the sites searched on the south coast were found to have been damaged by recent sea defence works. However, one new site was found as part of this survey. This is three kilometres away from the nearest known colony, bringing the total to three known localities.

### **Fisher's Estuarine Moth *Gortyna borelii lunata***

#### 1. Transect monitoring on Skipper's Island:

The flight period during 2000 was from 5th September to 22nd October with peak numbers recorded between 18th and 26th September. After this, the population appeared to decline gradually. The greatest number recorded in any one monitoring session was 36. The highest numbers of Fisher's Estuarine Moth sightings were on transect sections characterised by relatively sparse stands of the larval foodplant, Hog's Fennel *Peucedanum officinale* (less than 25% ground cover) and dense grass cover, dominated by Sea or Common Couch grass *Elytrigia* spp..

#### 2. Mark re-observe experiment:

The main objective of this experiment was to obtain information on movement patterns - it worked surprisingly well with more than 30% of marked moths being re-observed. The greatest distance travelled by a male was 190 metres (mean 65m), and for the females, it was just 13.5 metres (mean 5m). From these preliminary findings, it seems that, due to the females' apparent lack of mobility, the chances of Fisher's Estuarine Moth colonising new patches of Hog's Fennel are very unlikely.

#### 3. Oviposition observations:

Egg-laying was observed on 26 occasions, approximately 75% of which were on *Elytrigia* spp, 15% on False Oat grass *Arrhenatherum elatius*, and the remaining 10% (just one observation on each) were on Cocks Foot *Dactylis glomerata*, Yorkshire Fog *Holcus lanatus* and Hog's Fennel.

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### **Reddish Buff *Acosmetia caliginosa***

The Reddish Buff continues to thrive at its single surviving native locality, on the Isle of Wight, from which it would almost certainly have been lost were it not for the management work carried out over the last decade as part of the EN Species Recovery Project. Work continues each winter to clear back or keep in check the scrub that would otherwise encroach and smother the open heathy swards in which Saw-wort *Serratula tinctoria*, the larval foodplant, grows in abundance. Work continues to extend and restore small patches of adjacent habitat into which the moth can spread. In 2000, the adult moth was seen on a number of occasions by day, in addition to those seen in the light-traps.

Attempts to establish additional colonies within the former range of the moth are a major part of the project. Three establishment trials are currently underway, two on the Isle of Wight and one in Hampshire. One more site on the island and two more in Hampshire are ready for releases of larvae or adult moths. Unfortunately, the numbers of larvae produced in captivity in 2000 were insufficient for new trials or top-up releases. Monitoring suggests that numbers have also dwindled on the existing establishment sites. None were light-trapped at the two Isle of Wight sites and a search for larvae at the mainland establishment site was also negative.

## **Sussex Emerald *Thalera fimbrialis***

Butterfly Conservation, with funding from EN, commissioned Sean Clancy to undertake a survey to determine the larval distribution at its sole British site and to determine habitat suitability. The last time a survey of this moth was undertaken was in 1995 (that by Dr Peter Kirby). The 2000 survey was not to a similar level as the previous surveys, although Sean found larvae in most of the previously identified areas. There is a suggestion that Wild Carrot *Daucus carota*, the main foodplant, has decreased in frequency at the west of the moth's distribution. Also, in some areas it seems that the vegetation has become more vigorous and more competitive plant species have colonised, probably due to a build-up of humus. Some small-scale disturbance of part of these areas is being considered.

At the Dungeness Bird Observatory, 70 individuals were recorded between July 1st and August 14th, with a maximum count of 14 on July 30th (David Walker).

## **UK Biodiversity Action Plan Moths and Butterflies**

### **Update on UK Biodiversity Action Plan Moths - a summary for the year 2000**

Summary by Mark Parsons (MP) and David Green (DG) with contributions from Paul Kirkland (Dark-bordered Beauty), Paul Waring (Bright Wave, Four-spotted, Marsh Moth and White-spotted Pinion) and Mark Young (New Forest Burnet and Slender Scotch Burnet).

This summary is by necessity selective and we apologise for any omissions. It does not cover all moths on the UK BAP, as for some species there is little new information to report. In a few cases we have reported on a systematic survey for an individual species from previous years, but only if the report or summary was produced in 2000.

Much of the work mentioned in the following species accounts was carried out as part of the "Action for Threatened Moths Project". Unless specifically mentioned otherwise, work under the project is co-ordinated by BC with contributory funding from EN (nominated officer Dr. David Sheppard). BC is grateful for the financial support of EN, all other funding bodies mentioned in these accounts, and for the support and cooperation of the many other organisations, volunteers and specialists involved.

The distribution maps that appear in this section plot the known records for each species in the 10 x 10 km squares of the UK Ordnance Survey national grid. These were compiled from information held on the National Scarce Moth Recording Scheme database. These have been plotted using the DMAP program for distribution and coincidence map plotting, written by Dr A. J. Morton.

### **Argent & Sable *Rheumaptera hastata***

During 2000, funding from the Forestry Commission made it possible to incorporate survey and monitoring for the Argent & Sable into an existing scheme at Woodland Improvement Grant "Coppice for Butterflies Challenge" sites (see also the species account for Drab Looper). This funding also made it possible to initiate much-needed studies into the larval ecology of the moth although attempts to identify a suitable study site at a woodland locality in southern England proved unexpectedly difficult, perhaps indicative of the serious decline that this species has experienced.

Few records were received of this conspicuous day-flying species during 2000, but at sites where it was noted, most observers reported encouraging numbers. Disappointingly, it was not recorded at any of the "Coppice for Butterflies Challenge" sites. The species was reported in good numbers from a locality in Gloucestershire (Matthew Oates) and from Cumbria (Sarah Bradley). The moth was also recorded at a single site in Dorset (Bill Shreeve), Shropshire (Rosemary Winnall) and in Herefordshire. Ten were seen in part of a large woodland complex in North Hampshire on 13th May (Tim Norriss and DG). At this site at least, the moths are evidently capable of using quite small patches of birch seedlings as long as they are growing in open, sunny situations.

The North Hampshire locality was selected as the most promising larval study site but DG was only able to locate a single larva despite considerable searching. It was found in a spinning at a height of approximately 25 cm from the ground on the leaves of a 40 cm high Silver Birch *Betula pendula* seedling. Other vacated spinnings, probably also of this species, were found in similar locations.

### **Ashworth's Rustic *Xestia ashworthii***

Larvae of this species were found at Cadair Idris NNR, Meirionnyd (John Bratton) and Sychnants Pass, Caernarfon (MP). Six adult Ashworth's Rustic were recorded by the North Wales Moth and Butterfly Group at a well-known locality in Caernarfon on 15th July. The moth was also seen in other localities in North Wales, including on an RSPB managed reserve (Andrew Graham).

### **Barred Tooth-striped *Trichopteryx polycommata***

Tony Dobson is undertaking investigations on this species on behalf of the Hampshire & Isle of Wight Wildlife Trust at a reserve in Hampshire. This project was supported by a contributory grant from the British Entomological and Natural History Society Research Fund. See "The Wildlife Trusts and Lepidoptera conservation" section of this bulletin for further details of this project.

In East Sussex, what appears to be a new site for the species was discovered near Seaford by Simon Curson. This was reported on in Newsletter 11 of *The Sussex Moth Group*. The site is somewhat atypical in that it is an exposed open downland site and the moth was found on recently cut Privet *Ligustrum vulgare* (new growth being less than 75 cm high). At Friston Forest, also in Sussex, the moth was eventually found after some considerable effort by Ashley Bradshaw and David Burrows. This was a former stronghold for the species so it is good to know of its continued presence. At a meeting with a member of staff from FC, it was decided that some management of the rideside vegetation was required as the ride was becoming very shady. It is planned that some larger trees and some dense bushes of Blackthorn *Prunus spinosa* will be thinned in the hope that this benefits the Privet.

Barred Tooth-striped was recorded in Lancashire (Stephen Palmer, Ray Banks, Kevin McCabe, Paul Pugh) and in Kent (per Ian Ferguson). The moth was also rediscovered in Dorset by Peter Davey at a site where it was last seen in the early 1980s.

### **Belted Beauty *Lycia zonaria britannica***

The BC moth officers visited the North Wales and northwest England sites for this species early in 2000, meeting key individuals responsible for managing and monitoring the two remaining populations. Both the remaining sites are small and are experiencing problems associated with high recreational pressure. The Wirral Countryside Ranger Service has established experimental plots of varying management techniques at the northwest England locality and the results of these trials will be used to guide further, more extensive work. In North Wales, the CCW has been monitoring adult population levels for the past five years and is carrying out studies into the larval requirements of the species.

Alice Kimpton, of the Wirral Countryside Ranger Service was commissioned through the Action for Threatened Moths Project to undertake a survey of potentially suitable dune systems in parts of the coast of northwest England with a view to locating possible sites. CCW is also investigating the suitability of other sites.

### **Black-banded *Polymixis xanthomista***

Mark Tunmore continued his 1999 survey of Cornwall sites into 2000. Although hampered by the poor weather conditions that prevailed throughout much of September, Mark reports that around 90 moths from seven Cornish sites were recorded by himself and others during 2000. (Adrian Spalding, Barry Henwood, David Brown, Robin Howard). This work results in two new localities for the species, one of which is in a previously unrecorded 10km square. The moth was also recorded at

known sites in Pembrokeshire (Sam Bosanquet), Devon (Roy McCormick) and the Isle of Man (per Gordon Craine).

BC News No. 75 featured a profile of this species and featured colour photographs of the adult moth together with both young and final instar larvae.

### **Bordered Gothic *Heliophobus reticulata***

There are now concerns over the continued survival of this species on Portland, Dorset, as 2000 appears to be the second year running without the moth been seen, despite regular trapping. Further to this, Gerry Haggett undertook a survey of several sites in the Norfolk and Suffolk Brecks for this species during 2000, searching for both larvae and adults. None were found. It now seems that there have been no records of this species from the Brecks since 1996. **If anyone is aware of an extant colony of this species, or is knows of any records from sites in the Breck district or elsewhere in the last 10 years we would be pleased to hear from you.** John Chainey has found this species in the past by looking for adults on flowerheads, particularly those of Red Valerian *Centranthus ruber*. Perhaps this tip is worth bearing in mind when in suitable localities.

*Atropos* No. 9 reported the finding of a single Bordered Gothic by Neil Bowman at Eccles-on-Sea, Norfolk, 9th June 1999 (Bowman, 2000). The moth appears to be of the continental form and is presumed to be an immigrant individual.

### **Brighton Wainscot *Oria musculosa***

John Phillips is co-ordinating efforts on this species, under the auspices of BENHS. John and Stewart Swift recorded a single example in Wiltshire on the 31st July, the only one thought to have been recorded in 2000. A BENHS field meeting to the same site on the 5th August, which was targeted for this species, failed to record any, despite eighteen MV lights being operated in favourable conditions.

The species is associated with wheat and cereal fields and surrounding grass verges. With this association in mind, John has approached local farmers at the Wiltshire site with a questionnaire in an attempt to determine if farming practices have changed recently. Four replies were received. All the farmers reported that no significant switches had been made from continuous cereal farming to arable or other crops over the last 10 to 15 years, but one farmer said that he had always practised a mixed farming system. The only other consistent answers related to the fact that no stubble burning has taken place recently and that there have been changes in the varieties of cereals planted. Nevertheless, short-stemmed varieties, which are not thought to be suitable for the moth, do not seem to be used.

There will be a BENHS field meeting on 21st July 2001 at Tilshead, Salisbury Plain, Wiltshire with the aim of investigating the status of the moth in the area.

### **Bright Wave *Idaea ochrata***

Survey work during the last two years indicates that the Bright Wave is now almost certainly confined to a single locality in Britain. The former sites in Suffolk and Essex have produced negative results for a number of years and must be considered lost. However, the status of the moth at the remaining locality, between Sandwich and Deal in Kent, has proved to be stronger than it appeared before the fieldwork carried out for the UK BAP project. Recent records tended to come from one easily accessible piece of ground, but by exploring private land, the moth has been confirmed to occur on four different ownerships covering an eight kilometre length of the coast. Within this, the moth occurs in a recognisable type of sward represented extensively in the roughs of the links golf courses in this area. The moth appears to be absent from parts of a nature reserve where the sward has a promising botanical composition but is heavily grazed during the winter. The larvae overwinter and have been found near the ground on leguminous foodplants, but may be unable to survive the winter if grazing is heavy. Not one of the places where the moth is frequent is grazed.

The adult numbers are now monitored by four transect walks. Numbers seen in 2000 were of the same order as in 1999, so the population may prove to be stable at present. An illustrated leaflet has been prepared and distributed to the site owners, to introduce the moth and explain its habitat requirements. Management plans have been discussed with the owners and will be kept under review.

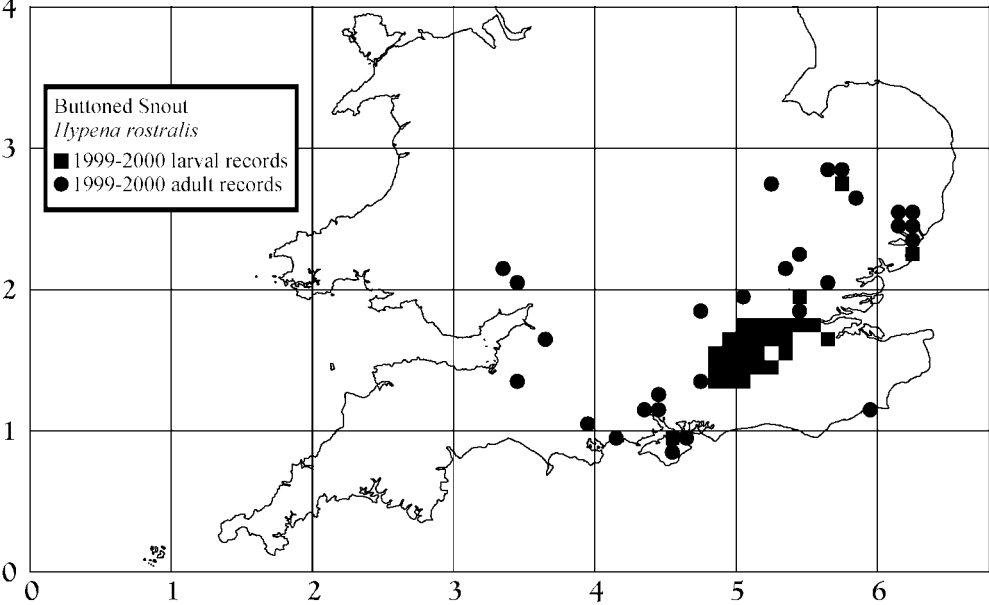
The search area for undiscovered colonies of the Bright Wave was extended in 2000. The northernmost visited were Brancaster and Hunstanton on the north coast of Norfolk and Skegness in Lincolnshire, and the southernmost was Rye, Sussex. However, the moth was seen at none of these, in spite of some good weather for daytime searches.

**Buttoned Snout *Hypena rostralis***

Two major surveys for the species were undertaken during 2000 as part of the Action for Threatened Moths Project. One survey was undertaken by Graham Collins who managed to find larvae in all but two of the 10km squares in Surrey, recording larvae at 26 sites (covering 21 10km squares). Further to this survey, larvae were found at two other Surrey sites during 2000, one of which was an additional 10km square. Graham’s survey also took in parts of Kent. He found larvae in three 10km squares (one site in each 10km square). Graham noted that larvae utilised the foodplant Hop *Humulus lupulus* growing in almost every conceivable situation. Almost all sites were at a boundary shared by two separate landowners. This could mean that the Hop is at twice the risk of being removed or sprayed. During the survey, Graham noted the nationally scarce micro moth *Cosmopterix zieglerella*, which is also associated with Hop, in three separate 10km squares. Conversely, and rather surprisingly, north of the Thames, Colin Plant undertook a similar survey but could only locate one site with larvae. With considerable effort, Colin found and surveyed 26 sites supporting Hop. It is very difficult explain the differences in the results of these two surveys. The weather may have played its part, though this seems an unlikely explanation. It is possible that general tidying-up of small sites may be responsible for the apparent scarcity in north London.

Other reports of the moth come from throughout southern England and parts of south Wales (many observers – see map for 1999 & 2000 records). What were presumed to be overwintered individuals were seen as late as the middle of June, the latest reported being the 19th of that month.

**Map 1:** The known distribution of Buttoned Snout by 10km square, 1999-2000



We particularly want to encourage everyone to survey for the presence of larvae of this species in their area, particularly in the southern half of England and southern Wales, during 2001.

### **Chalk Carpet *Scotopteryx bipunctaria***

Three Chalk Carpet larvae were found during a survey of the Surrey downs for larvae of the Straw Belle *Aspitates gilvaria* by Graham Collins. All three were found at night. Barry Stewart recorded a healthy population of this species in the Avon Gorge, at a site where they had not been seen for a number of years. The moth was reported from the Gower, Glamorganshire (per Mike Powell), East and West Kent, the Isle of Wight (John Chainey & Jenny Spence), Hampshire (Tony Dobson), Devon (Maurice Edmonds) and at several sites in Dorset (MP). There were also records from Bedfordshire, East and West Kent, Somerset and Surrey. The moth was reported from Gloucestershire in Newsletter 5 (2000) of *Gloucestershire Moths*. Newsletter No. 44 of *The Glamorgan Moth Recording Group* summarises the known records from Glamorgan, also figuring the adult. Newsletter No. 45 lists a record of this species and Newsletter No. 41 lists the group's 1999 records for the moth.

### **Clay Fan-foot *Paracolax tristalis***

During July 2000, Sean Clancy undertook a survey of four potential sites for the Clay Fan-foot. Nine examples were found at a site within a 10km square with no recent records and two examples were recorded at a new site within a 10km square with a post 1980 record. Both the localities where the moth was found are rather open oak-rich woodland within the Wealden woodland belt in Kent. Sean also undertook a search for the larvae, but none were found. Clay Fan-foot was also reported in East Sussex (John Shaugnessy).

### **Common Fan-foot *Pechipogo strigilata***

Nine Common Fan-foot were recorded at a known Surrey locality on 16th June (Tony Davis). The results of Tony's surveys are now being used to guide decisions on the future management of this Surrey Wildlife Trust owned site.

MP and DG recorded this species at a new site in North Hampshire on 23rd June. One moth was disturbed from leaf litter during the early afternoon and a second individual was netted at dusk. Both moths were seen in areas of densely overgrown, derelict Hazel *Corylus avellana* coppice with oak *Quercus* spp. standards. It is interesting to note that the site is one with a good history of recording. This discovery results in one new 10km square for this species and an update of a pre-1980 10km record. Elsewhere during 2000, the Common Fan-foot was recorded in the Wyre Forest, Worcestershire (per Ian Duncan).

### ***Coleophora tricolor***

Gerry Haggett has been undertaking an extensive study of this species. The results of the study prior to this year have been published recently in the *Entomologist's Gazette* (see bibliography). Gerry continued his studies this year, with funding from EN, as part of BC's Action for Threatened Moths Project, extending his survey to take in further sites. Gerry kindly showed MP around the known sites for the species, along with former sites for the foodplant, Basil Thyme *Clinopodium acinos*, over two days in September. Gerry is liaising with landowners of the various sites to ensure the continued survival of this species.

### **Dark Bordered Beauty *Epione vespertaria***

The Dark-bordered Beauty has only been confirmed at four sites in recent years, two in the Cairngorms and two in northern England. A fifth site in the Scottish Borders has had no records since the 1970's. The moth's vulnerability is highlighted in the Biodiversity Action Plan for the Cairngorms, and in BC's Regional Action Plans for both Highland and East Scotland.

A number of organisations are now involved in trying to secure the future of the moth at its two sites in the Cairngorms. Here, the moth is thought to only breed on low Aspen *Populus tremula* such as suckers and saplings, and recently the cutting of a wayleave for electricity power lines at one site is thought to have had a beneficial effect. The second site is grazed, and it is possible that current low

numbers may be due to lack of suckers of a suitable height. To investigate this, limited trial management is to take place to see if excluding stock from a small area will allow the grazed off suckers to grow to a height that the moth will use. Monitoring of both the suckers and the moth will take place. It is also intended to undertake surveys of other aspen stands to see if more colonies can be located. It is also hoped to carry out further surveys at the Borders site this year to see if the moth can be re-located. Some of the work is being carried out by BC, funded by Scottish Natural Heritage (SNH) and RSPB, but much help is coming from local entomologists and volunteers, the Forestry Commission (FC), the local Farming & Wildlife Group, the Cairngorms Biodiversity Partnership and of course, the owners.

Work on the moth is taking place in conjunction with work on another highly endangered insect, the Aspen Hoverfly *Hammerschmidtia ferruginea*, organised by the Malloch Society, again with support from RSPB and SNH. This species breeds in a very contrasting Aspen habitat, either standing or fallen large dead trunks. Both species will feature in a seminar devoted to the flora and fauna associated with aspen at Kingussie in the Highlands on May 25.

The Dark-bordered Beauty was also seen at its north-east Yorkshire locality during 2000 (John Chainey and Jenny Spence).

### **Dark Crimson Underwing *Catocala sponsa* & Light Crimson Underwing *Catocala promissa***

During 2000, BC collaborated with the Hampshire and Isle of Wight Wildlife Trust in a project part funded through European Union Life Nature to investigate the larval ecology of the Dark Crimson and Light Crimson Underwing. The study involved commissioning a specialist tree climber to gain access to the upper canopy of particular large, mature and over-mature oaks *Quercus* spp.. In this way, it proved possible to search for larvae in the highest branches of the trees and to position light traps and sugar baits at heights of up to twenty metres from the ground in order to record the adults. These techniques are much used when carrying out insect surveys in tropical rain forests but, to our knowledge, have been little used in the UK. Despite the successful collection and subsequent release of several hundreds of caterpillars, no larvae of either target species were found by the climber. The only larva of either species reported during 2000 was a single Light Crimson Underwing caterpillar found at a known New Forest locality on 9th May by DG and MP. The young larva was around thirty millimetres in length and was beaten from the south-facing side of a mature oak at a height of between four and five metres from the ground by using a long pole to dislodge larvae onto sheets spread on the ground. In contrast to the limited success with searches for the early stages, the use of aromatic baits in the form of wine ropes suspended high in the tree canopy proved to be a highly effective method of recording the presence or absence of the adult moths. From late July through to early September, both species were found to come freely to the baits. Adult moths could also be seen on occasions flying in the light of the suspended light traps but appeared to be only weakly attracted to the light. None actually entered the traps.

Contributory funding from EN enabled a mark-release-recapture experiment to be carried out in conjunction with the tree canopy studies. Adults of both Crimson Underwing species were captured and marked with coloured marker pens as they visited sugared tree trunks, wine ropes and sap runs. The aim was to investigate longevity, mobility and to enable estimates to be made of population levels. This project was assisted by volunteers from BC, BENHS, the Wildlife Trusts and other individuals. Thirty-six adults of Dark Crimson Underwing and five Light Crimson Underwing were marked. There was just one recapture, this of a Dark Crimson Underwing, re-caught twenty-four hours after release at the site of initial capture. It is difficult to draw any firm conclusions from such a small sample but the results appear to indicate that the moths may be either dispersing or, more likely, that there may be a population of up to several hundred individuals at this locality. As in 1999, both species were noted flying naturally long before the onset of darkness. References to this phenomenon appear occasionally in the Victorian entomological literature but it does not appear to have been observed in recent times. This flight seems particularly strong in Dark Crimson Underwing and at one site on 24th August, up to nineteen were seen flying in late afternoon sunshine between 6.10 pm and 6.40 pm.

No evidence for Light Crimson Underwing could be found in the Woodside part of Windsor Great Park in 2000 (David White, David Fuller, Des Sussex and Martin Harvey). Brian Baker's 1994 book *The butterflies and moths of Berkshire* included a record for Windsor (exact location unspecified) that was described as "recent". The previous Berkshire record was in 1948 somewhere near Newbury. A *Catocala* species came to MV light at High Standing Hill, Windsor Forest, on 14 August 1998 but the species could not be confirmed. A BENHS field meeting is planned for 4 August 2001 to cover further areas of Windsor for this species.

### **Dingy Mocha *Cyclophora pendularia***

Peter Davey co-ordinated survey work for the Dingy Mocha during 2000. With the assistance of volunteers and BC staff, the species was found as larvae at a number of sites, primarily in Dorset, but with at least one Hampshire record. At least one site, possibly two, are thought to represent new localities, whereas other records confirm breeding at sites where only the adult had previously been seen. Larvae were found in a new habitat, away from heathland, on damp, scrubby grassland. This could mean that some earlier records from other habitats in southern England may need reappraising.

Typical habitat for this species appears to be small isolated (that is open on all sides) bushes of small or medium-leaved type willows *Salix* spp.. Occasionally the larvae are found on adjacent more scrubby areas or amongst rows of bushes along roadsides. Unfortunately, despite much searching, no larvae were found at what is considered by most to be the species' stronghold, Arne and Studland, although one adult was recorded at the former site this year. The reason for this is uncertain, but it may be that there has been some clearance of small isolated willows, which has contributed to a possible decline in the area.

### **Double Line *Mythimna turca***

Adrian Spalding was commissioned to undertake a preliminary investigation into the larval requirements of Double Line at a Cornish NNR and to try to determine the preferred habitat for the species at this site. Larvae were found feeding on Common Bent *Agrostis capillaris*, although ten different species of grass were found in the immediate vicinity of larval sites. Adrian has suggested that the larvae appear to prefer sheltered areas adjacent to scrub. As part of the preferred habitat survey, a "light trap transect" was undertaken. This involved the simultaneous use of eight mercury vapour light traps placed in a line across differing habitat types. The results appeared support Adrian's view that sheltered areas adjacent to scrub is the preferred habitat on this site.

The species was found at a new site in Cornwall (Adrian Spalding) and in Somerset (James McGill). Interestingly, the new Cornish site is a bracken-covered hillside with gorse scrub. The moth was also recorded in North Cornwall (Peter Spong), three sites in Devon (Paul Butter, Rob Wolton), and Glamorgan (Mike Powell) where the record for one of the sites is thought to be the first for about 100 years. The species was also recorded in Carmarthenshire. A field meeting organised by the Hampshire & Isle of Wight Branch of BC to search for this species at its last known Hampshire locality proved unsuccessful despite the presence of apparently suitable habitat.

*The Glamorgan Moth Recording Group* listed the known records of the Double Line for Glamorgan in Newsletter No. 39, noting that the species had been recorded from sixteen 10km squares. Newsletter No. 41 of *The Glamorgan Moth Recording Group* reports that there were 21 records of this species during 1999 covering 114 adults and Newsletter No. 42 gives records from an additional 10km square. Newsletters No. 44 and 45 list further records of this species, one of which appears to be yet another new 10km square, and Newsletter No. 46 gives a late date for the species. At least one Glamorgan site is currently threatened by proposal for open cast mining.

### **Drab Looper *Minoa murinata***

The Forestry Commission funded BC to undertake a project to establish whether coppice paid for under the Woodland Improvement Grant Scheme "Coppice for Butterflies Challenge" has benefited

key UK BAP Moths. During 2000, BC volunteers began surveying and monitoring the day-flying Argent & Sable and Drab Looper at “Coppice for Butterflies Challenge” sites.

The results are still being collated but there are already some encouraging results. In at least two localities, the opening up of derelict coppice under the scheme has enabled Drab Looper to colonize from adjacent woodland. In addition, increased observer effort has resulted in the discovery of new localities for the moth and has enabled some pre-1980 records to be updated. During 2000, the moth was reported in the Malverns (Ian Duncan), North Hampshire (Andy Barker, Tim Norriss, MP, DG), Dorset (Peter Davey), Gloucestershire (MP), Forest of Dean (Roger Gaunt and MP) and Wiltshire (Barry Fox and others). Roger Gaunt reports finding this species at three sites in the Forest of Dean on 10th June (Newsletter 3 (2000) of *Gloucestershire Moths*).

#### **Four-spotted *Tyta luctuosa***

Work on this species in 2000 was co-ordinated by Paul Waring as part of the Action for Threatened Moths Project. Breeding areas where the moth can be seen reliably and in numbers are now a rarity. Portland, Dorset, is the best known and the moth continues to be recorded annually in the light-trap operated by Martin Cade at the Bird Observatory, but numbers noted in 2000 were small. An indication that all is not well with the moth on Portland is that relatively few are now seen along the footpaths around the edges of the farm fields near the observatory. When these were farmed for cereal crops until a few years ago, the larval foodplant Field Bindweed *Convolvulus arvensis* sprawled along the field edges and the moth was frequently seen by day. Recently the farmer has abandoned cereals for cattle, which have grazed the sward flat in these rather poor fields and the breeding opportunities for the moth are much reduced. PW and MP visited the area with Martin on 3rd August 2000 and saw only one moth all day. Significantly, it was taking nectar from bindweed flowers in an ungrazed field margin along a fence line. The emergence of the second generation in 2000 was poor, probably because the development of the first generation was protracted by changeable weather. Other parts of Portland were searched for areas of promising habitat. A number of likely areas were located, including one of the BC reserves. It is hoped that these will be inspected during 2001.

Three other areas of work have begun. The first is the intensive monitoring and study of probably the single largest remaining population of the moth in Britain, at a site near Peterborough. Secondly, visits have been made to start to document the current condition of the other known breeding areas. Thirdly, efforts to update the national database of records of the Four-spotted and to promote better recording of the moth have been initiated. Illustrated articles are being written to raise interest in the moth. The first of these, in the moth report in *British Wildlife* (11: 439-440) (August 2000) has resulted in two sites to investigate in 2001 and several recent records of singletons being sent in by readers. Weekly transect counts at the Peterborough site have helped to clarify the best dates to search elsewhere for the moth. Favoured nectar plants, characteristics of the habitat where the moths were most frequently seen and responses to different weather and survey conditions have all been documented. In the second week in July, just when searches for larvae were about to take place, the main dyke bank, where most adults had been seen, was scraped clear of vegetation by the Environment Agency (EA) in a dyke clearance operation. A few shoots of Field Bindweed remained, on which any fallen larvae could have fed, and after a week or so, new growth of Bindweed was evident. Subsequently only one adult of the second generation was seen. While catastrophic in the short-term it is probably the scraping operation which maintains the suitability of the site in the long-term. The sward would otherwise become too rank, as it has on the unscraped side of the dyke. It appears that the moth is able to survive the scraping operation because it also breeds along the top of the bank and by an adjacent railway, from which it is able to recolonise the scraped area as the vegetation recovers. Subsequent discussions with EA have established that the scrape is annual and takes place any time from July to September. EA is happy to wait until August to scrape it in 2001.

Visits were made to a disused railway cutting in Nottinghamshire, which was notified as a SSSI because of the population of the Four-spotted it supported. The moth appears to have been lost from this site in the last few years though a small population has since been found a little further up the same line. The vegetation on the site has been allowed to become much ranker than when PW visited it some ten years ago and this year there was standing water in the cutting during the visit.

Visits were also made to four sites in Lincolnshire, from three of which there are recent records, though the moth probably only breeds at one. This site was interesting in demonstrating the sort of habitat which possibly supported many colonies of the moth before the last war but which has all but disappeared now. The site was a steep south-facing calcareous bank lightly grazed by cattle that were present on the date of the visit. No fertilisers had been applied and a management agreement is in place with EN because of botanical interest. Field Bindweed grows as small plants in the majority of places across the sparse sward on the site, but in much greater quantity just outside the fence.

There will be a BENHS daytime field meeting at Portland on 9th June 2001 when it should be possible to record the moth.

### **Heart Moth *Dicycla oo***

The Corporation of London funded a study on this moth during 2000. The study undertook to investigate the larval ecology and to attempt to determine the distribution of the species on Ashted Common NNR, Surrey. Graham Collins and MP spent a day searching for larvae, finding two. Unfortunately, both of these later died. Graham undertook a further visit, this time in the evening in the hope of finding further larvae, but none could be found. Although weather conditions were not always ideal, light-trapping, involving Graham Collins, Derek Coleman, Jim Porter, Mark Tunmore, MP and DG, was undertaken to determine the species' distribution on the site. Despite the unfavourable conditions, results indicate that the moth may be widely distributed over the Common.

In Berkshire, David White, David Fuller, Des Sussex and Martin Harvey have been surveying moths in the Woodside area of Windsor Great Park. They recorded single Heart Moths on 28th June and 19th July. Trapping at Silwood Park in 1999, undertaken by George Tordoff, Gavin Broad and Bart Donato, resulted in single Heart Moths on 8th and 9th July. Since Silwood Park and Woodside are at opposite corners of the Windsor Forest/Great Park complex, some 6 km apart, an optimistic view is that the moth could be surviving well in oak woodlands throughout the Forest area. Further optimism for its future at Windsor is provided by a programme of wood pasture restoration being undertaken by the Crown Estate and EN in the Woodside area.

Colin Plant, with assistance from others, including members of the Hertfordshire Moth Group, attempted to relocate the species in Hertfordshire and Middlesex. The species was last reported in these counties in 1971. Unfortunately, none were found. It is possible that poor weather played a part during this survey and consequently it is hoped that at least two sites that were thought potentially suitable for the species will be revisited.

The species was searched for at other localities in southern England, both former known sites and in other potentially suitable areas. Geoff Martin and George Beccaloni tried Epping Forest for the species, but unfortunately the weather conspired against them and none were seen. None were recorded during an all-night trapping session at Savernake Forest, Wiltshire, or during the BENHS field meeting at Pamber Forest, Hampshire.

### **Lunar Yellow Underwing *Noctua orbona***

Forty-five Lunar Yellow Underwing were noted on 1st July at four trap sites at Porton Down on the Hampshire/Wiltshire border (DG, Sarah Miles, Frank Lowe *et al*). A further individual was seen in another part of the site during a later visit on 15th July.

The species was also reported from its Suffolk strongholds. Records of this moth in Suffolk appear in Newsletters 20 and 21 of the *Suffolk Moth Group*.

### **Marsh Mallow Moth *Hydraecia osseola hucherardi***

Ian Ferguson continued to monitor the north Kent site for this moth. Sean Clancy undertook a survey of the sites on Romney Marsh and monitored the site discovered in 1999. Sean, with assistance of

others, surveyed twelve sites, guided primarily by information provided by the Romney Marsh Countryside Project. Eight examples of the Marsh Mallow were recorded at three sites away from previously known colonies, six of these at one site where the foodplant is sparsely distributed. The remaining two are from two separate sites. Although records indicate that this is a species that may be established over a wide area of the Marsh at low density, it is also a mobile species. The results of the survey do suggest a genuinely very localised population on the Marsh.

The Romney Marsh Countryside Project is continuing efforts to increase the population density of the Marsh Mallow plant *Althaea officinalis* on the Marsh. During 2000, four Countryside Stewardship Scheme applications have been completed, the applications include the promotion of Marsh Mallow plant spread. Over 400 plants were planted out alongside selected ditches, others are been grown from seed. The survey for the plant will continue and further sites will be identified for planting in 2001.

### **Marsh Moth *Athetis pallustris***

The distribution and numbers of caterpillars at one of its two currently known Lincolnshire sites have been monitored annually since 1988 using what is known as the "litter-pile" technique. This involves leaving small piles of cut vegetation when the sward is cut any time from late July to October. Larvae can be found and counted by lifting and sieving the piles two to three weeks or more after they have been made. In 2000, the litter-pile technique was tried at the second Lincolnshire site, where the only records of the moth are of occasional adults at light traps over a wide area. The aim was to try and locate the breeding grounds. This year the results were blank so, in 2001, the aim will be to increase the number and distribution of both light-traps and litter-piles to detect the moth.

It is much less well known that the Marsh Moth was recorded in two inland sites in Lincolnshire in the 1970s, though neither seem to have been investigated more recently. Light-traps were operated at both in 2000. No Marsh Moth were seen. In fact, only four moths were captured in the 1970s, all by Rick Pilcher, in spite of frequent light trapping throughout each year at Rick's garden overlooking the marsh. Unfortunately, the litter pile technique for sampling the inland sites could not be organised in 2000, but it is hoped to do so in 2001.

There will be a BENHS field meeting at Gibraltar Point, Lincolnshire on 16th June 2001 led by PW and Kevin Wilson with the aim of investigating the distribution of the Marsh Moth at this site.

### **Narrow-bordered Bee Hawk-moth *Hemaris tityus***

Following the sighting of several adults at a Dorset chalk downland site, several BC staff members and Phil Sterling (County Ecologist, Dorset) undertook a search for the larvae. Several were found, all feeding on Small Scabious *Scabiosa columbaria*. This is seemingly a new foodplant for the species. A second new site for the species in Dorset (vice-county South Hampshire) was also found in 2000 by Mike Gibbons. Andy Foster (National Trust) recorded the moth at a known locality on the Gower in South Wales. The larva was again found this year at the recently discovered Breckland site (Tony Pritchard) and on Salisbury Plain, Wiltshire. Newsletter 1 (2000) of *Gloucestershire Moths* reported on a 1993 larval record, the first county record for the species since 1951.

### **Netted Carpet *Eustroma reticulatum***

A major resurvey for the larvae of the Netted Carpet and its foodplant, Touch-me-not Balsam *Impatiens noli-tangere*, took place in the Lake District during 2000. This work was carried out by Paul Hatcher of Reading University assisted by Graham Jones with input from DG and additional surveys by John Hooson (National Trust). The aim was to visit all known and former localities for both the moth and the foodplant. Seventy-six sites where the foodplant has been recorded since 1990 were surveyed together with a number of visits to sites with older records. Results indicate that although there may have been as much as a two and a half fold increase in the number of plants since 1990, larval numbers have shown a 33% decrease. The increase in the number of plants was due to new large colonies being found since 1990, as plant numbers in colonies extant in 1990 had generally

decreased. At least one new locality for the moth was discovered, at a site where BC volunteers discovered the foodplant for the first time in 1999.

#### **Netted Mountain Moth *Macaria carbonaria***

See the “Moth surveys at the RSPB’s Abernethy Forest and Insh Marshes reserves (Invernesshire)” and “Moth and butterfly courses at Kindrogan Field Centre” sections of this bulletin for news of events scheduled during 2001 intended to target this species.

#### **Northern Dart *Xestia alpicola***

Three adults of this species were seen in the Grampians in 2000 (John Chainey and Jenny Spence).

#### **Olive Crescent *Trisateles emortualis***

John Chainey, Jenny Spence, DG and others visited a known Essex site for the moth on two nights in July 2000. Adult Olive Crescent were seen on each occasion. A field meeting organised by the Essex Moth Group to look for the larvae took place on National Moth Night. John and Jenny again attended. Using the knowledge gleaned from the earlier visit, they were able to find three larvae of this moth on fallen branches. Larval feeding damage was noted readily on withered leaves that had been noticeably perforated or skeletonised. It is thought that this is the first time that the larva has been found in Essex.

Martin Albertini and Peter Hall carried out survey work for the Olive Crescent in the area of its previously known colony in the Chilterns. Unfortunately, the weather was not ideal on any of the survey visits, and the target species was not seen.

#### **Orange Upperwing *Jodia croceago***

David Brown undertook targeted survey work for this species in the autumn of 2000, making three visits to potential sites in Devon. None were seen and although we are aware of other searches elsewhere, we know of no records for this moth during 2000.

A BENHS field meeting to search for this moth will be held in the Quantocks, Somerset on 1st September 2001.

#### **Pale Shining Brown *Polia bombycina***

Fifteen Pale Shining Brown were reported from a known Wiltshire locality at the end of June. The species was also searched for at Porton Down on the Hampshire/Wiltshire border on 1st and 15th July in near ideal conditions but none were recorded despite considerable trapping effort on both nights. We are aware of no other records of this species during 2000.

#### **Scarce Blackneck *Lygephila cracca***

New sites for this species have been discovered on the north coast of south-west England (Adrian Spalding). Warren Collum and Adrian Henderson report finding larvae of this species as part of a survey for the moth on NT properties in Devon. They also located several other sites that support the larval foodplant. The adult was recorded in Devon on 7th August by Roy McCormick.

#### **Scarce Merveille du Jour *Moma alpium***

Paul Troake recorded this species in a garden at Appledore Heath, Kent. The site is not too far from Hamstreet, a known site for the species. The moth was also recorded at Orlestone Forest, Kent (Ray Cook, John Chainey & Jenny Spence), and in the New Forest, Hampshire, during a BENHS field meeting.

### **Silky Wave *Idaea dilutaria***

Martin Evans, with help from Roger Edmondson, attempted to find larvae of this moth during spring this year at Avon Gorge. About eight colonies of the moth are known in the Avon Gorge area. Martin reared the moth in captivity, feeding larvae on the wilted leaves of rock-rose *Helianthemum* spp. and dandelion *Taraxacum* agg.. Fresh leaves of these plants were ignored. The majority of the foodplant was eaten at night. Seven attempts were made to find larvae in the wild from April to early June, with visits being made during the day and at night, concentrating effort on the sites of two colonies. Unfortunately, no larvae could be found and this species remains unfound as a larva in the wild. Common Rock-rose *Helianthemum mummelarium* is said to be the foodplant in Britain, yet at two of the sites in the Gorge, Rock-rose is not known to occur indicating that this may not be the sole foodplant.

Barry Stewart undertook a thorough survey of the Avon Gorge area for Silky Wave. He located the adult moth in several areas of the Gorge. It was noted that previous management carried out in two areas have created suitable conditions for the moth suggesting that similar management should be extended to other parts of the Gorge. The species was also recorded on the Gower, Pembrokeshire, where an unsuccessful attempt was made by Barry to observe oviposition.

### **Slender Scotch Burnet *Zygaena loti scotica* and New Forest Burnet *Zygaena viciae argyllensis***

The New Forest Burnet has been the subject of a recovery plan, overseen by the Burnet Study Group, since 1990. At that time, it was on the brink of extinction, with a surveyed population of around fifteen moths at its one site, but the action required was clear - its site was hopelessly overgrazed! Scottish Natural Heritage were persuaded to pay for the erection of a sheep-proof fence, with the agreement of the Estate owners, and this has made all the difference.

Despite periodic fence failures, the sheep have largely been excluded and the vegetation has recovered. In particular, the larval foodplant, Meadow Vetchling *Lathyrus pratensis* has, after a slow start, recovered much of its previous habitat and the moth has benefited from this. The moth also had a slow start, presumably because of the need for the foodplant, and the population hovered around fifteen to thirty moths for several years. In the last four years, however, it has increased spectacularly and in 2000 its population was estimated at roughly one thousand, comfortably exceeding the Species Action Plan target of two hundred and fifty.

The moth is still very vulnerable of course, in that it only has one site and future work will investigate the chances of establishing extra colonies. Otherwise, the main focus of work is to investigate whether some controlled grazing is now needed to prevent the site becoming too grassy!

In contrast, the Slender Scotch Burnet seems to have become less common in its very few outlying sites, so that it is only found in numbers along one coastal strip. It needs very early stage successional grassland with bare soil adjacent to its larval foodplant Common Bird's-foot Trefoil *Lotus corniculatus* and a general trend away from cattle grazing has allowed vegetation in some of its sites to become stabilised and unsuitable. The National Trust for Scotland is working hard to improve their habitat at one important site through grazing and bracken management but urgent action on the other remaining sites is needed.

### **Speckled Footman *Coscinia cribraria bivittata***

After several years of extensive survey work co-ordinated by Peter Davey, it is pleasing to report that, at last, a site has been found where the species occurs as more than just a single example in any one year. Twelve individuals were recorded over two nights at one small site. Similar habitat is thought to occur nearby, raising hopes that the moth could well be found in small discrete colonies elsewhere. Along with further survey effort, it is planned that work will be undertaken on the larval requirements of this moth in 2001.

Peter was also able to visit a site in Germany in 2000 to investigate the requirements of the moth there. The site has been used by the military for over one hundred years, and this has resulted in a patchwork of different aged *Calluna* and grasses. The Speckled Footman, also a rare moth in Germany, proved to be one of the commoner moths recorded. Peter was able to obtain livestock during the visit, which it is hoped will help with finding the larvae in Britain. The visit was funded by Wessex Water Authority and EN, co-ordinated by the Dorset Environmental Records Centre.

### **Square-spotted Clay *Xestia rhomboidea***

This species was reported from two sites in Hertfordshire (John Chainey & Jenny Spence), Norfolk (Jon Clifton) and Suffolk (David Young). The moth was also recorded in Surrey. A further record of this species in Suffolk appears in Newsletter 21 of the *Suffolk Moth Group*.

A BENHS field meeting to search for larvae of this species will be held at Tunstall Forest, East Suffolk on 21st April 2001. A further meeting intended to record the adults will be held here on 18th August 2001.

### **Straw Belle *Aspitates gilvaria***

Graham Collins undertook a larval survey for this species at each of its two remaining Surrey sites. The aims of the survey included the identification of larval foodplants and characterisation of the habitat. Larvae were readily located at one of the two sites and were found to be relatively inactive. This made observations on feeding behaviour difficult. Night time observations resulted in a larva being found eating the flowers of Common Bird's-foot Trefoil *Lotus corniculatus* and another apparently eating the flowers and seeds of Fairy Flax *Linum catharticum*. The following day a larva was found eating the leaves of Fairy Flax. A few other species of plants were eaten in captivity. The suggestion from this survey is that this species may feed on a variety of downland plants and it may be that microclimate and vegetation structure are more important than plant composition.

Graham also undertook a survey for the adult moths during 2001. He located the moth at one site in East Kent and at four sites in West Kent. In addition, Sean Clancy found the moth at a site near Dover, East Kent as part of an NT funded survey.

### **Striped Lychnis *Shargacucullia lychnitis***

There have been concerns over at least three roadside sites for this species. In West Sussex, road improvements are threatening a colony. Sarah Patton and Simon Curson had a meeting with members of the Highways Agency to try to lessen the impact of the works due to be undertaken in winter 2000/2001 and to try to ensure the continued presence of the foodplant Dark Mullein *Verbascum nigrum*. In the meantime, Sarah brought many of the larvae into captivity for rearing through and subsequent release. At least two Hampshire roadside sites have also been adversely affected (see below).

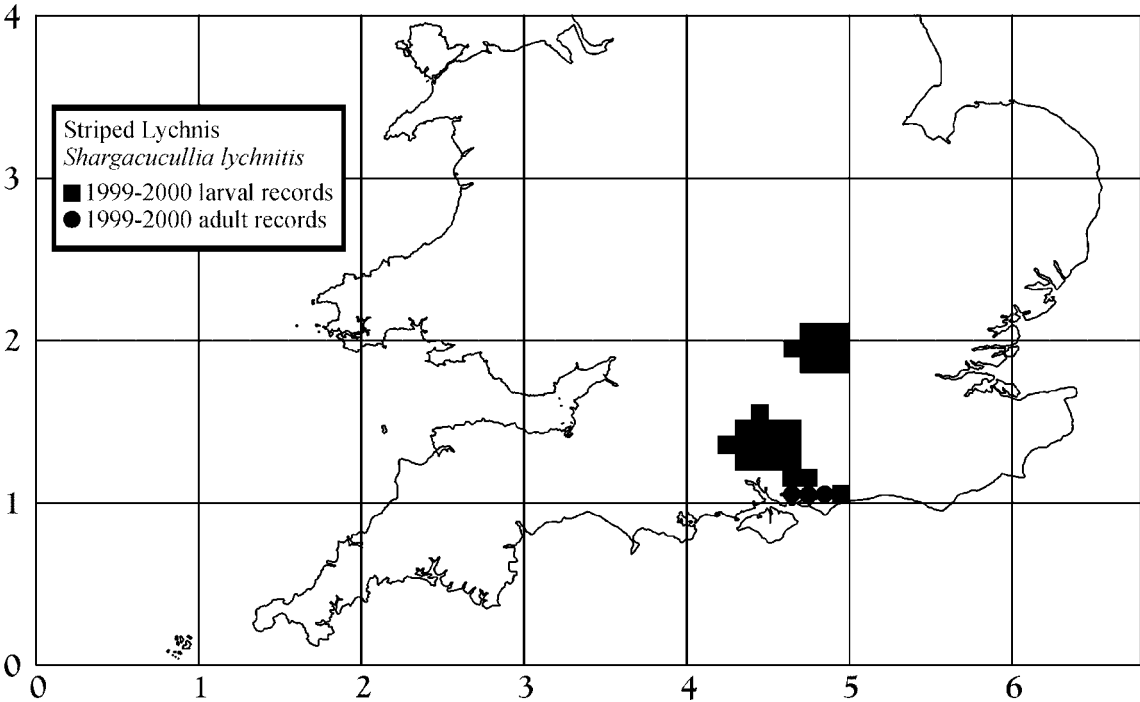
An extensive survey co-ordinated by Peter Hall in Buckinghamshire found 18,820 plants of Dark Mullein and 2,342 larvae. A report on the 1999 Buckinghamshire Striped Lychnis survey is presented in the *Bucks Invertebrate Group* Bulletin No. 10.

Larvae were also reported from North and South Hampshire (many observers). As in previous years, these records come mainly from roadside verges. At least three of the North Hampshire sites are new localities and one of these results in an additional 10km square for the species. One of these sites was searched in 1999 by DG with negative results possibly indicating a continuing increase in range. On the debit side, one of these new sites was destroyed by road works during October and a second was partly damaged. More encouragingly, the species has colonised the recently re-seeded extension at the Hampshire & Isle of Wight Branch of BC's reserve at Magdalen Hill Down, near Winchester (Philip Budd and Patrick Fleet).

Adult moths were recorded from three separate sites in West Sussex (per Colin Pratt, from “*Additions and Corrections to a Revised History of the Butterflies and Moths of Sussex*”, in prep.). Martin Townsend carried out work on Striped Lychnis in Oxfordshire included mapping of its foodplant and scattering foodplant seed on one site. Full details of these and other records are held by Martin Townsend (Oxfordshire County Moth Recorder). The moth was also recorded in Berkshire although searches of former sites in Dorset once again proved negative.

Newsletter No. 45 of *The Glamorgan Moth Recording Group* reports on the 1951 record from Margam, confirming the specimen’s identification, although expressing reservation over its provenance.

**Map 2:** The known distribution of Striped Lychnis by 10km square, 1999-2000



**Sword Grass *Xylena exsoleta***

Unsuccessful attempts were made to locate the Sword Grass in south Cumbria and at two locations in Lancashire (per Stephen Palmer). Two individuals were reported from the Isle of Man (per Gordon Craine).

**Toadflax Brocade *Calophasia lunula***

Sarah Patton is co-ordinating monitoring of this species at Pagham Harbour, West Sussex, and David Burrows has been undertaking monitoring on an area of the remaining parts of the Crumbles, East Sussex. Observations to date suggest that larval numbers are increasing at its Pagham site. Colin Pratt has reported several negative searches during 2000, but MP and Kate Ryland were able to locate new sites for the species in East Sussex, although these are in the general area of existing sites. Tim Freed recorded this moth in his back garden at Ferring, West Sussex, even finding one larva. This also appears to represent a new site for the species. Thirty-eight individuals were recorded at the Dungeness Bird Observatory between May 13th and August 18th, with a maximum count of 4 on July 30th (David Walker).

As the result of a letter to Sovereign Harbour Limited, who are responsible for managing the development of the Crumbles, near Eastbourne, the company has recommended that Purple Toadflax *Linaria purpurea* and Common Toadflax *Linaria vulgaris* be incorporated into landscaping proposals.

A single adult moth was recorded in Essex in May by Chris Gibson.

A summary of the history and distribution of the moth is published in Parsons, 2000 (*Ent. Rec J. Var.* **112**: 115-120).

### **Waved Carpet *Hydrelia sylvata***

Roger Gaunt, Stephen Palmer (and others) and Colin Pratt (co-ordinating recording effort in Sussex) surveyed ten Woodland Improvement Grant Coppice Challenge sites for this species during 2000 as part of a Forestry Commission funded study. Recently coppiced sites were surveyed along with adjacent non-coppice blocks. Only one Waved Carpet was located, that in a non-coppice block. A visit was made to a known site to determine whether the moth was having a good year or not and average numbers were noted. A larval search was also undertaken and despite considerable effort in several parts of the country, no larvae could be located.

The adult was recorded in what was thought to be a new site in each of Gloucestershire (MP), Somerset (James McGill) and East Sussex (Simon Curson). The species was reported from four sites in Devon (Paul Butter), it was seen in numbers in West Sussex (John Phillips) and was reported from Kent (Sean Clancy) and Gloucestershire (Newsletters 3 and 4 (2000) of *Gloucestershire Moths*). Newsletter No. 42 of the *Glamorgan Moth Recording Group* lists the known records of this species from the county, the post 1980 records covering six 10km squares. The group's Newsletter No. 41 lists 1999's two records for the species, No. 44 gives a 2000 record and No. 45 figures an example of the moth.

### **White-lined Snout *Schrankia taenialis***

The moth was recorded in Cornwall (M. Lee), Devon (Barry Henwood) Kent (Ray Cook, John Chainey & Jenny Spence), and East Sussex (John Shaughnessy and David Burrows). Interestingly, the species was not recorded during the course of survey work for the two Crimson Underwing moths in the New Forest, Hampshire during 2000. In 1999, several moths were noted at sugared tree-trunks and wine ropes at these same localities.

### **White Spot *Hadena albimacula***

MP found the larva of this moth during 2000 at a further site on the Dorset coast to the one mentioned in *Lepidoptera Conservation Bulletin* No. 1. Chris Manley noted several adults at a separate Dorset coastal site. The larva was found at Browndown, South Hampshire by DG, as was the adult by Lee Marshall and Stewart Swift. At the Dungeness Bird Observatory, 550 individuals were recorded between May 13th and August 13th, with a maximum count of 65 on June 2nd (David Walker).

NT funded surveys for this species at Red Cliff on the Isle of Wight and Langdon Cliffs, Dover Kent. These are both localities where the larval foodplant, Nottingham Catchfly *Silene nutans* occurs, but no moths were found. Nevertheless, the presence of the species should not be ruled out at either site.

### **White-spotted Pinion *Cosmia diffinis***

More about the moth, its status and techniques for locating it can be found in an article recently published in *Atropos* No. 10: 5-9. By kind arrangement with the organisers, National Moth Night for 2001 will be held on 11th August, a date chosen with this moth in mind, and we shall be encouraging participants throughout Britain to set up lights under their local elms *Ulmus* spp..

Light-trapping for adult moths was carried out during 2000 with the moth being found at all but one of the six sites that have produced records since 1995. Additionally, it was found at two further sites with no previous records. Numbers per trap were small in comparison to some recent years. An important part of the project is to find out the extent to which larvae may be limited to the foliage of epicormic growth (side-shoots) on the trunks of mature trees, as reported in Haggitt, 1981 (*The larvae*

*of British Lepidoptera not illustrated by Buckler*). If the moth requires such growth, opportunities in Britain are presently very limited. In recent years, adult moths have occurred in light-traps in Huntingdonshire woods without such elms, suggesting the moth may be less discriminating. In 2000, we were unable to find a single larva in the woodland that produces the largest catches of adults. However, on 28th May PW found a single young larva, in a spinning on the epicormic growth of tall elms planted as a shelterbelt and this later produced a parasitoid. The wasp has been sent to Mark Shaw in the National Museum of Scotland, for identification.

## **Update on UK Biodiversity Action Plan Butterflies - a summary for the year 2000**

### **Heath Fritillary on Exmoor**

There are currently around 42 Heath Fritillary *Melitaea athalia* colonies in the UK. Ten years ago 30 colonies existed on Exmoor alone but two recent surveys have showed that there has been a 50% decrease in the number of sites to only 15 populations.

Surveys of all known Heath Fritillary sites on Exmoor were carried out by BC staff in 1999 and 2000 with abundant help from BC volunteers, Exmoor Natural History Society members, NT staff, the Exmoor National Park, EN and others. Our thanks go to all those who assisted with the surveys. In 1999, 15 occupied sites were found and 14 in 2000 with some populations at very low levels.

The Heath Fritillary occurs in sheltered combes in Exmoor where the larval foodplant Cow-wheat *Melampyrum pratense* grows amongst Bilberry *Vaccinium myrtillus*. There is a possibility that this precious moorland-edge resource may be diminishing due to broad changes in agricultural/land management practice. In a project to discover why this significant decline is taking place, Katherine Stewart (BC's Threatened Fritillaries Project Assistant) is examining Heath Fritillary population data from 1984 to 2000 and is also talking to land managers and farmers about significant management changes on the moor. Initial analysis of population data shows that during the late 1980s and early 1990s the colonies had high population numbers with numbers dropping down to a low level or extinction in the middle to late 1990s.

It is hoped that the results of this project will shed some light on the recent decline of the Heath Fritillary on Exmoor and be helpful to land managers and ESA officers when deciding how to conserve these sites.

### **A record year for the Large Blue**

David Simcox, Project Manager, reports that the long-term programme to re-establish the Large Blue *Maculinea arion* had one of its most successful years in 2000. The butterfly has benefited from ideal weather conditions during the spring and summer but particularly from the excellent site management carried out by our many partners.

Adult and egg numbers were well up on previous years on five of the sites, enabling us to rear sufficient numbers of larvae to conduct releases at two new sites where suitable habitats have been restored after years of careful management. The sites will be monitored next year and, if early signs are positive, targeted for further releases next year to increase the chances of re-establishment. If successful, one of these might become an open access site in future years.

Another notable achievement for 2000 was that the Somerset Wildlife Trust and the National Trust ran several open days enabling over 200 people to see the Large Blue and in most cases, eggs and larvae too. We would like to thank the site owners and managers together with David Land (BC Devon Branch) and Hugh Dixon (Somerset Wildlife Trust) who took on the enormous task of organising these days.

We would also like to say a very big thank you to the seventy plus people who have been actively involved in the project over the last twelve months, many giving up their time voluntarily. We are also grateful to EN's Species Recovery Programme whose grant allows BC to manage the project.

## **Pearl-bordered and High Brown fritillaries hit by bad weather**

Monitoring programmes co-ordinated by BC show that many populations of threatened fritillary butterflies have declined severely over the last few years, reducing some to critically low levels. The Pearl-bordered Fritillary *Boloria euphrosyne* has been especially badly affected: only one adult was seen at the last remaining site in Dorset and it may have become extinct in some areas, such as the Malvern Hills where it was quite abundant in the late 1980s. The High Brown Fritillary *Argynnis adippe* had its worse year in the last decade and was not seen at all on many sites.

However, it has not all been bad news and the Pearl-bordered Fritillary has responded well to positive habitat management at several Forestry Commission sites including Haugh Wood, the Wyre Forest and the New Forest. The High Brown also bucked the trend on several nature reserves in north-west England which are now being managed especially for this highly threatened species.

The declines of these fritillaries seem to be related particularly to the wetter than average weather during the Spring, when the larvae spend a lot of time basking on dead bracken or leaf litter. The wet conditions probably reduce larval survival but the mild winter weather of recent years also seems to be changing the character of the vegetation. Long term monitoring plots in the Malvern Hills show that the bracken reached a record height of 2 m in 2000, an increase of almost 40% since the 1980s. The vegetation has also become grassier on some sites and hence less suitable for these warmth-loving species. The mild and wet conditions have resulted in rapid re-growth in many open woodland habitats, including at BC's reserve at Oaken Wood where management input will have to be increased substantially to maintain sunny rides and glades.

It is unclear whether these changes are temporary or can be related to longer-term trends linked to global warming. The most recent predictions are for the winter weather in southern areas of the UK to become wetter and milder, which could have profound effects on butterflies as well as other wildlife. The Butterflies for the New Millennium project has shown that several species of tall grassland have spread northwards in recent decades, demonstrating that butterflies are sensitive indicators of climate change. However, these new observations show that damp springs are likely to have an adverse impact on sensitive species like fritillaries. BC's efforts will now focus on ensuring that their habitats are as extensive and well managed as possible so that populations are better able to cope with changeable weather.

## **Marsh Fritillary Site Review Project in England**

The results of this eighteen-month EN funded project are beginning to emerge. There was a decline of 73% in the number of Marsh Fritillary populations in the 1990s (from 196 in 1990 to 52 in 2000). However, 55 new populations were present in 2000. This represents an overall decline of 55% in ten years. This is partly a further range contraction with losses in Berkshire, Buckinghamshire and Oxfordshire and more worryingly losses from key areas identified by the species action plan on the north Devon culm grasslands and northeast Hampshire. Two key areas show a significant increase in colonies – Dartmoor and Salisbury Plain, but in both cases, increased recording in the 1990s is probably responsible.

Further analysis is being undertaken to try to identify the causes and county site dossiers and an article on the Marsh Fritillary will be included in a future issue of BC News.

## **The Marsh Fritillary in Cumbria – Fighting back from the brink**

Cumbria has the two most northerly populations of the Marsh Fritillary *Euphydryas aurinia* in England. In 1993, a partnership of local wildlife organisations formed the Cumbria Marsh Fritillary Action Group. The work programme and detailed monitoring is guided by a local Action Plan, written in 1997 by Paul Kirkland, (BC's Conservation Officer for North UK).

The work in Cumbria has focussed on identifying networks of suitable habitat. BC volunteers surveyed over one hundred potential sites. These were within 10km of the two existing networks and

three other areas that had Marsh Fritillary in the 1980's. Sadly, very few good sites were located, reflecting the large loss of habitat and agricultural improvement even inside the Lake District National Park. It is hoped that current research on habitat restoration will allow new habitat to be created, increasing the area of breeding habitat available.

The top priority remains safeguarding the remaining populations. Both are on private land with substantial access and management challenges. It has taken many years of hard work by all members of the Action Group to overcome these obstacles. Full access was gained to one population for the first time in 1999 and it will be surveyed this year, with funding from EN and the Environment Agency. Plans to re-introduce grazing to the other population are well advanced.

### **New Chequered Skipper survey in Scotland indicates status is stable.**

Provisional results from a survey contracted by Scottish Natural Heritage of all known sites for the Chequered Skipper *Carterocephalus palaemon* suggests that the species continues to hold its own. Unfortunately due to bad weather only low numbers of adults were recorded but a few were seen at most sites. The maps of the habitat will form the basis for future monitoring and for action on this UK BAP species for which BC is the lead partner.

### **National survey for the Silver-spotted Skipper**

In summer 2000, a team led by Chris Thomas, Rob Wilson and Zoe Davies from the University of Leeds carried out an extensive survey of British populations of the Silver-spotted Skipper *Hesperia comma*. Thanks in part to recovering rabbit populations and good conservation management, there is much more sparse, short-turfed chalk grassland available for this species now than at the time of previous surveys, in 1982 and 1991. As a result, the number of populations of Silver-spotted Skipper has increased four to fivefold since 1982, although most populations are small (>90% with estimated peak population size <500 individuals). Most new colonies are also very close to established populations (90% within 10km of sites occupied in 1982), but a few colonisations were detected at much longer distances. The survey, funded by NERC and EN, emphasises the importance of maintaining networks of well-managed habitat for the conservation of rare species in the fragmented modern landscape.

### **Adonis Blue recovery continues in core areas**

Surveys and monitoring of Adonis Blue *Polyommatus bellargus* populations in the last few years continue to demonstrate that this species is benefiting from the increase in conservation grazing and the return of the rabbit in many core areas such as Dorset, and Kent. The news at the edge of its range is mixed although a small colony was rediscovered on the Buckinghamshire/Oxfordshire border in 2000.

## **Lepidoptera recording updates**

### **Progress with the National Scarce Moth Recording Scheme**

A major event that took place during the first half of 2000 was the updating of the National Scarce Moth Recording Scheme database. This assignment was made possible through funding from EN and was carried out by Estella Roberts at the BC Office. This has enabled a large backlog of records to be cleared including over 1200 records of UK Biodiversity Action Plan Priority species. The information is being made use of in many conservation initiatives throughout the UK and, in particular, the Scheme's database forms the backbone of the BC Moth Conservation Officer's UK BAP Priority Species conservation work. Many thanks to all recorders who responded to the appeals for records.

For those of you who hold data that has not already been submitted to the Scheme, we would still like to receive records of all Scarce and Threatened moths and particularly any UK BAP Priority Species. We would of course be pleased to receive records in any form but they would be most useful to us

either as a "RECORDER 3.3" export file, a "Mapmate" synchronisation file or as any word-processed text or spreadsheet file. The information we would like is the species name, site name, a 6-figure grid reference, life stage, numbers seen and observer's details. Any other information you feel may be relevant would also be useful. A number of recorders have commented that it can be a difficult and time consuming job to identify and extract records of Scarce and Threatened moths from their data. If this is a problem, we are more than happy to accept records of all moths whatever their status. Please feel free to contact DG if you have any queries.

Please submit any records to: David Green, Butterfly Conservation, Manor Yard, East Lulworth, Wareham, Dorset BH20 5QP. Tel: 01929 400209 (Email: [dgreen@butterfly-conservation.org](mailto:dgreen@butterfly-conservation.org))

### **Software for moth recording**

During the past year, we have received a number of enquiries at the BC office asking if we can offer guidance on the new wildlife database packages that have recently become available. We have particularly been asked about the suitability of Recorder 2000 and MapMate for moth recording. We are aware that many moth recorders are already using Mapmate and that many others are interested in trying out Recorder 2000. During February 2001, DG and Paul Waring met with Scarce Moth Recording Scheme members Ian Thirwell, Tim Norriss and Martin Harvey in order to investigate the relative merits of these programs. These notes are a result of these discussions.

MapMate is a natural history recording program developed by Teknica. It was originally trialed by the Somerset Moth Group and is now available for wider circulation. The program was developed for moths but is now being used for recording many other orders. All software and updates are provided free of charge. To help offset the cost of running this project Teknica ask that a token fee of £10 be paid for registration of each user. The registration fee includes VAT.

Recorder 2000 has been developed by JNCC to collect, manage and exchange biodiversity data to National Biodiversity Network (NBN) standards. The software includes the NBN "data model" which shows how biological data can be managed within relational databases, a transfer format and NBN dictionaries for species, habitats and administrative areas. Biotope and habitat surveys can also be made and combined with species-based recording. The Recommended Retail Price for a full licence is £100 (including VAT) but it is worth noting that, at the time of writing, prices from "Recorder 2000 Authorised Resellers" vary considerably and it may be worth shopping around.

MapMate is designed for ease of use, speed of data entry, the flexibility of its reporting options, simple methods of data exchange and the ability to rapidly produce distribution maps in a variety of formats. The software can accept data from spreadsheets and Recorder 3.3 and can export data in NBN and Recorder 2000 compatible formats. We have heard many positive reports from individuals and moth groups now using the program and it is clear that many end users are finding it ideal for their purposes.

Recorder 2000 is a far more ambitious program than MapMate and offers the ability to record a much greater range of data. This will particularly appeal to users wanting to record detailed habitat information. Because of this, the level of expertise required to use and exploit the programme is much greater than MapMate although training may be available from at least some of the "Authorised Resellers". A facility to accept data from Recorder 3.3 is currently under development.

Both Recorder 2000 and MapMate have web sites with full information on the respective packages. We suggest that all interested moth recorders refer to these for further details and latest updates.

### **Web sites and availability: -**

#### **MapMate**

<http://mapmate.net/>

Send Cheque or PO for £10 (payable to Teknica Ltd) to:

Teknica Limited, The White House, Montacute Road, Stoke Sub Hamdon, Somerset, TA14 6UQ.

## **Recorder 2000**

<http://www.nbn.org.uk/projects/rec2000/>

A list of "Authorised Resellers" can be obtained from the Recorder 2000 web site.

## **Updates to the names and addresses of BC Branch Moth Officers and County Moth Recorders**

There have been a number of changes to BC Branch Moth Officers and to the directory of the County Moth Recorders that appeared in *Atropos* No. 6. A full list of all known alterations and corrections to this list (as at 28th February 2001) appears below. We have tried to make this as accurate and comprehensive as possible but please send notice of any errors or omissions to the BC UK Office so that these can be corrected.

We would like to take this opportunity to thank all past and present County Moth Recorders and BC Branch Moth Officers for their support. Please remember that the majority of recorders are operating on a volunteer basis, so SAEs are much appreciated when entering into any correspondence.

## **Changes and corrections to the BC Branch Moth Officers list**

### **Cheshire Branch**

Paul Hill, 1 Clive Cottage, London Road, Allostock, Knutsford, Cheshire, WA16 9LT

### **Gloucestershire Branch**

Mike Bradley, Walden Villa, Pool Hill, Newent, Glos. GL18 1LL. Tel. 01531 822315

### **Lincolnshire Branch**

John Petyt, 1, Grange Lane Nursery, Scunthorpe, DN16 3BA

### **Norfolk Branch**

Mike Hall, Hopefield, Norwich Road, Scole, Diss, Norfolk IP21 4DY. Tel 01379 740636

## **Changes and corrections to the County Moth Recorders list**

### **VC 1, 2 East & West Cornwall incl. the Isles of Scilly**

Robin Howard, Trevorrian House, Breage, Cornwall, TR13 9QA

### **VC 17 Surrey**

*For macro-moths:* Graham Collins, 15 Hurst Way, South Croydon, Surrey, CR2 7AP

*For micro-moths:* Robert Palmer, Greenburn Cottage, Bucksburn, Aberdeen, AB21 9UA

### **VC 23 Oxfordshire**

Martin Townsend, 69 Alice Smith Square, Littlemore, Oxford, OX4 4NQ

### **VC 38 Warwickshire**

David Brown, Jacksons Lawn, Charlecote, nr. Warwick CV35 9EW

### **VC 39 Staffordshire**

David Emley, 29 Leacroft, Stone, Staffordshire, ST15 8GF

### **VC 47 Montgomeryshire**

Andy Law, 12a Waterloo Fields, Kingswood, Forden, Welshpool, Powys, SY21 8LF

### **VC 48 Merionethshire**

Andrew Graham, Trawscoed, Llanuwchllyn, Bala, Gwynedd, LL23 7TD

### **VC 49 Caernarvonshire**

Debbie Evans, Rowen, Y Felinheli, Bangor, Gwynedd, LL56 4RX

**VC 52            Anglesey**

Doug Murray, Ty Moireach, Lon Tudur, Llangefni, Ynys Mon, LL77 7HP

**VC 53, 54       North & South Lincolnshire**

Rex Johnson c/o Phil Porter, Whisby Nature Park, Moor Lane, Thorpe on the Hill, Lincoln, LN6 9BW

**VC 59, 60       South & West Lancashire**

*For macro-moths:* Stephen Garland, Bolton Museum & Art Gallery, Le Mans Crescent, Bolton, Lancashire, BL1 1SE.

*For micro-moths:* Stephen Palmer, 137 Lightfoot Lane, Fulwood, Preston, Lancashire, PR4 0AH

**VC 67-68       North & South Northumberland**

*Acting County Recorder:* Nick Cook, 31 Lyndhurst Avenue, Jesmond, Newcastle-upon-Tyne NE2 3LJ

**VC 75-90       South-east Scotland**

Keith Bland, 35 Charterhall Road, Edinburgh, EH9 3HS

**Updates to societies and moth groups**

The Derbyshire Entomological Society has extended its boundaries to include the adjacent county of Nottinghamshire and the society has been re-named the Derbyshire & Nottinghamshire Entomological Society (DANES).

Contact details for recently formed moth groups are: -

**Brecknock Moth Group**

Norman Lowe, 6, Tai Canol, Llangorse, Brecon, Powys, LD3 7UR

**Hertfordshire Moth Group**

Colin Plant, 14, West Road, Bishops Stortford, CM23 3QP (colinwplant@compuserve.com)

**Monmouthshire Moth and Butterfly Group**

Kevin Dupé, 44, Gaer Park Lane, Newport, NP20 3NE (kevin.dupe@interramp.co.uk)

**Shropshire Moth Group**

Peter Boardman, 7, High Street, Weston Rhyn, Shropshire, SY10 7RP (peperouda@btinternet.com)

**News, notes and updates**

**Butterflies for the New Millennium and the Millennium Atlas**

Although butterfly recording continued under the Butterflies for the New Millennium (BNM) project in 2000, the main focus of the year was the collation, verification and analysis of the central database of records from 1995-9. This process has highlighted the success of the BNM project, which is the largest survey of butterflies ever undertaken in Britain and Ireland. Since the project was launched in 1995 by BC and the Biological Records Centre (at the Centre for Ecology and Hydrology), over 10,000 volunteers have contributed more than 1.6 million butterfly records through an extensive network of local co-ordinators. This represents over twelve times as many records as were collated in the previous national survey (1970-82). More importantly, coverage at the 10km square level has been improved, by 7% in Britain and 13% in Ireland. The recent records are also more precise (over 90% having a 1 km or 100m square grid reference) and most include an assessment of the numbers of butterflies seen.

*The Millennium Atlas of Butterflies in Britain and Ireland* is a major new book that presents the results of the first five years of the BNM survey. It was published in March 2001 by Oxford University Press (OUP) and provides an up-to-date assessment of our butterfly species, the habitats they live in, the threats they face and the major changes that have occurred since the publication of the only previous atlas in 1984. Although focussing on changing distributions, the atlas also summarizes the wealth of new knowledge about butterfly ecology and habitat management, incorporates abundance trends from the Butterfly Monitoring Scheme, and provides a clear appraisal of threats and conservation needs. The book (Asher *et al* 2001 ISBN 0 19 850565 5) can be ordered direct from OUP by phoning 01536 454534.

The survey confirmed that the distributions of most butterfly species have changed substantially both since the previous survey in the 1970s and since recording began in earnest two centuries ago. The pace and scale of these changes, which are affecting common, wider countryside species as well as the rarer butterflies, makes further recording vital to ensure that conservation plans and action are based on sound, up-to-date information. Butterflies are very sensitive to environmental change (especially climatic change) and monitoring their status may serve as a good indicator of the overall health of the countryside.

Richard Fox (rfox@butterfly-conservation.org)

### **Prime butterfly areas in Europe**

In 1999 BC collaborated with our Dutch counterparts De Vlinderstichting to produce the first ever Red Data Book of European butterflies. This is published by the Council of Europe and free copies were circulated to the 50+ compilers who helped provide data from almost every country in Europe.

We are following this highly successful project with a review of Prime Butterfly Areas in Europe. This will identify an initial selection of sites and areas that support important populations of the most threatened species. The results will support other initiatives, like Natura 2000, the Pan-European Ecological Network (PEEN), the Pan-European Biological and Landscape Diversity Strategy and the Bern Convention.

Once again, we are using information provided by our network of compilers who are being asked to complete a standard questionnaire on each area selected. Thanks to financial support from the Dutch Ministry of Agriculture, Nature Conservation and Fisheries we aim to publish the results in a full colour book early in 2002. A major aim of the publication is to raise awareness of the plight of butterflies and the measures needed to conserve them across Europe. More information can be found on the website: [www.vlinderstichting.nl/en/randc/pba.htm](http://www.vlinderstichting.nl/en/randc/pba.htm)

Copies of the European RDB are available from TSO, 51 Nine Elms Lane, London, SW8 5DR (Fax 0171 873 8200) (email: [denise.perkins@theso.co.uk](mailto:denise.perkins@theso.co.uk)). Price £9.50 plus £2.94 p&p. Full title: Van Swaay, C. and Warren, M. S. (1999). Red Data Book of European butterflies (Rhopalocera). Council of Europe Publishing, Strasbourg (Nature and Environment Series No. 99). ISBN 92-871-4054-5.

We are also preparing a searchable database, so the information will become freely available to everyone. For more information you can check the website: [www.vlinderstichting.nl/en/randc/rdb.htm](http://www.vlinderstichting.nl/en/randc/rdb.htm)

Martin Warren

### **Action for Butterflies – Minister thanks BC volunteers for their efforts**

In June, many BC Branch Chairmen, as well as representatives from many of England's major land use organisations such as the Forestry Commission, Minister of Agriculture and Fisheries and the Ministry of Defence gathered at the House of Commons to hear BC President Sir David Attenborough, and Minister of Environment, the Rt. Hon. Michael Meacher MP launch the Regional Action Plans for England. These plans together with the 25 Species Action Plans already published

have given the Society a sound foundation on which to continue to build our conservation work, both through national programmes and locally through the branches.

The Regional Plans for England (RAPs) have been co-ordinated by Dr Nigel Bourn. All contain up to date information on the most threatened butterflies and moths in each region, with suggested actions needed to ensure their conservation. Funding for the project was kindly provided by EN.

The Regional Plans also have sections on the 'key' areas and sites in each region, the level of monitoring and other branch activities and plans for the future. As Sir David Attenborough, stated at the launch, "Butterflies and moths are an essential and beautiful element in our countryside. These plans demonstrate how volunteers can help directly in the conservation of their local area. Such action surely is one of the best examples of the positive vision we need if England's remaining wildlife is not to be further impoverished".

The Environment Minister made it clear he was delighted to be able to help launch the plans, stressing that he had been able to increase EN's budget over the last two years specifically to help the smaller NGOs like BC to play their part in conserving and enhancing our biodiversity. He also stated that he "was pleased that some of the Butterfly Conservation volunteers are with us here today. It is thanks to their recording efforts that much of the essential information is available to underpin the reports on the status of these amazing creatures."

Species highlighted in the RAPs include national priorities such as the **High Brown Fritillary** *Argynnis adippe* in the South West and regionally important species like the **Purple Emperor** *Apatura iris* in South Central England. In the West Midlands, species like the **Grizzled Skipper** *Pyrgus malvae* and **Dingy Skipper** *Erynnis tages* are a top priority as they are declining rapidly. These two species are usually found on former industrial sites such as disused quarries and railway lines, sites often earmarked for development.

For further information on the Regional Plan in your area, contact your local BC Branch Organiser. For information on the species plans contact the BC UK office.

### **British Entomological and Natural History Society (BENHS) Conservation Working Group**

The Conservation Working Group of the BENHS was formed some 10 years ago in order to promote conservation matters within the society and it has always been the group's view that the membership should be more involved in practical conservation projects. BC's recent appointment as Lead Partner for the majority of the priority moth species under the Government's Biodiversity Action Plans was seen to be an ideal opportunity for members to contribute to moth conservation in the UK. Currently the group is undertaking the lead on practical support and assistance on two species, the **Brighton Wainscot** *Oria musculosa* and **Barred Tooth-striped** *Trichopteryx polycommata*. The "Update on UK Biodiversity Action Plan moths" section of this bulletin has details of work undertaken in 2000 and field meetings planned to record BAP Priority moths in 2001. Full details of these and other BENHS filed meetings can be found on the BENHS website <http://www.benhs.org.uk/main.html>.

John Phillips (BENHS Conservation Working Group)

### **The British Entomological and Natural History Society (BENHS) Research Fund**

The BENHS invites applications for grants, from its Research Fund, to be awarded in December 2001. Awards are open to both members and non-members of the BENHS and will be made to support research on insects and spiders with reference to the British fauna, and with emphasis on:

- (a) The assistance of fieldwork on insects with relevance to their conservation
- (b) Work leading to the production of identification guides and distribution lists

Travel to examine museum collections and to consult taxonomic specialists would be included. The work and travel is not limited to the British Isles but must have a demonstrable relevance to the

British insect or spider fauna. Individual grants are unlikely to exceed £500 and applications for smaller sums are particularly welcome. Preference will be given to work with a clear final objective (e.g., leading to publication or the production of a habitat management plan). Work on leaf miners and gall forming insects should be submitted to the Society's Professor Hering Memorial Research Fund.

The BENHS ask that applications for UK BAP moth projects under the umbrella of BC be accompanied by a covering letter stating that the BC Moth Conservation Officers have seen and approved the project. This approval is an administrative one and does not guarantee a successful outcome. Applications will be considered on their individual merit. In the conservation field, the grants are intended to support fieldwork expenses such as travel, subsistence or the purchase of some piece of equipment. Anything that might lead to the production of a report or management plan would also be considered but not the actual cost of the production of the report.

Applicants should send seven copies of their plan of work (one copy if the application is for less than £100), the precise objects, the amount for which an award is requested and a brief statement outlining their experience in this area of work, to **Dr J. Muggleton, 30 Penton Road, Staines, Middlesex, TW18 2LD**, as soon as possible and not later than 30 September 2001. Further information may be obtained from the same address (email: [jmuggleton@compuserve.com](mailto:jmuggleton@compuserve.com)).

#### **Moth surveys at the RSPB's Abernethy Forest and Insh Marshes reserves (Invernesshire)**

The RSPB together with BC and the BENHS are keen to encourage moth specialists to assist in providing an up-to-date picture of the status of some UK Biodiversity Action Plan and other local northern moths at Abernethy Forest and Insh Marshes reserves on Speyside. These two reserves have a range of scarce and biologically important habitats, notably tracts of Caledonian pine forest, moorland with Bearberry *Arctostaphylos uva-ursi* and some of the highest montane ground in Britain at Abernethy near Nethy Bridge, while Insh Marshes near Kingussie has birch *Betula spp.* and Aspen *Populus tremula* woodland and northern fen.

Four weekends (Friday to Sunday) in 2001 have been selected for the surveys.

<b>Dates</b>	<b>Target species</b>
<b>27 – 29 April</b> <b>04 – 06 May</b>	<b>Kentish Glory</b> <i>Endromis versicolora</i> <b>Netted Mountain Moth</b> <i>Macaria carbonaria</i> <b>Rannoch Brindled Beauty</b> <i>Lycia lapponaria scotica</i> <b>Small Dark Yellow Underwing</b> <i>Anarta cordigera</i>
<b>20 – 22 July</b> <b>27 – 29 July</b>	<b>Cousin German</b> <i>Protolampra sobrina</i> <b>Dark Bordered Beauty</b> <i>Epione paralellaria</i> <b>Northern Arches</b> <i>Apamea zeta assimilis</i> <b>Northern Dart</b> <i>Xestia alpicola</i>

Mark Young has kindly offered to be present on some of these weekends and it is expected that Paul Waring will also attend at least some of the meetings. We invite Lepidoptera experts from both Scotland and south of the border to attend. RSPB staff will be represented by James Cadbury and Matt Shardlow (Leaders from Headquarters), Stewart Taylor and Andy Amphlett (Abernethy Forest Reserve) and Tom Prescott (Insh Marshes Reserve).

For those attending, we suggest a rendezvous on each of the Fridays at 17.00 hrs at Forest Lodge (NJ020161), 5.5 km from Nethy Bridge. Access is by track from the Nethy Bridge to Tulloch road (NH998166). A leader will also be at Forest Lodge at 09.00 hrs for liaison and further briefing. Vehicles suitable for off-road driving will be available to transport generators and other equipment to various sites.

Provided you allow adequate time for booking, there is a range of accommodation available at Nethy Bridge and elsewhere in the neighbourhood. A limited amount of basic accommodation (self catering) is available at Forest Lodge itself at £5 a night per person, but if you wish to be considered for such

accommodation, please obtain and complete a booking form first. Forest Lodge will not be available on the weekend of 27th-29th April.

Please contact James Cadbury to obtain a booking form if you wish to attend, wish to be sent an accommodation list or would like to be considered for Forest Lodge accommodation.

James Cadbury, RSPB, The Lodge, Sandy, Bedfordshire SG19 2DL

Tel 01767 680551, Fax 01767 692365

Email messages for James Cadbury can be left with Matthew Shardlow (matt.shardlow@rspb.org.uk).

### **Field Studies Council moth and butterfly courses at Kindrogan Field Centre**

#### **Introducing moths: 18th-20th May 2001. Tutor: David Brown.**

This course will consist of illustrated talks with colour slides to show the special species found in the Scottish Highlands. There will be daytime visits to local habitats to find the May specialities - **Small Dark Yellow Underwing** *Anarta cordigera* and **Netted Mountain Moth** *Macaria carbonaria*. Overnight mercury vapour lights will be running in the extensive wooded grounds to attract a variety of interesting species. Help and advice will be given on identification, ways of recording and photography.

#### **Enjoying butterflies: 20th-22nd July & 3rd-5th August 2001. Tutor: Pete Kinnear.**

These courses provide a leisurely introduction to butterflies for those wishing to find out about this fascinating group of insects but don't know where to begin. The weekend is aimed at beginners, gardeners and all those who simply enjoy seeing butterflies and would like to be able to identify them.

**Contact:** Kindrogan Field Centre, Enochdhu, Blairgowrie. Telephone 01250 881 286

### **Butterfly Conservation field meetings, workshops and training days**

Details of field meetings, workshops and training days organised by BC can be found on the Society website at <http://www.butterfly-conservation.org/>

### **UK BAP Priority Moths email newsletter**

For the past two field seasons, we have been sending out a short, more or less weekly, email newsletter containing information on the UK Biodiversity Action Plan Priority Moths. The main aim is encourage recording of these species by informing recipients of when these moths are flying or when the earlier stages can be encountered. The newsletter also contains brief news items covering current conservation projects and occasional recording tips. The newsletter relies heavily on contributions from recipients and we would like to take this opportunity to thank everyone who has contributed information for these mailings. **If you would like to be added to the circulation list, please send an email to David Green (dgreen@butterfly-conservation.org).** This is also the contact address if you have any news on UK BAP Priority Moths that you would like to be included.

### **National Moth Night**

The second National Moth Night held on Saturday 23rd September 2000, produced a wealth of moth records from around the UK. Despite a rather blustery night, in excess of 42,000 moths of over 350 species were recorded from over 400 sites. UK BAP species recorded included **Lunar Yellow Underwing** *Noctua orbona*, **Black-banded** *Polymixis xanthomista*, **Dark Crimson Underwing** *Catocala sponsa* and **Buttomed Snout** *Hypena rostralis*. Over 40 public events were held around the UK and, hopefully, this will have resulted in many new recruits to the world of moths and their conservation. A full report on the event can be found in the April 2001 issue of *Atropos*.

There was a noticeable increase in the amount of recorder effort on the previous year and it is hoped that National Moth Night 2001 will produce an even better response. This year's event, jointly organized by *Atropos* and Insectline, is to be held on the night of Saturday 11th August. Full details can be found in the April issue of *Atropos*, by visiting the websites [www.atroposuk.co.uk](http://www.atroposuk.co.uk) or [www.insectline.co.uk](http://www.insectline.co.uk), or by sending a SAE to National Moth Night, 1 Clive Cottage, London Road, Allstock, Cheshire, WA16 9LT. Once again, public events will be promoted on the National Moth Night Information Line (09068 446862 – calls cost 60p per minute and will be donated to moth conservation projects). This will be operational from 1st April 2001. The funds raised from NMN 2001 will be used to help cultivate and plant barberry plants *Berberis* spp. as part of the species recovery programme for the **Barberry Carpet** *Pareulype berberata*. The proceeds from NMN 2000 are being donated to a project for habitat management work for the **Four-spotted** *Tyta luctuosa* in Northamptonshire.

It is hoped that NMN 2001 may produce records of the **White-spotted Pinion** *Cosmia diffinis*, a UK BAP Priority Species that has declined severely due to loss of the larval foodplant to Dutch Elm disease, and recorders are encouraged to look for this moth. Full details of how to search for the species can be found in the April 2000 issue of *Atropos*. However, as always, the event will mean different things to different people and all results are welcomed, whether from your garden or from further afield.

Mark Tunmore (Event co-ordinator)

### **Butterfly Conservation helps defend micro-moth site**

For many years, the heaths, moors and Scots pine forest around Aviemore and Loch Garten in Speyside have been noted for their impressive fauna and flora. In particular, an area of heathland near the Boat of Garten is famous in entomological circles for its rare insects. However, forestry, road building and changes in grazing patterns have all led to the area of interest becoming smaller and smaller, and recently one of the richest remaining parts came under threat from an application to build a house. This led to BC's first objection to a planning application in Scotland.

The application site's heathy grassland is very diverse, supporting large amounts of Rock-rose *Heliathemum nummularium*, Fragrant Orchid *Gymnadenia conopsea*, Lesser Butterfly Orchid *Platanthera bifolia* and Petty Whin *Genista anglica*, with also Mountain Everlasting *Antennaria dioica* and Moonwort *Botrychium lunaria* growing in amongst the Ling *Calluna vulgaris* and birch *Betula* spp..

What makes the site extra special is that it also supports no less than eight rare micro-moths, including **Leucoptera orobi**, at possibly its only UK site, and **Ancylis tineana**, found at only two other sites. Dr Mark Young of Aberdeen University, who has documented its interest over many years with Dr Mike Harper, rates the area one of the best for Lepidoptera in Scotland. Other species of note recorded from the site include **Kentish Glory** *Endromis versicolora* and **Northern Brown Argus** *Aricia artaxerxes*. The land is not only prized by entomologists, but also locals and the owner, who appreciate the fine show of orchids and other flowers. Indeed, it is the owner's, or rather her tenant's, low-intensity stock grazing, and lack of fertilising and re-seeding, that has maintained the site's wildlife value over the years.

Although Scottish Natural Heritage (SNH) had long known of the importance of the site, regrettably it remained unprotected in any way, despite the lobbying of entomologists. What was worse, the owners and planners seemed to be unaware of the site's importance, and were understandably unhappy when conservationists objected to the plans, having omitted to inform them about the rare moths!

Objections from entomologists, BC, the Badenoch and Strathspey Conservation Group, local people and others were fortunately strong enough for the Council's planning committee to convene a hearing, where all parties put their arguments. Without any designation SNH were only able to submit comments, rather than an outright objection. We were fortunate to be able to call on Dr Young to

present the case for the Society, and we circulated pictures of the site in summer and of some of the moths, courtesy of Dorset-based UK micro-moth expert, Dr Phil Sterling.

To our great relief - after much deliberation - the committee decided to refuse the application, albeit on a majority vote. The Chairman did however offer the owners a compromise, and said the Committee would be minded to accept an application to erect the house on a different part of the site, if the owner so wished. We await the owner's decision, but in the meantime have offered advice on management to secure the site's interest. We also intend to work with local entomologists, SNH and the local authority to identify and protect other important sites in the area.

The moral of the story is, always get access permission for on sites you visit. If you find anything of interest, inform the landowners (unless you are sure that would be unwise), inform your local conservation bodies (BC Branch and Wildlife Trust) immediately, and keep an eye on developments!

Paul Kirkland, BC Scotland

### **The work of Butterfly Conservation branches – focus on the North-west**

Once again, we are featuring news from BC branches and we hope that this will provide an opportunity for the branches to promote the conservation work they are undertaking. The format will be slightly different from this year onwards in that instead of featuring news from all branches, we are intending to focus on particular BC regions in turn. We would like to begin with the North-west.

### **Cheshire and Peak District Branch Conservation Officer's Annual Report 2000**

During 2000, both Committee and ordinary Branch members have been involved in all sorts of activity around our area. Survey work and habitat management continues in the Peak District. The Reddish Vale Butterfly Park is now established in Stockport. This was featured in *BC News* No. 74 from Spring/Summer 2000. You may also have read in the national press about the **Small Pearl-bordered Fritillary** *Boloria selene* work in the Congleton area. Within the Borough of Macclesfield, the 25th year of a national Butterfly Transect has been completed at Rostherne Mere NNR. In Vale Royal, National Moth Night was celebrated close to the Anderton Boat Lift, whilst a fourth year of butterfly recording for Forest Enterprise was completed at Delamere Forest. In the north of Cheshire, specific sites were surveyed for Halton Borough Council, where it is hoped that this work may lead to the creation of new Local Nature Reserves. Moving westwards on to the Wirral, particularly good numbers of **White-letter Hairstreak** *Satyrrium w-album* were found, whilst in the south-west of the county, at least one new site for **Ringlet** *Aphantopus hyperantus* was discovered. Meanwhile the Branch is still very active with the LBAP species mentioned so often in the past and the Northwest Regional Action Plan has been completed.

Bryan Roberts

### **Lancashire Branch Moth Officer's Report**

The year started with a joint visit to a site on the Wirral in Cheshire where discussion on the status and habitat of the RDB1 species, **Belted Beauty** *Lycia zonaria britannica*, was made all the more interesting by the presence, on fence posts, of several adult moths, both males and the wingless females. Further north into Lancashire two sites were examined where reports indicated that the species might be present. Unfortunately both drew a blank but it is intended that visits will be made in 2001 to find if this attractive moth still graces the coastal areas of Lancashire. A successful series of visits to coastal dune sites during the year, including a joint BC, Lancashire and Cheshire Entomological Society and BENHS trip to the Formby area, produced records of **Goat Moth** *Cossus cossus*, **Grass Eggar** *Lasiocampa trifolii*, **Sand Dart** *Agrotis ripae*, **White Colon** *Sideridis albicolon*, **Shore Wainscot** *Mythimna litoralis* and **Portland Moth** *Actebia praecox*. Saltmarsh visits in the north of the county produced records of **Crescent Striped** *Apamea oblonga* from three localities.

Efforts were made at two locations to establish if the **Sword Grass** *Xylena exsoleta* was still present in the county. Unfortunately, these, together with an earlier visit to a south Cumbrian site, failed to produce any sign of the moth. One very active group of enthusiasts, the North Lancashire Naturalists Society, regularly surveyed areas of moorland and high woodland in the north of the county and although no rare species were recorded, records of **Oak Lutestring** *Cymatophorima diluta*, **Welsh Wave** *Venusia cambrica*, **Confused** *Apamea furva* and the **Small Autumnal Moth** *Epirrita filigrammaria* made the visits worthwhile. Another recorder in an upland area of central Lancashire added **Scarce Silver Y** *Syngrapha interrogationis* and **Grey Mountain Carpet** *Entephria caesiata* to an impressive list for the year.

Specific surveys were carried out at several nature reserves for EN (Gait Barrows NNR), the Lancashire Wildlife Trust (Freeman's Pasture and Mere Sands Wood) and for BC (Lower Haybridge, Cumbria). The latter was to establish the presence or otherwise of **Waved Carpet** *Hydrelia sylvata* but the moth failed to put in an appearance.

One of the most positive aspects of the recent formation of the Lancashire Moth Group has been the number of visits to localities all over the county that have involved individual enthusiasts and local recording groups alike. This has avoided any duplication of effort and allowed the records to be centrally collated and distributed via regular newsletters and an annual report. The data collected is being entered onto Mapmate, a flexible and easy to use mapping tool that is compatible with Recorder 2000. It has been some time since such a centralised approach has been possible in the county and the feedback has been very positive.

Stephen Palmer

#### **North West Branch Conservation Officer's Report**

Slightly better weather during the summer of 2000 meant that numbers of our endangered species were up on 1999 but it must be remembered that numbers were never going to be very high even in a heatwave. It is a fact that next years numbers depend on how eggs are laid this year and in 1999 we had a thoroughly bad breeding season almost right throughout.

The portents for 2001 seem better. For example, our **Marsh Fritillary** *Eurodryas aurinia* colony yielded 44 larval webs compared with nine in 1999. **High Brown Fritillary** *Argynnis adippe* numbers were a disappointment on Whitebarrow as were **Silver-washed Fritillary** *Argynnis paphia* but on Arnside Knott High Brown did very well. **Pearl-bordered Fritillary** *Boloria euphrosyne* were holding their own but habitat management needs to continue apace.

The Cumbria Marsh Fritillary Action Group and the Cumbria High Brown (and Pearl-bordered) Action Group continue to function and this can only be good bearing in mind the number of conservation groups working together on these groups.

Work parties in the winter 2000/2001 session are focusing on only four sites and the Branch are carrying out two sessions at each. Our Regional Action Plans and Local Biodiversity Action Plans dictate the type of work we need to do. With this in mind, two of our work parties are at our main Marsh Fritillary site, two are on the western side of Whitbarrow where we have good colonies of High Brown and Silver-washed Fritillary, two are on the north eastern side of Whitbarrow where we have nurtured a good colony on **Northern Brown Argus** *Aricia artaxerxes*. This is a site without a good population of butterflies but it has enormous potential; the Branch's relationship with the landowner is terrific and is a prime site for fritillary expansion. Our two other work parties are on a superb privately owned area of Arnside Knott, which was rightly described in 1999 as the centre of the universe for the High Brown Fritillary.

Steve Doyle

## PhD and Post-doctoral research projects on Lepidoptera

Listed below are current research projects by students and post-doctoral projects of which we are aware (kindly provided by Andrea Wilcockson of Oxford Brookes University). If there are others, please let us know to help exchange ideas, techniques etc.

- Steve Burke, Genetic structure and spatial dynamics of butterfly races in the genus *Aricia*. Birmingham University
- George Harper, A molecular investigation into the population structure of the **Adonis Blue** *Lysandra bellargus* in the UK. Southampton University
- Domino Joyce, Conservation genetics and phylogeography of British Lepidoptera. Birmingham University.
- Lynn Martin, Ecology of the **Large Copper** *Lycaena dispar batavus*. Keele University.
- John Moore, Restoration ecology of the **Chequered Skipper** *Carterocephalus palaemon*. Birmingham University.
- Byron Wood. Conservation genetics of grassland butterflies in the West Midlands urban landscape. Birmingham University.
- Geoffrey Lai, Phylogeography and Conservation of European butterflies. Birmingham University.
- Melissa Jacobs, Ecology and restoration of the **Large Copper** *Lycaena dispar*. Birmingham University.
- Tracy Earwaker, Host plant specificity in the **Heath Fritillary** *Melitaea athalia*. Reading University.
- Andrea Wilcockson, Predicting the response of the geographically variable **Green-veined White** *Pieris napi* to environmental change. Oxford Brookes University.
- Paul Howe, The ecological consequences of morphological variation in the **Common Blue** *Polyommatus icarus* in the UK. Oxford Brookes University.
- Simon Bryant, Functional significance of Lepidopteran wing morphology, Oxford Brookes University.
- Caroline Bulman, Conservation biology of the **Marsh Fritillary** *Euphydryas aurinia*. Leeds University.
- Robert Wilson, The metapopulation ecology of the **Silver-spotted Skipper** *Hesperia comma*. Leeds University.
- Zoe Davies, The conservation biology of the **Silver-spotted Skipper** *Hesperia comma*. Leeds University.
- Ted Bodsworth, Flight and egg laying behaviour of brown argus butterflies *Aricia agestis* and *Aricia artaxerxes*. Leeds University.
- Deborah Sazer, Habitat use by species at the edge of their range, **Adonis Blue** *Polyommatus bellargus*, **Chalkhill Blue** *Polyommatus coridon* and Horseshoe Vetch *Hippocrepis comosa*. Leeds University.
- David Roy, Effects of weather and climate on butterfly populations. Centre for Hydrology and Ecology and Southampton University.
- Dr Julian Hill/Zoe Ringwood, The ecology and habitat requirements of **Fisher's Estuarine Moth** *Gortyna borelii lunata*. Writtle College

## Communications

### *New tortricoid moth identification guide*

Among the several interesting new books expected to appear during 2001, is an identification guide to the tortricoid moths of central Europe. As the only recent British guide is now out of print and second-hand copies of this work are both scarce and expensive, this publication should be of great interest. The following information was taken from the Pemberley Book's web site in December 2000:

Razowski, J. *Die Wickler (Lepidoptera: Tortricidae) Mitteleuropas. Bestimmung, Verbreitung, Ökologie*, c. 370pp, incl. 160 b/w plates of genitalia, 50 col. plates of about 650 species, hbk. Due 2000-2001. No price available at present.

### ***Keep a look out for Cameraria ohridella* Deschka & Dimic. (Lepidoptera: Gracillariidae)**

*Cameraria ohridella* is associated with Horse Chestnut *Aesculus hippocastanum*, the larvae mining the leaves. This species has been extending its range throughout Europe since it was first discovered in Macedonia in 1985. Martin Honey (Natural History Museum) has informed us that the moth has now reached Belgium. It has also been recorded in Poland, Italy, Switzerland and the Netherlands since the publication of *The Lepidoptera of Europe. A distributional checklist* (Karsholt & Razowski 1996). Apparently the moth has been discussed already in Parliament and has made Hansard (18 March 1999). It seems that it is only a matter of time before it reaches these shores. Further details, for anyone with access to the web, can be found at: [http://www.cameraria.de/cameraria\\_e.html](http://www.cameraria.de/cameraria_e.html)

### ***A further leaf-mining micro-moth extending its range***

Another leaf-mining micro-moth extending its range is *Phyllonorycter issikii* (Kumata). The larvae feed in the leaves of limes *Tilia* spp., making distinctive blotch mines. This was originally an eastern Palaearctic species but it was first reported from the Ukraine in 1988 where it continues to the west. It is presently known from Belorussia, Lithuania, Latvia (1998) and the eastern part of Poland (since 1996). This is some way behind *Cameraria ohridella* but it will be interesting to see how far this range expansion continues and if it will reach as far as the UK.

Information from: Busko J., Šefrova, H. & Laštůvka Z. 2000. *Invasive species of Lithocolletinae in Europe and their spreading (Gracillariidae)*. Poster presentation at 12th European Congress of Lepidopterology.

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Includes genitalia illustrations of *Coleophora alcyonipennella* (Kollar) and *C. frischella* (Linnaeus) correcting an error in Volume 4 of *The Moths and Butterflies of Great Britain and Ireland*. The latter is not currently known in Britain.

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