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THE
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 AND
JOURNAL OF VARIATION

Edited by
C.W. PLANT, B.Sc., F.R.E.S.

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Compiled by Graham Irving

Newly described taxa are indexed in **bold type**.

Taxa new to, or newly recognised in, the British Isles are denoted by an asterisk.

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A BEHAVIOURAL STUDY OF SMALL SKIPPER *THYMELICUS SYLVESTRIS* PODA AND ESSEX SKIPPER *THYMELICUS LINEOLA* OCHS. BUTTERFLIES (LEP: HESPERIIDAE)

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Abstract

Most butterfly studies and monitoring programmes do not differentiate between Small Skipper *Thymelicus sylvestris* Poda and Essex Skipper *Thymelicus lineola* Ochs. Therefore, combined information is predominantly presented and understanding of their behavioural activity is limited. This paper examines the behavioural patterns exhibited by the two species. Both primarily spent their time basking, resting and nectaring. Plant species used for nectaring purposes by *T. sylvestris* and *T. lineola* are listed.

Introduction

The primary cause of butterfly population declines has been the destruction and alteration of their habitats (Prendergast & Eversham, 1995), particularly in south-eastern England, where agriculture is most intensive and development pressure on semi-natural areas greatest (Pollard & Yates, 1993). However, agricultural areas can provide sufficient semi-natural habitats to support some butterflies (Sparks & Parish, 1995) and the more successful species are those which can breed within the farming landscape (Feber *et al.*, 1996).

Larval foodplants used by Small Skipper *Thymelicus sylvestris* Poda and Essex Skipper *Thymelicus lineola* Ochs. consist of various species of grasses (Graminea), thus adults breed in areas of tall grassland such as meadows (Warren, 1996), which can be found within agricultural environments. Other grassland habitats including woodland rides, embankments and roadside verges are also exploited by these species (Thomas & Lewington, 1991) and both *T. sylvestris* and *T. lineola* are consequently experiencing periods of expansion in range due to the extensive availability of suitable grassland habitats (Asher *et al.*, 2001). However, *T. lineola* is difficult to distinguish from *T. sylvestris* when in flight and has thus been included in combined data with the latter species (Pollard *et al.*, 1995), and potentially remains under-recorded.

Despite being classified as widespread species (Pollard & Yates, 1993), limited quantitative research has been completed on *T. sylvestris* and *T. lineola* behavioural activity. Therefore, a study of these species, which distinguishes between *T. sylvestris* and *T. lineola*, was conducted on the Writtle College Estate focusing on behavioural patterns. Observations of *T. sylvestris* and *T. lineola* behavioural activity were recorded at three sites: Spinney Verge, Tip Meadow and Lordships Pond. These sites were selected because they provide refuges of semi-natural grassland within the predominantly agricultural environment of the Estate.

Site Descriptions

Writtle College is located in south-eastern England, near Chelmsford in Essex. The College Estate extends to over 210 hectares and is a mixed unit comprising horticultural enterprises, arable land and improved grassland for livestock; offering restricted value as wildlife habitats (Woiwod & Stewart, 1990). The creation of conservation areas throughout the Estate since the mid 1970s, however, has resulted in a landscape which has a number of valuable sites for wildlife within the agricultural environment (Sellers & Field, 1997). The conservation areas include broadleaf plantations, wildflower meadows and re-instated hedgerows. The sites selected for this study are designated by the College as areas of conservation interest and are known to be utilised by populations of both skipper species. Figure 1 displays the location of the three study sites on the Estate.

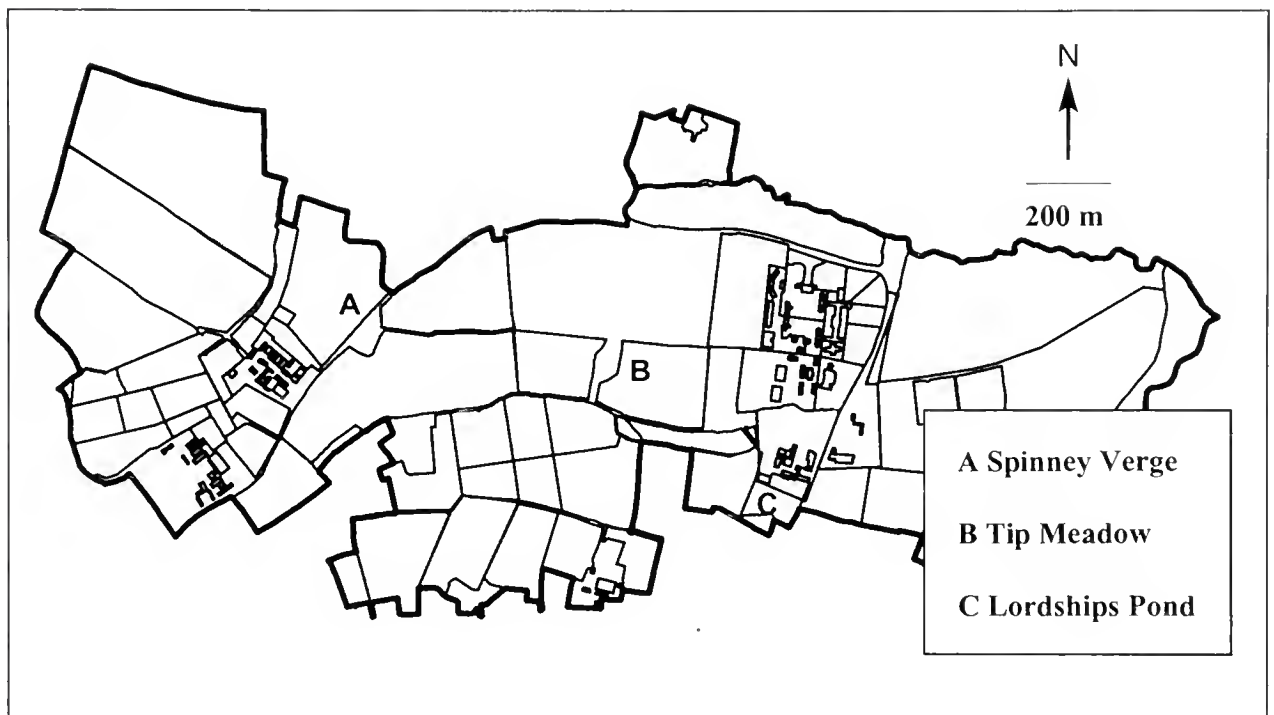


Figure 1. Location of the three study on the Writtle College Estate.

Spinney Verge (O.S. grid reference TL 665070) comprises an area of approximately 500 square metres. The verge is bordered by a Hawthorn *Crataegus monogyna* Jacq. dominated hedgerow on its western side and the road to the east. The hedgerow provides some shelter from the prevailing south-westerly winds. This rural verge was created by the removal of calcareous clay loam topsoil to enhance visibility, where high roadside banks had previously been obscuring vision. The exposed chalky subsoil is well drained with a pH around 8 (Anon, 1998). A wide range of flowering plants has established on the low nutrient subsoil, including some interesting species such as Bee Orchid *Ophrys apifera*. The verge is mechanically cut, on an annual basis, at the beginning of October and the cuttings are immediately removed.

Tip Meadow (TL 672069) is approximately 11,250 square metres in size. The soil is a well drained flinty clay loam with a pH just over 8 (Anon, 1998). The tip was formally a gravel pit (Neate, 1979), which has since been filled with refuse and soil to create a conservation area. The area comprises a wildflower meadow which is managed under a traditional hay regime, a large beetle bank, a section of long rough grassland, and planted broadleaved trees and shrubs with the occasional Scot's Pine *Pinus sylvestris* L. Land uses surrounding the Tip Meadow area include commercial orchards, permanent pasture, arable trial plots with a section of game cover and set-aside grassland. The behavioural study was conducted in the long rough grassland which undergoes little management other than irregular mowing.

Lordships Pond (TL 676066) has been a drinking source for cattle since at least 1840. The pond abuts a recently created wildflower meadow. The behavioural study was conducted on a south facing bank which is approximately 350 square metres in size. The soil is a non-calcareous clay loam which is moderately well drained with a pH around 6.5 (Anon, 1998). Mature *P. sylvestris* surrounding the pond provide the bank with some shelter. Management of the bank consists of irregular mowing and the manual removal of *P. sylvestris* and Bramble *Rubus fruticosus* L.

Behavioural Study

A survey area of 25 square metres was established at each of the three study sites. All plant species within the survey areas were identified and recorded. The abundance of each plant species was determined using the DAFOR scale, which is a subjective assessment based on occurrence with the code: D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare (Goldsmith, 1991).

The duration of all of the different activities completed by *T. sylvestris* and *T. lineola* individuals entering the survey areas during observation sessions were timed over a period of 12 days between 15 July and 6 August 1999. The activities observed for individuals of both species during the study period were basking (alighted with wings open), resting (alighted with wings folded), nectaring, territorial behaviour between males, courtship, copulation, oviposition, interaction with other butterfly species, and flight. Flight was timed for individuals which passed through the survey areas without alighting, and from take-off to the next landing between other activities for individuals which demonstrated multiple activities.

Individuals which were observed utilising the survey areas were netted to differentiate between *T. sylvestris* and *T. lineola* by antennal colour, and to distinguish gender. Where any doubt arose with regard to identification, the specimen was released and behavioural activities were not recorded. The procedure of capture and release was undertaken as quickly as possible to minimise its effects. The first activity observed following release was disregarded to accommodate recovery time following the netting process (Warrington & Brayford, 1995) and to avoid bias resulting from different handling periods and varying release localities within the survey areas.

One hour was spent observing *T. sylvestris* and *T. lineola* individuals at each site on every recording day. The devised behavioural study procedures were validated by

utilising recording criteria from the National Butterfly Monitoring Scheme (NBMS). The NBMS is organised by the Centre for Ecology and Hydrology at Monks Wood and was established in 1976 with the aim of providing information on trends in the abundance of butterfly species (Asher *et al.*, 2001). Surveys were only conducted between 1045 and 1545 hours, on days where air temperature exceeded 17°C and wind speed was equal to or less than force 5 on the Beaufort scale (Pollard *et al.*, 1986). Wind speed was estimated using the description provided by the Beaufort scale to obtain a force rating (File, 1991).

Results

Both *T. sylvestris* and *T. lineola* individuals were observed exhibiting patterns of daily behavioural activity on each of the 12 recording days which represent the duration of the four-week study period (Fig. 2). Initially, *T. sylvestris* were more abundant than *T. lineola*, however, this trend reversed towards the end of the study period. The number of *T. sylvestris* individuals that were observed peaked at 31 sightings on 23 July, before gradually declining throughout the remainder of the study period. Observations of *T. lineola* individuals were limited at the study commencement, but progressively increased to reach a peak of 26 sightings on 30 July, one week later than the maximum number of *T. sylvestris* individuals that were observed occurred. Overall, *T. lineola* was slightly more abundant than *T. sylvestris*, with total sightings for the study period of 201 and 183 respectively.

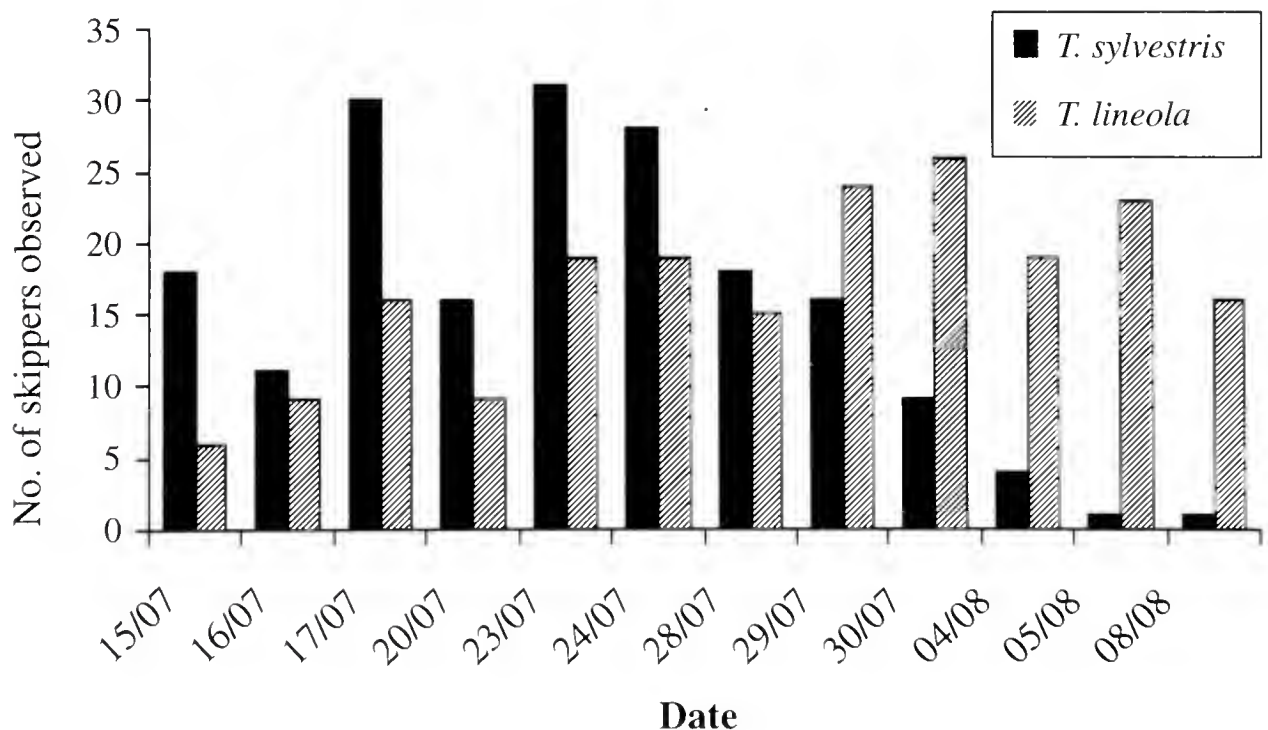


Fig. 2. Number of *T. sylvestris* and *T. lineola* individuals observed on each recording day.

Figure 3 demonstrates that *T. sylvestris* individuals spent longer resting and flying than *T. lineola* individuals completing these activities. However, *T. lineola* individuals exceeded their *T. sylvestris* counterpart for time spent basking, nectaring and completing the other combined behavioural activities. The behavioural activity of both *T. sylvestris* and *T. lineola* individuals was dominated by nectaring, although the preferred species varied.

The proportional duration of time spent nectaring by both *T. sylvestris* and *T. lineola* varied on each different plant species (Table 1). For their time spent nectaring, *T. sylvestris* individuals used Black Knapweed *Centaurea nigra* L. for the longest duration, followed by Black Horehound *Ballota nigra* L. Conversely, *T. lineola* individuals spent more time nectaring on *B. nigra* than on *C. nigra*, but these two plant species consumed the majority of the total nectaring time for both skipper species. Lesser Burdock *Arctium minus* Hill and Red Clover *Trifolium pratense* L. were also important nectar sources for *T. sylvestris* and *T. lineola* respectively.

Table 1. Proportional duration of nectaring on each plant species used by *T. sylvestris* (Ts) and *T. lineola* (Tl)

Plant species	Ts nectaring duration (%)	Tl nectaring duration (%)
<i>Arctium minus</i>	13.65	5.73
<i>Ballota nigra</i>	26.40	49.01
<i>Centaurea nigra</i>	47.17	20.61
<i>Centaureum erythraea</i>	1.71	–
<i>Cirsium arvense</i>	0.90	0.77
<i>Convolvulus arvensis</i>	0.69	–
<i>Knautia arvensis</i>	0.94	2.70
<i>Medicago sativa</i>	5.34	7.72
<i>Prunella vulgaris</i>	0.86	0.70
<i>Trifolium pratense</i>	2.36	12.77

Some of the plant species used for nectaring purposes were only utilised by one of the skipper species or by one individual. For comparative purposes, Figs. 4 and 5 illustrate the mean duration in seconds of visits recorded to those plant species which were utilised by more than one individual of both skipper species. At Spinney Verge (Fig. 4), visits for nectaring purposes completed by *T. sylvestris* individuals were longest on *C. nigra*, subsequently followed by Field Scabious *Knautia arvensis* L., whereas *T. lineola* individuals made longer visits to *T. pratense* and Lucerne *Medicago sativa* L. at this site.

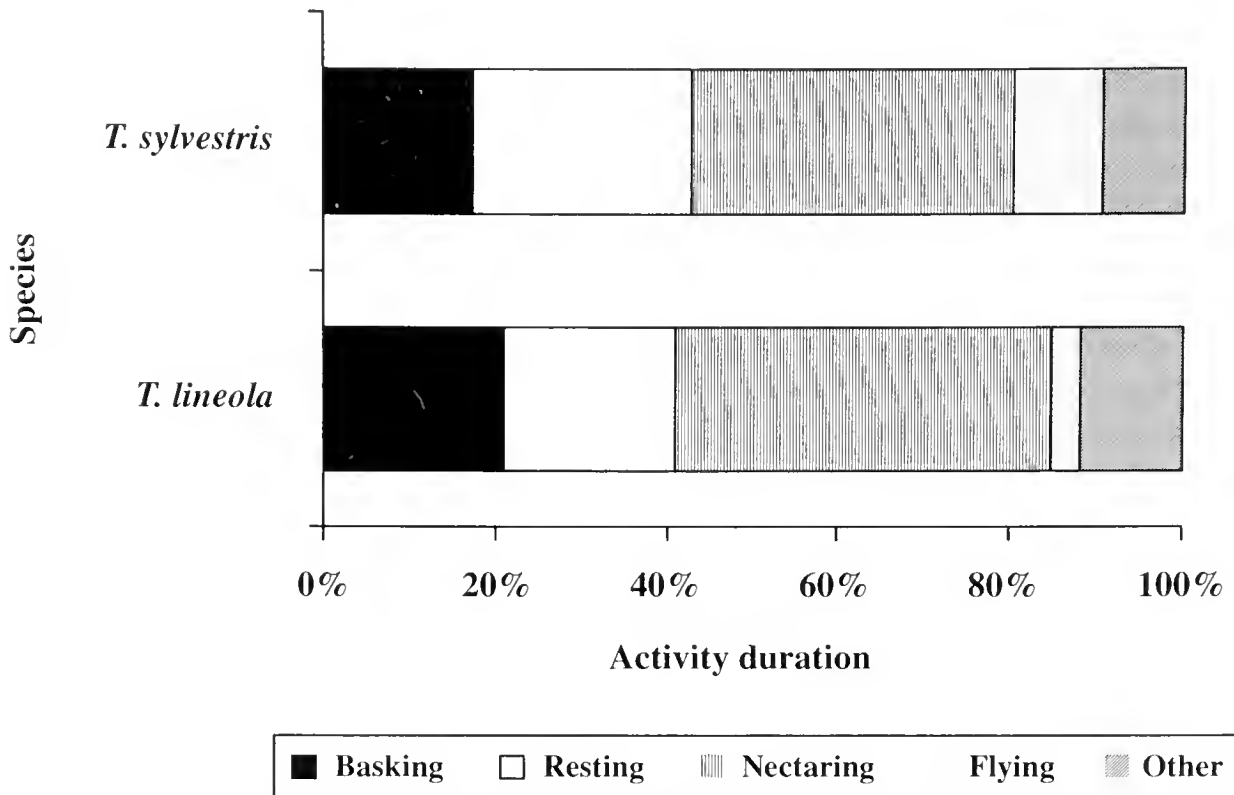


Fig. 3. Proportional duration of *T. sylvestris* and *T. lineola* total observation time spent completing selected behavioural activities.

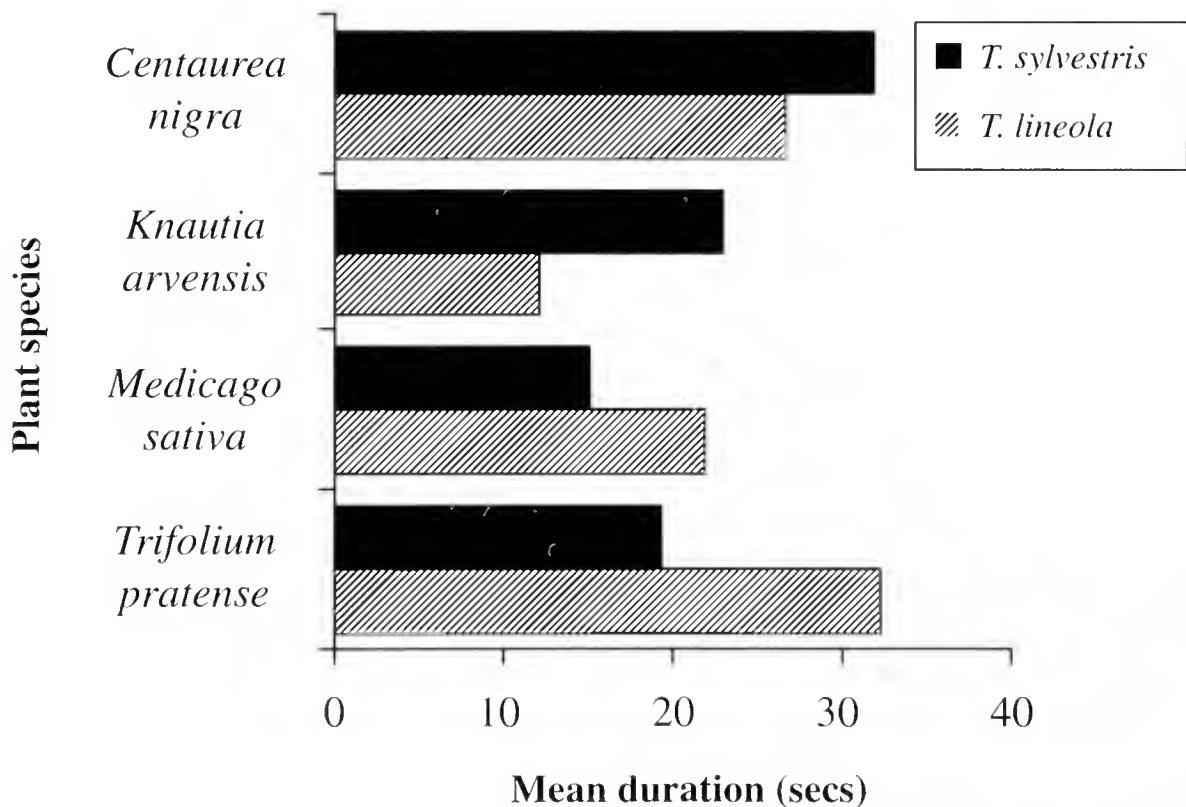


Fig. 4. Mean duration of time spent nectaring on plant species at Spinney Verge by *T. sylvestris* and *T. lineola*.

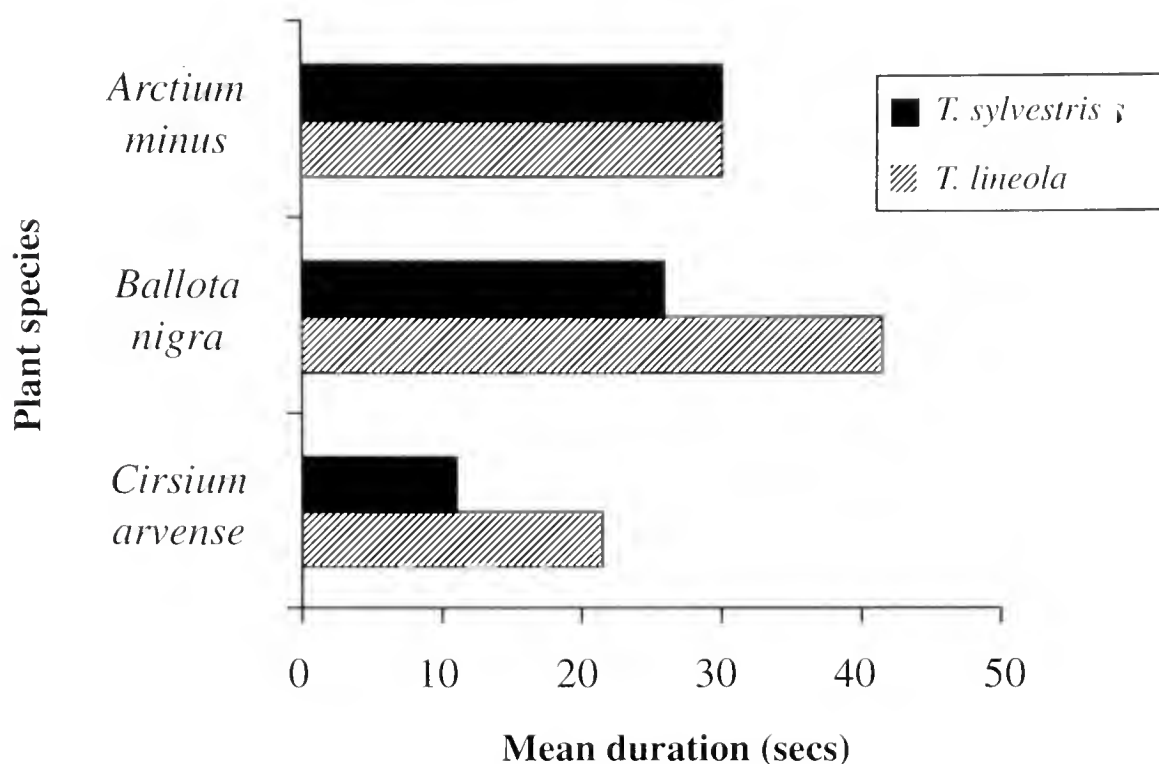


Fig. 5. Mean duration of time spent nectaring on plant species at Tip Meadow by *T. sylvestris* and *T. lineola*.

Mean duration of visits to *A. minus* at Tip Meadow (Fig. 5) were identical for both *T. sylvestris* and *T. lineola* individuals, and were the longest visits made for nectaring by the former skipper species. *B. nigra* procured the longest mean visit time for nectaring by *T. lineola* individuals (over 40 seconds), followed by *A. minus*, and then by Creeping Thistle *Cirsium arvense* L. The only plant species used for nectaring by more than one individual of both skipper species at Lordships Pond was *C. nigra*, which received longer visits by *T. sylvestris* than *T. lineola* individuals at this site.

Oviposition on grass species was infrequently recorded during the study, being observed only four times for each of the two skipper species. All four occurrences of oviposition for *T. sylvestris* were observed at Lordships Pond, where Yorkshire Fog *Holcus lanatus* L. (three observations) and False Oat-grass *Arrhenatherum elatius* L. (one observation) were the grass species utilised. *T. lineola* was observed ovipositing at both Spinney Verge and Lordships Pond, with two occurrences at each site. Two examples of oviposition were observed on *A. elatius* at Lordships Pond whilst at Spinney Verge, *T. lineola* oviposited once on both *A. elatius* and Timothy *Phleum pratense* L.

Table 2 demonstrates the abundance of plant species that were utilised for nectaring or oviposition purposes by either *T. sylvestris* or *T. lineola* at each of the three study sites. The preferred nectar and oviposition plant species were not necessarily abundant at any of the three study sites. *C. nigra* and *K. arvensis* were the preferred nectar sources for *T. sylvestris* at Spinney Verge, but neither species

occurred in abundance at this site. Although *A. minus* and *C. arvensis* were the preferred nectar sources at Tip Meadow, the most abundant plant species at this site was *A. elatius*. Contrastingly, the preferred nectar source for both skippers at Lordships Pond (*C. uigra*) was one of the most abundant plant species at this site.

Table 2. DAFOR abundance values for plant species utilised for nectaring and oviposition at the three study sites.

Nectar species	Spinney Verge	Tip Meadow	Lordships Pond
<i>Arctium minus</i>	-	O	-
<i>Ballota nigra</i>	-	F	-
<i>Centaurea nigra</i>	F	-	A
<i>Centaureum erythraea</i>	F	-	-
<i>Cirsium arvensis</i>	-	F	-
<i>Convolvulus arvensis</i>	-	-	F
<i>Knautia arvensis</i>	O	-	-
<i>Medicago sativa</i>	O	-	-
<i>Prunella vulgaris</i>	-	-	A
<i>Trifolium pratense</i>	A	-	-
Oviposition species			
<i>Arrhenatherum elatius</i>	F	A	F
<i>Holcus lanatus</i>	-	-	O
<i>Phleum pratense</i>	R	-	R
DAFOR scale: D (dominant) A (abundant) F (frequent) O (occasional) R (rare)			

H. lanatus was primarily selected for oviposition purposes by *T. sylvestris* at Lordships Pond. However, this grass species was not as abundant at this site as *A. elatius* which was also utilised for oviposition purposes during the study. The preferred grass species for oviposition by *T. lineola* during the study was *A. elatius*. Oviposition by *T. lineola* was observed at Spinney Verge and Lordships Pond where *A. elatius* was frequent.

The plant species which were not utilised by either skipper species for nectaring or oviposition are displayed in Table 3. Plant species such as *R. fruticosus* and Ox-eye Daisy *Leucanthemum vulgare* Lam. at Lordships Pond were not utilised for nectaring purposes by either skipper species. Similarly, at Spinney Verge the frequently occurring Agrimony *Agrimonia eupatoria* L. and Perforate St. John's-wort *Hypericum perforatum* L. were avoided by individuals of both skipper species. Grass species such as Couch *Elytrigia repens* L. and Cock's-foot *Dactylis glomerata* L. which were recorded at Tip Meadow were not used for oviposition purposes during the study.

Table 3. DAFOR abundance values for plant species which were not utilised by either skipper species for nectaring or oviposition

Plant species	Spinney Verge	Tip Meadow	Lordships Pond
<i>Achillea millefolium</i>	O	-	O
<i>Agrostis capillaris</i>	-	-	O
<i>A. stolonifera</i>	-	-	R
<i>Alopecurus pratensis</i>	-	O	-
<i>Anisautha sterilis</i>	-	F	-
<i>Anthoxanthum odoratum</i>	-	-	F
<i>Agriunonia eupatoria</i>	F	-	-
<i>Artemisia vulgaris</i>	-	O	-
<i>Briza media</i>	-	-	O
<i>Crataegus monogyna</i>	O	-	-
<i>Cynosurus cristatus</i>	-	-	F
<i>Dactylis glomerata</i>	-	F	-
<i>Daucus carota</i>	R	-	-
<i>Epilobium hirsutum</i>	-	-	O
<i>Elytrigia repens</i>	-	A	-
<i>Festuca arundinacea</i>	O	-	-
<i>F. rubra</i>	O	-	O
<i>Galium aparine</i>	-	O	-
<i>G. mollugo</i>	-	R	-
<i>G. verum</i>	-	-	O
<i>Geranium molle</i>	-	R	-
<i>Heracleum spondylium</i>	-	O	R
<i>Hypericum perforatum</i>	F	-	-
<i>Leucanthemum vulgare</i>	-	R	O
<i>Ophrys apifera</i>	O	-	-
<i>Pinus sylvestris</i>	-	-	R
<i>Plantago lanceolata</i>	-	O	O
<i>P. major</i>	-	-	R
<i>P. media</i>	-	-	R
<i>Rorippa sylvestris</i>	-	O	-
<i>Rubus fruticosus</i>	-	-	F
<i>Rumex obtusifolius</i>	-	-	R
<i>Senecio jacobaea</i>	R	-	-
<i>Solanum dulcamara</i>	-	-	O
<i>Taraxacum officinale</i>	R	-	-
<i>Tragopogon pratensis</i>	R	-	-
<i>Trifolium dubium</i>	-	-	R
<i>T. repens</i>	R	-	O
<i>Urtica dioica</i>	-	O	-

DAFOR scale: D (dominant) A (abundant) F (frequent) O (occasional) R (rare)

Discussion

Throughout the study period, the abundance of individuals varied in response to changing emergence rates and resource availability at the study sites; factors which also influenced the behavioural patterns that were exhibited by both skipper species. Behavioural activity may also have been affected by weather conditions and further research should concentrate on this effect.

The number of *T. sylvestris* and *T. lineola* individuals that were observed on each recording day fluctuated throughout the study period (Fig. 2). However, individuals of both skipper species were observed on each recording day and simultaneous usage of each of the three study sites by individuals of both species occurred throughout the duration of the behavioural study. Therefore, there is overlap in the flight periods of the two species (Thomas & Lewington, 1991) and as Corke (1997) suggests, individuals of both species can be seen flying together within the same sites.

Although the flight periods of the two skipper species do overlap, *T. sylvestris* usually peaks slightly earlier than *T. lineola* (Emmet & Heath, 1989). The number of observations of both *T. sylvestris* and *T. lineola* gradually increased to reach a peak, before starting to decline as the study progressed and emergence rates decreased. However, the number of *T. sylvestris* individuals that were observed peaked one week earlier than the maximum number of *T. lineola* individuals which were sighted.

Both skipper species primarily spent their time basking, resting and nectaring (Fig. 3). Observations of other behavioural activities such as copulation and oviposition were infrequently recorded for either species during the study, partly because butterflies are less discernible when engaged in such activities, but also because these activities comprise only a minimal proportion of any butterfly's overall activity (Corke, 1997).

The different vegetative species in evidence at each of the three study sites determined how the sites were utilised by individuals of both skipper species. As Warren (1996) suggests, *T. sylvestris* females preferred to oviposit into the relatively loose leaf sheaths on the flowering stems of *H. lanatus*. *T. lineola* females, however, have been observed to exploit larval foodplants such as *P. pratense* and *D. glomerata* that have tighter leaf sheaths into which the overwintering *T. lineola* eggs are firmly contained (Porter, 1992). During the behavioural study, one *T. lineola* female was observed to utilise *P. pratense* for oviposition purposes and this species might have been more regularly used had it occurred in greater abundance (Table 2). However, *T. lineola* females were predominantly observed to oviposit within *A. elatius* leaf sheaths, utilising this species at both Spinney Verge and Lordships Pond, sites where it was frequently occurring.

Plant species which were used for nectaring purposes were not necessarily the most abundant species occurring in the survey areas. Frequently occurring plant species such as *A. eupatoria* and *R. fruticosus*, both from the Rosaceae family, were not used for nectaring purposes, indicating that individuals select nectar sources from particular botanical families. Proboscis length relative to the depth of the

flower corolla partly determines the plant species from which butterflies can imbibe nectar (Shreeve, 1992). Possessing long probosces with a 90 degree bend (Shreeve, 1992), *T. sylvestris* and *T. lineola* individuals were primarily observed to nectar on narrowly tubular flowers such as species from the Compositae (*C. nigra*, *C. arvensis*, *A. minus*), Labiatae (*B. nigra*, Self-heal *Prunella vulgaris* L.) and Leguminosae (*T. pratense*, *M. sativa*) families (Table 1).

In accordance with the findings of Warrington & Brayford (1995), the main nectar source for *T. sylvestris* in the study was *C. nigra*. Other plant species suggested as additional nectar sources for *T. sylvestris* such as *C. arvensis* and *T. pratense* (Goulson *et al.*, 1997) were also utilised during the study, but not to the same extent as *C. nigra*. At Spinney Verge, *C. arvensis* was not used for nectaring by either species because it was not flowering at this site during the study. *C. nigra*, however, was flowering in abundance within the survey areas at both Spinney Verge and Lordships Pond. *T. sylvestris* individuals are known to exhibit a significant degree of constancy (fidelity to a particular nectar source) to the plant species previously visited, to decrease time spent learning to extract nectar from different species (Goulson *et al.*, 1997). Constancy to *C. nigra* may have therefore been demonstrated by *T. sylvestris* individuals during the study.

T. lineola individuals also predominantly nectared on *C. nigra* at Spinney Verge and Lordships Pond. Additionally, in accordance with the observations of Preston & Westwood (1981) and Pivnick & McNeil (1985), *T. lineola* individuals utilised *T. pratense* and *M. sativa* for nectaring purposes. The mean duration of nectaring bouts by *T. lineola* individuals at Spinney Verge was greatest on *T. pratense* (Fig. 4), reflecting the time taken to imbibe more concentrated nectar.

Overall, *T. lineola* individuals spent most of their nectaring time utilising *B. nigra* (Table 1). At Tip Meadow, *B. nigra* was the dominant nectar source (Fig. 5) because *C. arvensis* was only flowering at the beginning of the study period and *A. minus* was only flowering at the end. Although these other plant species were used for nectaring by individuals of both skipper species at this site, opportunity for nectaring was predominantly limited to *B. nigra*. In an area containing both *B. nigra* and a variety of other nectar sources such as *C. nigra*, *T. lineola* individuals might therefore demonstrate a preference for *C. nigra* or another alternative nectar source.

Conclusions

Having established that resource availability influences behavioural activity, suitable habitats can be created on farmland to satisfy the requirements of both skipper species. Uncropped field margins, coppiced hedgerows and other non-cultivated areas should contain the preferred nectar sources such as *C. nigra* and *T. pratense*. Additionally, the provision of larval foodplants utilised by *T. sylvestris* and *T. lineola*, including *A. elatius*, could encourage breeding on agricultural land and should therefore be an integral element of any newly created habitats for grassland butterflies.

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***Biston betularia* L.(Lep. Geometridae): continued decline in Industrial Melanism in north-west Kent**

This is a third update of the paper published in *Ent. Rec.* **100**: 39, previously updated in *Ent. Rec.* **102**: 175, and again in *Ent. Rec.* **106**: 229. Since 1994, *f. typica* has continued to increase in incidence and *f. carbonaria* Jordan to decrease, both now more slowly and with a tendency towards levelling out. Thus, in the nine years 1994 to 2002, *f. typica* has increased by 16% from about 42% to 58% and *f. carbonaria* has declined in incidence by a corresponding amount from about 24% to 8%. During this period, *f. insularia* Th. – Mieg has averaged 31.7% commencing and finishing the period, at about 34% (Table 1; Fig. 1).

Table 1. Annual occurrence (percentage of total catch for the species) of the three main forms of *Biston betularia* at Dartford, Kent.

Year	<i>f. typica</i> (%)	<i>f. insularia</i> (%)	<i>f. carbonaria</i> (%)	number in sample
1994	42.5	33.75	23.75	80
1995	50.0	26.5	23.5	102
1996	52.0	25.5	22.5	134
1997	63.0	26.0	11.0	138
1998	54.6	33.7	11.7	163
1999	53.7	35.8	10.5	67
2000	51.0	40.0	9.0	55
2001	57.5	32.0	10.5	66
2002	58.0	34.0	8.0	76

Since *f. typica* and Kettlewell's *f. insularia* are virtually indistinguishable from one another the relative incidence of both *typica* and *insularia* must be questionable, but there is no such reservation regarding *carbonaria*. In industrial areas such as north-west Kent, this particular problem is made more difficult due to specimens of *typica* being more heavily marked, in general, than those from the extreme west of Britain and other localities far from the polluted atmospheric environments of industrial regions. Thus, specimens I possess from Grantown-on-Spey, Moray, are much more lightly marked than any specimen I have seen in north-west Kent.

The early stages of the development of industrial melanism received relatively little attention, but collections made at the time have provided useful information. Kettlewell (1973. *The Evolution of Melanism*), has shown that early in the process many *carbonaria* possessed a whitish post-median line on the forewing, and a white patch anteriorly on the hind wing. A number of such specimens has occurred here before 1990, particularly in the 1980s. In the period since 1994 only one has been observed.

It was considered that *carbonaria* was completely dominant genetically over *insularia*, and that both were dominant over *typica*. However, the situation is slightly more complex and *insularia* is only partially so affected, and so the masking effect demonstrated in the phenotypes is not complete, although it is to a great extent. There are two consequences of this. Firstly, as *carbonaria* has increased in the *betularia* population, *insularia* if present has decreased, but the *insularia* genes

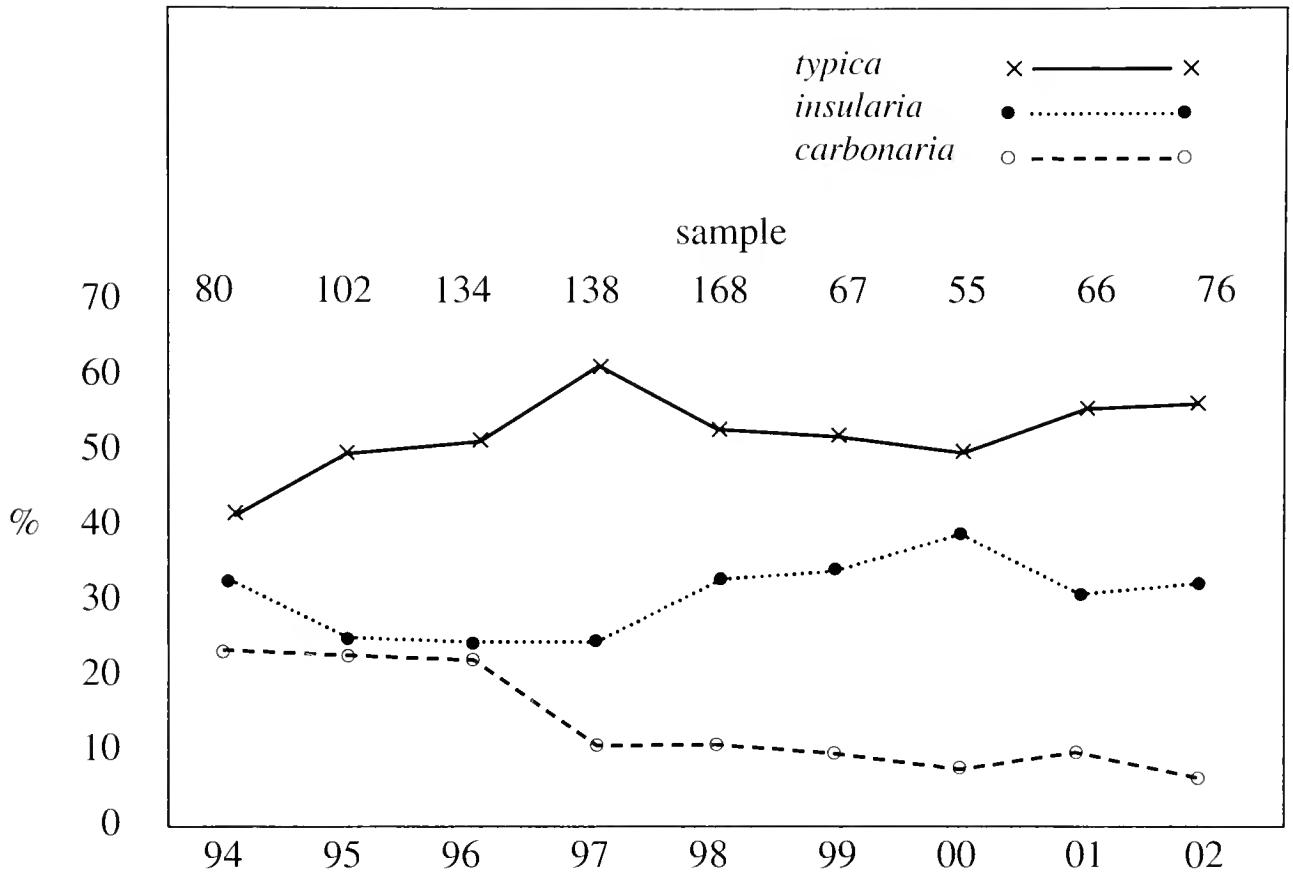


Figure 1. Incidence of forms of *B. betularia* 1994 to 2002 inclusive.

remain. So, with the decline in industrial melanism the *insularia* genes increasingly become effective and *insularia* phenotypes become commoner. Kettlewell (*op. cit.*) has pointed out that Haldane had concluded that high values of *insularia* are associated with *carbonaria* figures of 10% to 30%. In north-west Kent for the past nine years just such a condition has obtained, the incidence of *carbonaria* having fallen from 78% in the period 1970-1973 to between 24% and 8% each year from 1994 to 2002 (Table 2; Fig. 2).

Atmospheric pollution caused the disappearance of lichens from trees in the local woodlands and elsewhere in the late 19th century and the darkening of fences and vegetation; from this change in environment developed the change in incidence of the forms of *B. betularia* and other moths. Lichens are returning to trees in north-west Kent, but are still not much in evidence. Tree trunks, other than those blackened by fire, are often greenish due not to lichens, but to the alga

Table 2. Occurrence (percentage of total catch for the species) of the three main forms of *Biston betularia* at Dartford, Kent, analysed by four-year periods, 1970-2001

year group	f. <i>typica</i> (%)	f. <i>insularia</i> (%)	f. <i>carbonaria</i> (%)	number in sample
1970-73	14.5	7.5	78.0	119
1974-77	10.5	13.0	76.5	107
1978-81	17.0	11.0	72.0	99
1982-85	19.0	16.5	64.5	102
1986-89	25.0	21.0	54.0	164
1990-93	36.5	31.0	32.5	119
1994-97	51.9	27.9	20.2	113
1998-01	54.2	35.3	10.5	88

Pleurococcus. On these trees, *carbonaria* are disadvantaged and so have declined in incidence, while *typica* are at an advantage; *insularia* are particularly suited to the *Pleurococcus*.

The polymorphism of *B. betularia* in 2002, with high incidence of *typica* and *insularia*, and a low incidence of *carbonaria*, has doubtless resulted from the clean air legislation and its environmental effects in north-west Kent. However, these ratios have arisen elsewhere by another route.

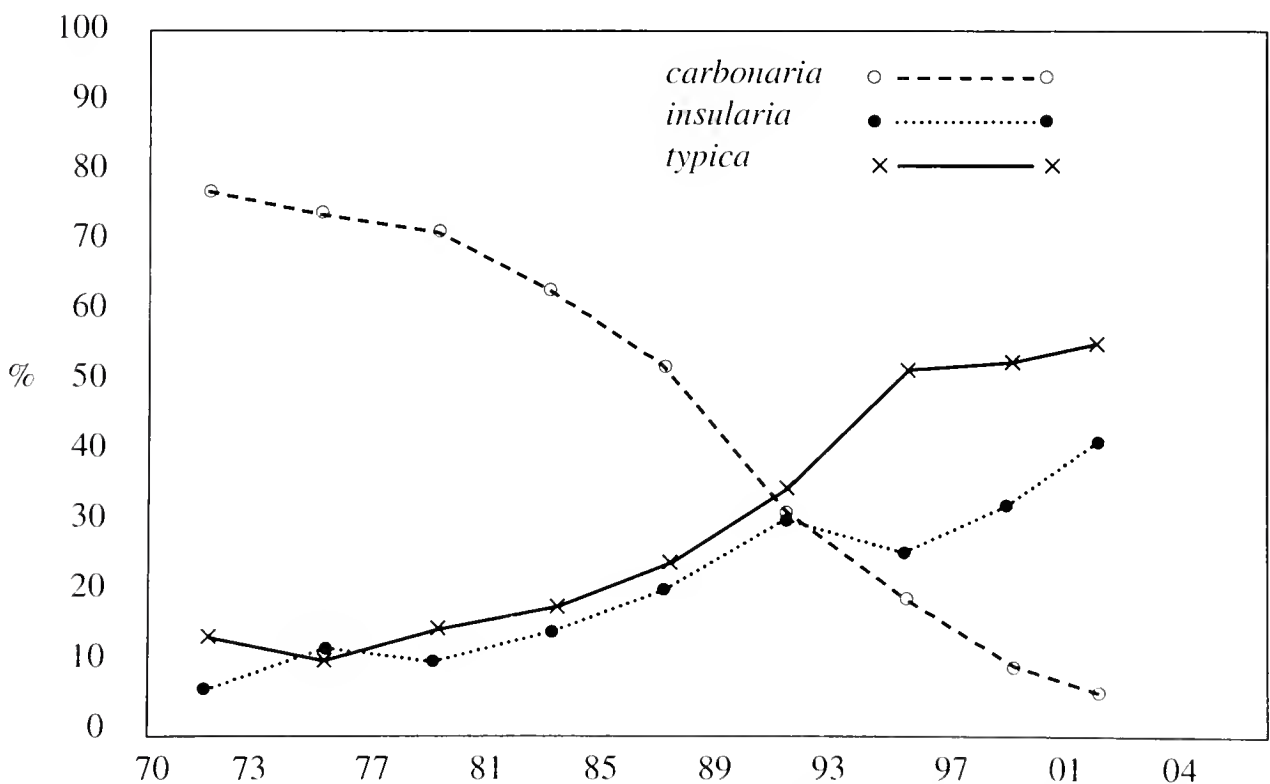


Figure 2. Incidence of forms of *B. betularia* over four-year periods, 1970-2001 and 2002.

The slightly incomplete dominance of *carbonaria* over *insularia* is demonstrated by occasional specimens occurring which possess the wing markings of *insularia* and the black thorax and body of *carbonaria* and are supposedly of mixed *insularia* x *carbonaria* origin. These are ab. *mixtus* Voss. They retain the white spot at the base of the forewing as do *carbonaria* in north-west Kent, and a largely white head. The intensity of the speckling on the wings is usually commensurate with that on the thorax and body in *insularia*, but in *mixtus* the occasional lightly marked specimen with black thorax and body gives a distinctly incongruous, almost bizarre effect. The exact genetic nature of ab. *mixtus* seems not to have been noted in the entomological press, but it is unlikely to be the outcome of any random pairing of the two phenotypes, *insularia* and *carbonaria*, for it is too rare. Ab. *mixtus* has been included with *insularia* in the accompanying Figures and Tables since in earlier years I was not aware of its separate identity.

Despite the slowing down in the changes in the incidence of the forms of *B. betularia* in north-west Kent, it seems unlikely that the moth will become monomorphic in the foreseeable future with *typica* prevailing, as it did before the industrial revolution and as is thought to be likely in such industrial states as Michigan and Pennsylvania in the U.S.A. In some semi-polluted areas in Britain there is a high incidence of both *typica* and *insularia*, and a much lower incidence of *carbonaria* – somewhat resembling the situation at Dartford to-day. In both, *Pleurococcus*-covered tree trunks and branches prevail and growth of lichens may increase; atmospheric pollution is in decline. In such regions the species may tend towards dimorphism and remain dimorphic for a long time.

I wish to thank B.S. Grant of the College of William and Mary, Williamsburg, Va., U.S.A. for sending me a copy of his work on melanism in the *Journal of Heredity*, and other literature.— BRIAN K. WEST, 36 Briar Road, Dartford, Kent DAS 2HN.

An unlikely Sutherland crambid was an Oecophorid!

A micro at first thought to be *Donacaula forficella* (Thunberg), flying commonly in Gleann Dubh (O. S. grid reference N0 2622 to NO 2621) at Inchnadamph, Sutherland on 7 July 2001 (Ent. Rec. **114**: 41-43), proved to be *Pleurota bicostella* (Clerck). The female specimen I netted laid seventeen eggs in a plastic box and was sent to Tony Davis of the Pyralid and Plume Recording Scheme five days later. He was not able to reply until March 2002 identifying the moth as the oecophorid, which I. R. P. Heslop aptly named the Light Streak. Mark Young had written to me a few weeks earlier stating that *P. bicostella* was a likely candidate as the first time he saw the species near Braemar he, too, mistook it for a crambid. My misidentification would not have been made if the excellent illustrations in *The Moths and Butterflies of Great Britain and Ireland*, vol. 4, part 1 had been published a year earlier.— D. C. HULME, Ord House Drive, Muir of Ord, Ross-shire IV6 7UQ.

Sugaring through a Scottish night

I am fortunate to have a sugaring ride, just across the road from our house, that is consistently successful. It consists of 25 fence posts set on a slightly raised bank at the edge of a marshy hillside that graduates into heathland. The habitat is excellent. Even so, the number and variety of moths attending on a good night is remarkable – at the height of the season, counts of 200 noctuids at a single look are not exceptional. I have never experienced such success in Sussex, or indeed anywhere else in Scotland, and cannot explain why this particular sugaring site is so good.

Normally I check the sugar at dusk, and then a couple more times after darkness has set in. By the third look, numbers of moths have usually fallen. The temperature tends to drop a bit as well, so I go to bed. I have often wondered whether numbers would pick up again near dawn, but my curiosity has not been strong enough to overcome my desire for sleep!

This was remedied on the night of 2-3 July 2001. For north-east Scotland it was an exceptionally warm night: a steady 13°C, muggy and still with a slight south-easterly drift. Any activity of the moths would not be influenced by falling temperatures or deteriorating weather conditions, always a potential factor in such studies. To be honest, the pre-dawn check of the sugar was not planned in advance, but a spur of

Table 1. Attendance of selected species at sugar throughout the night of 2-3 July 2001 at Ordiquhill, Banffshire, compared with the catch from a Robinson mercury vapour light trap.

Species	Number at sugar 23.45hrs	Number at sugar 00.15hrs	Number at 02.15hrs	Number in m.v. trap
Flame Shoulder <i>Ochropleura plecta</i>	36	46	5	7
Large Yellow Underwing <i>Noctua pronuba</i>	10	12	6	3
Purple Clay <i>Diarsia brunnea</i>	3	2	–	–
Small Square-spot <i>Diarsia rubi</i>	30	15	67	13
Pale-shouldered Brocade <i>Lacanobia thalassina</i>	2	4	6	2
Small Angle Shades <i>Euplexia lucipara</i>	15	18	–	2
Clouded-bordered Brindle <i>Apamea crenata</i>	15	8	35	5
Dusky Brocade <i>Apamea remissa</i>	1	2	1	4
Middle-barred Minor <i>Oligia fasciomeula</i>	32	19	1	4

the moment decision as conditions seemed so favourable. Ideally, I should have done rounds of the sugar at fixed intervals all night, instead of leaving a gap. However, the results are so striking that I feel it is worth presenting them here in Table 1, above.

These results are hard to analyse. It is impossible to say whether moths disappeared from sugar because they became inactive, because they were sated, or because it was their time to fly instead of feed. The counts therefore reflect feeding activity rather than overall activity, on this one exceptionally warm night.

Even so, some of the results were surprising. I have always regarded Middle-barred Minor as a crepuscular and partially diurnal species, and most were indeed seen at dusk, but clearly it is not active – or does not feed much – at dawn. Small Angle Shades peaked later in the night, then disappeared from sugar completely. Small Square-spot and Flame Shoulder showed markedly different patterns, the latter peaking just before dawn, as did Clouded-bordered Brindle. Whether these results would be sustained over a longer series of observations is a different matter. If the pre-dawn check had produced a few desirable species not present earlier in the night, I might have been tempted to repeat it on a regular basis, but it was only the numbers that altered.

Finally, sugaring and light trapping produced very different results. Overall, the Robinson trap caught 38 species of macro-moth compared with only 21 species seen at sugar. This is hardly surprising, since light attracted notodontids and others that do not feed or, like the Pluosiinae, prefer to feed at flowers. Yet seven of the species at sugar were absent from the trap. Of the noctuids seen by both methods, only Dusky Brocade was more frequent at light, even considering that the maximum counts at sugar underestimated the numbers of individuals attending because they did not allow for turnover. The lack of proper darkness here in midsummer is partly responsible for the light trap's reduced effectiveness. Even so, it is remarkable that, for instance, at least 18 individuals of the Small Angle Shades left the sugared posts, but at best only two ended up in the trap 25 metres from the start of the ride, lending weight to the Editor's comment (*Antea*: 71) about the inadequacy of relying on light trapping alone for accurate recording of this and other species.— ROY LEVERTON, Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS.

***Lonchaea iona* MacGowan, not *L. hirticeps* Zett. (Dipt.: Lonchaeidae) at Blackheath, south-east London**

Since my recent record (*Ent. Rec.*114: 211) of a male of *Lonchaea hirticeps* Zett. from Blackheath, Mr Iain MacGowan has pointed out to me that the true *L. hirticeps* is not now considered to be British. Our exponents of the last-named are, in fact, referable to one or other of a pair of lately described species, of which *L. iona* MacGowan is widespread. The author has most kindly sent me his very thorough and fully illustrated paper on our Lonchaeidae, from which it is evident that the Blackheath insect is in fact *L. iona*.— A. A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

OBITUARIES

ZAKARIA ERZINÇLIOĞLU



Dr Zakaria Erzinclioglu, Britain's leading forensic entomologist over the last quarter century and tireless campaigner for better forensic science and the victims of incompetent or fraudulent forensic science, was known to police and courts alike as Dr Zak. He was born on 30 December 1951 and died of a heart attack 26 September 2002.

Zak obtained his B.Sc. in Applied Zoology at Wolverhampton Polytechnic in 1975. From 1976-1981 he worked for the Zoological Society of London as a compiler for the *Zoological Record*. His spare time interest in blowflies led to his involvement in forensic work. The need to identify blowfly eggs and larvae of the different species, and to determine their ages, is essential in helping to decide the post-mortem interval from the insects present in a corpse. In 1981, he therefore moved to Durham University to study for a Ph.D. with Dr Lewis Davies. He produced an impressive thesis on blowfly eggs and larvae and their development and a subsequent series of papers derived from it. In 1984 he moved to Cambridge University, in the employ of the Field Studies Council, to work for six years with myself. Among other publications this resulted in his book *Blowflies* (volume 23 in the *Naturalists' Handbooks* series). He was then funded by the Home Office to research forensic entomology before being appointed Director of the new Forensic Science Research Centre at Durham University; but problems with its funding caused its closure in 1995, shortly after the Royal Army Medical College had awarded him their John Grundy Medal for Medical Entomology.

His contributions to entomology were focussed on blowflies in relation to forensic applications. Thus he did excellent taxonomic studies of eggs and all instars of species encountered in corpses. He did detailed work on the duration of development; and an especially noteworthy study of the effects of low temperatures, as the result of a case in which the earliest stages had been subjected to a short spell of cold weather. He was interested in exploring new ways of determining the age of larvae and pupae, in what attracted blowflies to a corpse and in any aspect of blowfly biology that might help in the interpretation of the significance of specimens from a case.

After leaving Durham the second time, he returned to Cambridge and continued doing case work for the police, mainly involving murder victims, until May 1997 when he announced that from then on he would only carry out forensic work if paid by the judiciary. Otherwise all work would be undertaken *gratis*, as a means of highlighting and solving one of the problems he saw with the Justice System. He continued writing scholarly articles, books and entomological papers. He also wrote for a wider readership, notably his acclaimed *Maggots, Murder and Men* and *Every Contact Leaves a Trace*.

In pursuit of his desire to raise standards in forensic science, and to rid the field of charlatans, he not only wrote articles for scientific journals (such as *Nature*) and newspapers, but he also wrote well argued submissions to the House of Lords Select Committee on Science and Technology when it considered Forensic Science, to the Royal Commission on Criminal Justice, to the Working Group on Forensic Science chaired by Lord Lewis of Newnham and to the Council for the Registration of Forensic Practitioners. Increasingly he became more and more involved in cases of wrongful imprisonment due to flawed or fraudulent forensic science. His practical steps to try to remedy this situation included a conference in July 2003 in Cambridge and a proposal to found the Solon Institute for forensic sciences. This is planned to be devoted to research in forensic science and casework undertaken free of charge and disclosed to both sides. This is an imaginative concept that deserves to be implemented. Indeed it would be a fitting memorial to Zak.

Zak is remembered by all those of us who were privileged to know him as a man of immense integrity, compassion and courage in standing up for what he believed to be true or just. He was also a devoted family man, and deepest sympathy is extended to his wife Sharon and three children, Tanya, Larissa and son, Aksel.

Henry Disney

DENNIS O'KEEFFE



It was with a feeling of the deepest regret and sadness to Kent entomologists to learn of the death of Dennis O'Keeffe on 19 October 2002 after a brief, unexpected illness. So sudden was this that an eagerly anticipated visit to the Scilly Isles had to be cancelled at very short notice. He was born on 9 September 1935 at Peckham, in south-east London. Luckily, the family moved to Sidcup, Kent shortly before the house in London was destroyed in an air raid. By that time, however, even Kent was not considered safe anymore so the family packed their bags and moved to Blackpool. On their return to Sidcup in 1943, Dennis attended the local convent school and completed his education at St. Mary's College in 1953.

National Service in the RAF followed and a serious interest in long distance running occupied his spare time.

The move to Sidcup was to a house adjacent to open fields and here his passion for butterflies and moths was established; according to his sister Theresa starting as early as thirteen years old. His parents would allow him to put a bedside lamp close to an open window so that he could look at the moths that came to the light. At the same time, he put together a small collection of butterflies and moths. The funds that he needed to finance his hobby came from paper rounds and Saturday meat deliveries. He was close to L. Hugh Newman's butterfly farm at Bexley and was a frequent visitor there.

After a short spell in the Civil Service, a job with Wella, which gave experience with computers, and then opening a toy shop, he next established a successful computer programming business with a friend and so with that came some leisure time. Now his latent interest in entomology surfaced and he then began his contact with like-minded enthusiasts joining the South London Entomological and Natural History Society in 1968. He soon built up a representative collection of British macrolepidoptera, travelling far and wide in the company of Bernard Skinner, Dick Chatelain and myself in the 1970s. He had an excellent library of entomological periodicals and by assiduous study of them in the winter months he was able to locate a number of species which had become lost or obscured, the best example being that of *Thetidia smaragdaria* (Fabr.) ssp. *maritima* (Prout). He also located breeding colonies of moths of the rarity of *Athetis pallustris* (Hb.) and *Acosmetia caliginosa*, (Hb.). So he became regarded as a highly competent fieldworker. Unfortunately, these days were not to last and by the late 1970s, after the loss of an eye and problems with his personal life, he withdrew from the world of Lepidoptera and, in the winter of 1978/1979, he disposed of his Lepidoptera collection and library ("in a fit of madness", he would later say).

By 1980, he progressed to stabilising his personal life and took employment as an office manager for a law firm (where he would later become the finance director, staying there until his retirement in 1993.) In 1984 he married again, to Wiltrud, and moved to Petts Wood in 1985. This was to set the stage for the most important phase in his entomological life, since with stability came renewed contact with the world of Lepidoptera, though he never completely lost touch with Bernard and Dick. He began going out on recording trips with Dick and his diary entries start with a visit to Ham Street woods in Kent on 25 April 1986. He restricted himself to Kent records and in 1987, significantly, he mentions his first "micro." By the end of 1987 he was recording microlepidoptera in Kent in earnest and travelling frequently with Michael Chalmers-Hunt, to whom he had apprenticed himself. By 1990 he was making significant finds of his own, such as discovering a breeding colony of *Pammene agnotana* Rebel, and when Dick Chatelain died in 1991 he turned almost exclusively to the study of microlepidoptera, not only in Kent now, but to the whole of the British Isles. He said it was more challenging for him.

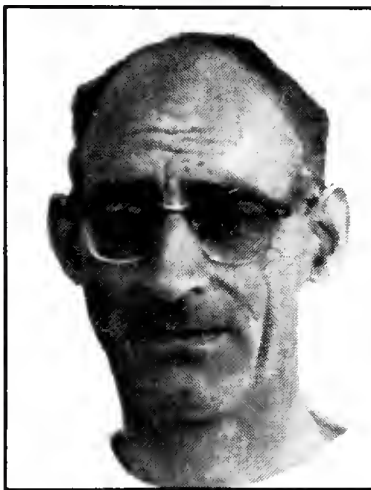
It was at this time that the plan to publish a book on the microlepidoptera of Kent, to complement that of the macrolepidoptera by Michael Chalmers-Hunt, was planned and he worked at this for the next fourteen years building up a database, following up all the old records that he could lay his hands on and adding many new ones himself. He recorded interesting and rare breeding species new to Kent such as *Coleophora alnifoliae* Barasch and *Eucosma metzneriana* (Tr.).

Retirement in 1993 led eventually to a rethink about location and in 2001 a move was made down to the coast, to Dymchurch, for a more relaxed lifestyle and the prospect of some migrants to look at. In this respect, he was not disappointed since, in 2002, he was able to record such species as *Hyles livornica* (Esper), *Hyles euphorbiae* (L.) and *Trichoplusia ni* (Hb.). In his last few months, his diary entries are largely local and within the last few, Castle Hill, Folkestone figures; I could not help but reflect on this as he made his last journey to the crematorium within sight of it.

His hard-earned knowledge was freely available to anyone who asked and he made contacts and encouraged the study of the smaller moths to anyone who was interested throughout Kent in order to build as comprehensive a picture as possible, to aid his projected book spanning the period from 1900 to approximately 2000. Sadly this will not now be so. The information is on disk and it is to be hoped that someone else with the same love of Kent microlepidoptera that he had will take up the task and complete the work, and give him his due recognition for all his hard effort over the past years. His comprehensive collection of smaller moths is, it is hoped, being housed in Maidstone museum where it will be available for study by interested lepidopterists. He is survived by a son, grandson and daughter and, of course, Wiltrud, who gave him so much support and encouragement in the pursuit of his aim ... A Microlepidoptera of Kent.

Brian Elliott

ALBERT SACCO



Reverend Albert Sacco, MBE, SM, was born on the 6 December 1920, at Port Said, Egypt. After spending most of his working life on several islands of the New Hebrides archipelago (Vanuatu), he died on the 29 January 2002 in Middlesbrough, aged 81. Among many other interests, Albert was a keen amateur entomologist; a new species of butterfly which in flight looked remarkably like *Papilio machaon* L., came to his notice on the island of Tanna, and was subsequently named *Polyura sacco* Smart, 1977. A second race from the islands of Espiritu Santo and Malekula was named *P. sacco santoensis* Lachlan, 1993. More recently, Albert Sacco was further honoured with the

description of a new hawk-moth from the islands of Ambrym and Espiritu Santo: *Gnathothlibus saccoi* Lachlan & Moulds, 2001.

Both Albert's parents were Maltese, and he was five years old when his doctor father brought the family from Malta to England in order to be near his brother, also a GP. Educated in his early years by English Jesuits in Malta, and later by Marist Fathers in Middlesbrough, Albert inherited from his father a love of nature, which remained with him throughout his life. The three brothers, of whom Albert was the second, made a successful team in collecting butterflies around faunally impoverished industrial Teeside. The youngest brother, Maurice, had the quickest eye; Albert had the netting skill, whilst elder brother Paul would carry out the subsequent mounting of specimens. War broke out whilst Albert was a young man. He was commissioned into the Royal Artillery, participating in the campaign following the allied landings in Normandy, and rising to the rank of Captain. Following cessation of hostilities in Europe, he was posted in September 1945 to northern India where he was promoted to the rank of Major. After demobilisation in June 1946, he was ordained into the Marist priesthood and posted to the New Hebrides to take over a mission station at Loanatom, Tanna in 1954.

He stayed in the New Hebrides (which became Vanuatu in 1980) for most of the rest of his life, serving at different localities on the islands of Aneityum, Espiritu Santo and Ambrym, as well as Tanna. Almost by definition, life in such surroundings resulted in many adventures, including the occasion when a tidal wave swamped Albert's Tanna church in the middle of the night. Its replacement, built almost entirely by Albert, was built on slightly higher land! On another occasion he became lost in thick mist whilst travelling in a small dinghy with a local companion between Pentecost and Espiritu Santo and drifted for three days without food or water. Linguist (in addition to Bislama, the national "pidgin", he spoke more than one Tannese dialect fluently), builder, artist, electrician, chess player and teacher, he was a pillar of local society wherever he found himself, being instrumental in setting up a number of primary schools on Tanna. Albert was made a Member of the Order of the British Empire for services to education – although he rarely mentioned it, and detailed reasons for the award are not known to his family.

A visit to Tanna by the then British High Commissioner of the joint British/French Condominium, the late Sandy Burgess, in 1976, reawakened Albert's interest in butterflies. Sandy stayed with Albert and mentioned the existence of a butterfly on Tanna, which looked remarkably like the European swallowtail *Papilio machaon*. "Oh yes", said Albert "I'll take you to see one after breakfast tomorrow". As good as his word, Albert showed the High Commissioner where to find the *Polyura*, which commonly visits fermenting sap of the Mandarin Orange *Citrus reticulata*. Albert subsequently managed to rear *P. sacco* in reasonable numbers for sale, mainly in Japan, supporting the Mission on the proceeds until income from a new store made this unnecessary. A small collection of butterflies made by Albert, primarily on Tanna, was presented to the Cultural Centre in Port Vila but was largely destroyed by water damage during a typhoon in 1987. The remainder have now been rendered worthless by the ravages of sun and insect pests. This included the female allotype (paratype) of *Hypolimnas octocula tanna* Samson, 1986, which is no longer extant.

Albert Sacco retired from his church at Loanatom on the west coast of Tanna, and came to the UK to see his brother and sister, intending to return to Port Vila on the island of Efaté. Sadly, he was diagnosed with a brain tumour whilst in the UK, and spent the remainder of his days at a Catholic Convent, Nazareth House in Middlesbrough. Albert passed away whilst I was visiting Vanuatu, where he is remembered with great affection. As a French colleague said as we stood inside Albert's church, looking at one of Albert's wall paintings, "*He's one of the old school. There's nothing he can't do. Nowadays they send them out and all they can do is drive a car!*". Neither of us knew it until several weeks later, but Albert died the following day.

Thanks are due to Father Paulin Anicat (Vanuatu, Tanna) and to Albert Sacco's brother, Reverend Paul Sacco (Wales, Carmarthen), each of whom provided biographical information.

W. John Tennent

Garden entomology

About eighteen months ago John Badmin had published an item with this title (*Antenna* 25: 3) in answer to a query as to how to select plants so as to make a garden suitable "to encourage moths and their conservation" and made various useful suggestions. This article, together with a recent talk on the subject given by my local Wildlife Trust, set me both thinking and reminiscing on the subject as follows.

It is my opinion that a small garden in isolation, however well-intentioned to be designed for butterflies and moths, cannot do more than act as a feeding station for passing butterflies which are normally the already common species, especially migrants. It is highly unlikely that any foodplant supplied will be utilised except for those species that feed on Cruciferae such as cabbages and nasturtium (the Pieridae) and grasses (some Satyridae), in which case the lawn should resemble a hay-meadow rather than the baize of a snooker table. Neighbours gardens also need to be taken into account. However much one person may try to accommodate insects, the effort can be entirely negated by a neighbour whose sole aim in the garden is to enhance the profits of the insecticide manufacturers. I have known it happen. What is needed is a concerted effort by a dozen or so adjoining neighbours co-operating with each other and with each garden catering for different butterfly and or moth tastes. This would well make the effort worthwhile, as it would be the equivalent of a large garden. Now large gardens, due to the present housing demand, are rapidly becoming a rarity, a thing of the past, and many that existed 50 or more years ago have been split up and built over. I can give a personal example of this. My father's house at Dover had nearly two acres of garden, about half of which was woodland or grass and ivy-covered hillside. Neighbouring gardens were also large and all had the advantage of adjoining a railway, the side of the track bed also being very suitable for butterflies. It was in fact a hay-type meadow, which was burnt irregularly in patches by sparks from the then steam trains which kept it that way. When seen last year it had become a dense strip of woodland, as had the adjoining bottom of father's old garden. There used to be plenty of room for patches of stinging nettle and completely uncultivated weedy areas. Between 1934 and 1955, I recorded 32 butterfly species in this garden, nearly half the total British species. Numbers were certainly declining by the 1950s and sadly two large blocks of flats have now been built on it. In my small Cambridge garden, also surrounded by similar, the total is 14, mostly being the common and wide-spread Pieridae and Nymphalidae with only six being known to breed, whereas the Dover garden had 24 species breeding in it.

Perhaps the most important thing when making a garden suitable for butterflies is location, location, location. There is little point if it is so urban that there is no outside source from which the butterflies can come. Nor is it any use having foodplants of species that do not occur within flying distance. There are of course a number of species which are so widespread and strong-flying, such as all the migrants, that foodplants for these might always be useful and may be used. One success in this respect has been the widespread planting of buckthorn *Rhamnus*

carthartica in recent years which has enabled the Brimstone butterfly *Gonepteryx rhamni* L. to expand its range. Before deciding which larval foodplants to use one should consult the distribution of species, which is now best done by consulting the recently published *Millennium Atlas of butterflies of Britain and Ireland* in which it can be discovered which species are most like to occur near the garden in question, and plant accordingly.

Concerning plants to be grown, the two most attractive nectar species I remember catching butterflies on in father's garden were the *Buddleia* and the Michaelmas daisies, both of which were often swarming with numbers of butterflies by day and moths by night. White *Buddleia* I am not so enamoured of, for both the blue and white varieties grew in the Entomological Field Station here in Cambridge and one rarely saw a butterfly on the white; they clearly preferred the blue. As for the moths' preferences, I cannot say. I would also like to know which species of moth John Badmin found attracted to *Nicotiana*. Yes, it has a lovely scent, but it also has a very deep trumpet flower and its nectar can only be reached by moths with a long proboscis, such as Humming-bird *Macroglossum stellatarum* L. and *Convolvulus Agrius convolvuli* L. Hawk-moths. Privet and ivy blossom are also very attractive to moths, but so many hedges are kept so trimmed they rarely, if ever, get a chance to flower!

In spring one of the most attractive flowers to moths is that of Sallows *Salix* spp., and in the autumn that of the Ivy *Hedera helix*. In between these times, are many of the naturally occurring flowers of the meadow and wayside — Bramble, Meadowsweet, Dandelion, Ragged Robin, hawkweeds, Scabious, Bugle, thistles, Garlic mustard, Ladies smock. Of the more ornamental flowers I would suggest *Alyssum*, Sweet William, *Aubretia*, *Phlox*, mignonette, *Aster* species, Michaelmas daisies, Candytuff, *Sedum*, and of course *Buddleia davidii* - preferably the dark blue variety. Nor should one neglect the needs of other insects, or indeed invertebrates. Some Golden rain and Fennel are extremely attractive to many species of Diptera and a pile or two of rotting wood, a heap of straw and a few tiles laid with space underneath them are ideal habitats for many invertebrates, not just insects.— BRIAN O. C. GARDINER, 2, Highfield Avenue, Cambridge CB4 2AL.

The Population Crash of the Small Tortoiseshell *Aglais urticae* (L.) (Lep.: Nymphalidae)

With reference to Leonard McLeod's note (*Ent. Rec.* **114**: 201-202), I can confirm that there has also been a population crash of the Small Tortoiseshell in the last four years on the Isle of Wight, although it is now (2002) beginning to build up to its former numbers. In fact, I did not see one example in 2000, I saw one only in 2001 and two this year in the garden, although it has been quite plentiful in some parts of the Island this year.

Rowell (2001. *Hampshire & Isle of Wight Butterfly & Moth Report*. Butterfly Conservation) observed that many of the larvae had been parasitised and he sent the

parasitic pupae to Dr Mark Shaw at the National Museums of Scotland for identification. These were identified in about equal numbers as belonging to two species of Tachinidae – the common *Phryxe vulgaris* and *Sturmia bella*, a species only recently discovered in Britain. However, from two pupae a brood of *Pteromalus puparum* emerged; this is a small parasitoid that usually attacks white butterflies. Dr Shaw writes that the species oviposits into very fresh pupae, and sometimes a female waits patiently on the host larva that is going off to pupate. Dr Shaw also confirmed that Comma *Polygouia c-album* (L.) pupae sent to him from the Isle of Wight had also been attacked by *Sturmia bella* and Red Admiral *Vaessa atalanta* (L.) pupae by the parasitic wasp *Microgaster subcompletus*.

John Rowell observed that 20 Small Tortoiseshell pupae produced only four adult butterflies. Ten percent were attacked by the *Pteromalus puparum* and 35% by *Phryxe vulgaris*. However, the Small Tortoiseshells were also attacked by the newcomer, *Sturmia bella*, accounting for a further 35% loss. If vanessids in Britain are now being attacked by this newcomer, it may explain why this butterfly has shown such a dramatic drop in numbers.

One female parasitic fly is capable of attacking in the region of 150 butterfly larvae and several generations can occur annually between May and October. It would seem that the addition of another parasite could bring about a larger cyclical variation in the number of butterflies and that we could see similar declines in the Red Admiral, Peacock and Comma in future years.— SAM KNILL-JONES, Roundstone, 2 School Green Road, Freshwater, Isle of Wight P040 9AL.

A brief note on Cambridge butterflies January to 15 August 2002

Unlike previous years, no winter vanessids appeared until April when a single Peacock *Inachis io* L. was spotted, followed by a Comma *Polygouia c-album* L. a few days later. No other vanessids were seen until 3 August when a Red Admiral *Vaessa atalanta* L. was seen on the *Buddleia*. Now I have four *Buddleia* plants in my garden, and there are more next door, and I pass even more, in a very sunny position, when walking to the local shops. All have been in flower for about six weeks and apart from the Red Admiral mentioned above they have been bereft of any vannesid, unlike some previous years when they were swarming with Painted Ladies *Cynthia cardui* L. and/or Small tortoiseshells *Aglais urticae* L. While one may hope I shall be able to record a resurgence of a few species in the coming autumn, the prognosis does not augur well I fear.

On the bright side, however, has been the re-appearance in July and early August of a number of specimens of the Wall *Lasionmata megera* L., which I have not seen locally for some years. Also out in more numbers than usual are Meadow Brown *Maniola iurtiua* L. which have a habit of flying into our sun-room when the door is open whenever we get a hot spell and they have to be rescued from the roof before they die of heat-stroke. Earlier in the year, I had the usual sighting of Brimstones

Gonepteryx rhamni L., both male and female, with the usual good crop of Orange-tips *Anthocharis cardamines* L. which bred in my garden. Only a single Common blue *Polyommatus icarus* Rott. and Large Cabbage White *Pieris brassicae* L. has been seen, but the Green-veined Whites *Pieris napi* L. have been very common and on the two occasions recently when I carried out a census they out-numbered the Small White *Pieris rapae* L. by five to one. As I write this note, the second generation of Holly blues *Celastrina argiolus* L. are appearing. This is another regular species breeding in my garden and which had an excellent first generation emergence. A first for the garden has been the Speckled Wood *Pararge aegeria* L. a few days ago when one flew into the sun-room and settled down to sun itself, in the manner of a vanessid! In the past few days a few more have appeared in the garden. Also now much in evidence have been the number of dragonflies cruising overhead, but never settling long enough to allow me to attempt an identification. Finally today, 15 August, appeared the first Painted Lady.

I feel it is also worth reporting that Chesterton sidings, an almost abandoned railway yard within the City of Cambridge, has had 23 butterfly species recorded on it by Julia Napier in the latest issue of *Nature in Cambridgeshire* (No. 43, 2001). This is more species than occur in any one of the five local Nature Reserves! Unfortunately this is a typical "Brownfield" site, so beloved of our politicians for building on and already developers and our Council have got their beady eyes on it. Fortunately, due to a rare plant, English Nature have an interest, but surely such an excellent habitat should be preserved and the houses built on the huge arable fields which I see in the countryside, which are absolutely lifeless, except for their monoculture crop.— BRIAN O. C. GARDINER, 2, Highfield Avenue, Cambridge CB4 2AL.

On the present scarcity of certain insects always regarded as common

I can fully support the observations of McLeod (*Ent. Rec.*: **114**: 201-202) and of Conrad and Woiwod (*Ent. Rec.*: **114**: 202) on the drastic decline of certain lepidopterous species universally regarded as common and even abundant; two of the more outstanding being the Small Tortoiseshell butterfly *Aglais urticae* and the Garden Tiger moth *Arctia caja*. I witnessed a striking demonstration, several years ago, that something unusual was happening to the former of them in this area.

Briefly, a compact rather isolated bed of nettles on Woolwich Common near here was found to be seething and heaving with Small Tortoiseshell caterpillars – wave upon wave of them – a species that had long been scarce hereabouts. The resulting butterflies, though numerous enough for a season, fell very far short of what one might expect from such a concourse; probably from having scattered far and wide. They were, I think, the last of their kind I have seen anywhere.

I can cite a somewhat analogous case from the experience of my late friend Dudley Collins: the year before the Heath Fritillary *Melitaea athalia*, became extinct in Shipwrights Wood, Essex, it was commoner and more variable there than he had ever known it before.

To turn to the Garden Tiger: traditionally one of our commonest and best-known moths, it has never in my time and experience been anything but very scarce, and the number of sightings I have had can be “counted on the fingers of one hand” – far fewer than those of its congener *A. villica* (though none of those were near here). I did meet with an *A. caja* flying in the street (Charlton Road) some years ago, and two larvae at different times since, but that is all.

From the above, I conclude that a population explosion bodes no good for a species; a gradual increase, if any, seems far healthier.– A. A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

Two uncommon ants (Hym.: Formicidae) in urban London

On 8 June 2002, whilst taking some school children on a bug-hunt through Nunhead Cemetery, Surrey (VC 17, O.S. grid reference TQ 3575), I was presented with a plastic tube containing the characteristic workers of *Lasius fuliginosus* (Latreille). A large number of the ants were crawling over several low sycamore branches and although there were a few aphids for them to attend, many more appear to have been on higher branches and seem to have been collecting the spilled honeydew which had dropped down.

About thirty minutes later, one of the children asked me help him collect some tiny ants, which were running up and down a small elm trunk; they were *Lasius brunneus* (Latreille).

Despite having visited Nunhead Cemetery often during the last 17 years, I have never seen either of these species there before. Although *L. fuliginosus* is generally widespread in southern England (Edwards, R. 1997, *Provisional atlas of the aculeate Hymenoptera of Britain and Ireland*, part 1, pp. 22-23) it is a very local species with a complex biology. As a semi-social parasite of a semi-social parasite, it only establishes its colonies in the nests of another ant, *Lasius umbratus* (Nylander) and its near relatives, which in turn establishes its colonies in the nests of the black pavement ant *Lasius niger* (Lin.) or the yellow meadow ant *Lasius flavus* (Fab.). Successful founding of nests is therefore a complex procedure and nests are usually highly localised in the field. I have only previously found it in one London locality – Morden Cemetery (TQ 2367, VC17 – Surrey), where there were several nests in the large black (Italian) poplar trees, on 14.v.1998 and 10.ix.1998.

The nationally scarce (Nationally Notable category A) *L. brunneus* is very localised in the Thames and Severn Valley areas (Edwards, R. 1998, *Provisional atlas of the aculeate Hymenoptera of Britain and Ireland*, part 2, pp. 40-41) but is proving to be widespread in south London. I have found it in considerable numbers in Sydenham Hill and Dulwich Woods (TQ 3372, TQ 3472, VC17 – Surrey) and in Battersea Park (TQ 2876, TQ 2877, also Surrey) and occasionally in Beckenham Place Park (TQ 3870), Mayow Park (TQ 3571) and Downham (TQ 3971 and TQ 3872) all in VC16 – West Kent). Its discovery at Nunhead is not, therefore, altogether unexpected.– RICHARD A. JONES, 135 Friern Road, East Dulwich, London SE22 0AZ (E-mail: bugmanjones@hotmail.com).

A recent record of *Monochroa arundinetella* (Stt.) (Lep.: Gelechiidae) in Wiltshire

On the outskirts of Staverton (VC 7) near Trowbridge there is a section of railway embankment immediately adjacent to the Bristol Avon. It lies upstream from a weir, which maintains the river and presumably the water table of immediately adjacent land at a constant level. This section, as with many other areas along the course of the river, can be flooded any time of the year, chiefly in winter but rarely for prolonged spells. This rather unusual set of circumstances has led to the establishment of a vegetation type which one would not normally expect on a railway embankment. It was at this site during the evening of 17 July 1996, between 19.00 hours BST and sunset, I amused myself by sweeping over coarse vegetation which included *Carex* spp. in limited quantity. I netted several micros, most of which were commoners, but one of their number caught my attention as it was quite obviously new to me. The following morning my brother Godfrey set the specimen. The moth was in reasonable condition and consultation of (Sokoloff & Bradford, 1993. *Br.J.ent.Nat. Hist.* **6**: 57-44) indicated that it could be *M. arundinetella*, but on noting that the species had not been recorded in the British Isles as an adult for about 100 years caution appeared to be required. *Monochroa lucidella* seemed a not too convincing candidate as among other fine details it seemed a little large in comparison to the moth in hand. In due course, my brother dissected and mounted the genitalia (male), but further progress was thwarted when it was discovered that the genitalia of *M. arundinetella* are not figured in Pierce & Metcalf (1935. *The genitalia of the tineid families of the Lepidoptera of the British Islands*). The genitalia figure of *M. lucidella*, which was also examined for comparison, exhibited some similarities to the specimen in hand but other differences indicated that further research was very necessary. We were not aware of other illustrated literature at the time and consultation of the very brief text referring to *M. arundinetella* in Uffen (1991. *Monochroa moyses* n. sp., a new gelechid moth mining the leaves of *Scirpus maritimus* L. *Br. J. Ent. nat. Hist.* **4**: 1-7) did not allow further progress and the moth was put aside for future investigation.

The acquisition of Elsner. *et al.*, (1999. *Die Palpenmotten (Lepidoptera, Gelechiidae) Mitteleuropas*) and Emmet & Langmaid (2002. *The Moths and Butterflies of Great Britain and Ireland. Gelechiidae.* **4**(2)) immediately offered the chance of confirming the specimen's identity. A comparison of the genitalia figured therein and the opportunity of comparing illustrations of the adult in several publications with the specimen left little doubt that it was *M. arundinetella*. In view of the rarity of this moth in Britain, it seemed advisable to obtain a second opinion. Thus, in early October 2002 we visited John Langmaid who kindly agreed to examine the specimen and genitalia slide. His examination confirmed the identity.

The site described above is a new location for *M. arundinetella* and this would appear to be the first record for Wiltshire since 1902 (Palmer, 2001. *The Microlepidoptera of Wiltshire*). As far as the remainder of the British Isles are concerned it would appear that the last adults taken would be of a similar vintage,

although larvae were recorded in 1927, 1951 and 1978 (thought to be of this species) (Parsons, 1995. A review of the scarce and threatened ethniine, stathmopodine, and gelechiid moths of Great Britain. *UK Nature Conservation No 16*). In this latter work, Parsons gives a very useful appraisal of the status of *M. arundinetella* and considering the discovery described above his comments “.....overlooked and under-recorded” and “searches for this species in some of its old haunts” would seem appropriate.

My brother and I would like to thank John Langmaid for examining the specimen, for his hospitality and a very pleasant afternoon in general conversation.— M. H. SMITH, 42 Bellefield Crescent Trowbridge Wiltshire BA14 8SR.

An inland colony of *Udea fulvalis* (Hb.) (Lep: Pyralidae) in suburban Hampshire

On the evening of 22 July 2002, I noticed three pyralid moths that had been attracted to the light of my bathroom window in Ringwood, Hampshire. Being an enthusiastic but inexperienced moth recorder, I captured one, and this was later identified as *Udea fulvalis* by Mark Parsons. Subsequent sightings of individuals were made regularly until 13 August, all either at lit windows or found resting in the house in the morning. Two of these additional sightings were also confirmed by Mark Parsons, one from a digital photo and one from a live specimen. Two dead specimens were subsequently found in the house, one of which was confirmed by Phil Sterling. No individuals were found in a 12 watt actinic moth trap that I run several times each week in the garden.

Udea fulvalis is considered an immigrant that is able to establish breeding colonies in Britain for a few years (Goater, 1986. *British Pyralid moths*. Harley Books). Goater and Norris (2001. *Moths of Hampshire and the Isle of Wight*. Pisces Publications), state that the species appears to have become established at Freshwater (Isle of Wight) and Christchurch (see also Cook 2000. *Atropos* number 10: 50) in recent years, also noting singletons in other coastal parts of Hampshire and Dorset (e.g. Lymington). The species may be more widespread along the coast, as it has been recorded at Hengistbury Head and throughout Bournemouth, Poole and Christchurch in recent years and in Swanage and Weymouth (Phil Sterling, pers. comm.).

Ringwood is situated on the western edge of the New Forest approximately 13 kilometres (eight miles) inland from the nearest coast (at Christchurch) and slightly further from Hengistbury Head or the coast at Bournemouth. The presence of a possible breeding colony in my small suburban garden (or in a neighbouring one) extends the current range of this species considerably, most notably away from the coastal zone.

My thanks to my colleague at Butterfly Conservation, Mark Parsons, and to Phil Sterling, Natural Environment Manager with Dorset County Council.— RICHARD FOX, Butterfly Conservation, Manor Yard, East Lulworth, Dorset BH20 5QP.

Dingy Footman *Eilema griseola* (Lep: Arctiidae) – not new, but only re-discovered in Cheshire

Although Wander *et al.* (*Ent. Record* **114**:191) claim *griseola* as a new county record, this is not so. It was recorded from three localities in Cheshire a hundred years ago. As a compulsive buyer of old entomological books, only a few days before I read their article I had acquired from my local bookshop *A list of Lepidoptera found in the counties of Cheshire, Flintshire, Denbigshire, Carnarvonshire and Anglesea*, compiled and edited by George O. Day, being number V of the *Proceedings of the Cheshire Society of Natural Science, Literature and Art*, published in 1903. This book lists 554 Macrolepidoptera, 92 Pyralidae and 28 Tortricidae from the area. Although *Laspeyresia flexula* is not included, *E griseola* is. The entry is as follows, where I have expanded the text to avoid confusion over the abbreviations used in the original.

531. *Lithosia griseola*, Hb. ['Dun footman' entered in ink]. Of rare occurrence. Cheshire - Wallasey and Bidston, scarce (Brockholes in Dr. Ellis's *Lepidoptera of Lancashire and Cheshire*); Bidston only occasionally (Mr. H. B. Prince of Birkenhead).

531a. **ditto var *flava***, Hw. No recent records. Cheshire. Lane near Dunham-on-the-Hill (Mr. A. O. Walker's List)

Perhaps what is really interesting is that the recent record from Moulsworth is within easy moth flying distance from Dunham-on-the-Hill and one wonders if *griseola* has been lurking in this still rural area for the past century! Wallasey of course is now a very heavily built-up area, although the coastal region may still harbour some interesting insects, while Bidston is a northern suburb of Birkenhead, but the area of Bidston Moss would still seem to be a suitable locality for a footman moth. Does anyone investigate this area I wonder?

I have not been able to consult a copy of Mr Walker's list, but the preface to the present book states that it is an up-dating of his list which was originally published by the Chester Society of Natural Sciences in their *Proceedings* for 1885. Ellis's list was originally published in *The Naturalist* between 1885-8 and then issued as a book by McCorquodale, Leeds, 1890.– BRIAN O. C. GARDINER, 2 Highfield Avenue, Cambridge CB4 2AL.

***Lithophane ornitopus* Hufn. (Lep. Noctuidae): crypsis and resting sites**

When this species was seen again after nearly fifty years' apparent absence, at Dartford in 1983, some three dozen were observed at rest in September and October, almost all on the dark trunks of horse chestnut trees *Aesculus hippocastanum*, in parkland which also contained lighter-trunked trees such as oak *Quercus*, ash *Fraxinus* and plane *Platanus*. Since then, I have seen them every year there and also in nearby woodland where also they were most conspicuous on often fire blackened

Corsican pines *Pinus nigra*. Despite being so conspicuous, when I passed an occupied tree later in the day, the moth would invariably be still there, and in the woodland in December during a cold spell a moth would be in place for over a week. In North America, similar species in the same genus have developed a melanic form. Why not in Britain? Perhaps Barrett (1900, *The Moths of the British Isles*, Vol. VI), had the answer. He states that the moth sits by day upon the trunks of oak trees, and especially Scotch pines, being very conspicuous “but for its close resemblance to a drop of bird’s excrement”.

Almost a century later Heath & Emmet (1983. *The Moths and Butterflies of Great Britain and Ireland*) state that this species is more frequently found at rest by day than its congeners, probably because its colour blends less well with the tree trunks or fences on which it rests; the inference is surely that it is more readily seen. Kettlewell (1973. *The Evolution of Melanism*) proved that typical *Biston betularia* L. were readily taken by birds when the moths did not blend with their background when settled by day. It would seem that birds do indeed not attack settled *L. ornitopus*, presumably disregarding them as bird droppings. Another species of moth in Britain, whitish grey, of similar size and shape, and with similar habits of resting by day fully exposed and conspicuous, but on walls and rocks, is *Antitype chi* L. Curiously, its geographic distribution complements that of *L. ornitopus*.

Barrett (*op. cit.*) writes that the pale *A. chi* frequently rest upon dark walls and rocks. However, this species has developed dark forms, some of which might be termed industrial melanics, and Barrett states that these frequently rest upon pale backgrounds; in Co. Antrim, where only the pale form occurs, they settle upon the black basaltic rocks and walls. This phenomenon seems not to have been satisfactorily explained. Assuming that the moths are not ill tasting or poisonous to birds, and that whitish specimens on dark backgrounds resemble, to birds, bird droppings, what of the dark moths on light backgrounds?

On 20.x.2002 I noticed a moth on Corsican pines at Dartford. It resembled *L. ornitopus*, but appeared darker and blended extremely well, settled in a wide crevice, head downward. Afternoon daylight penetrated the woodland, but only partially. Later, I returned and collected the specimen; however, in ordinary light it was seen to be a quite normal *L. ornitopus*. On 26.x.2002, I came across another, in a similar situation to the first and very well camouflaged; it too appeared darker than normal, again an illusion. These Corsican pines had very rough bark, fairly light and mottled with darker patches. Both moths appeared to have found these slight depressions in the bark and oriented themselves to gain maximum cryptic advantage. This appears to be quite a different behaviour, and with quite a different and contrasting result, compared with the large number of *L. ornitopus* I have encountered previously at rest. Of this cryptic behaviour in this species I can find no other reference.— B. K. WEST, 36 Briar Road, Dartford, Kent DA5 2HH.

PRIONUS CORIARIUS (L., 1758) (COL.: CERAMBYCIDAE) REARED FROM MONTEREY CYPRESS *CUPRESSUS MACROCARPA* HARTWEG EX GORDON (CUPRESSACEAE), AND SOME OBSERVATIONS ON THE BEETLE'S BIOLOGY, STATUS AND UK DISTRIBUTION

MAXWELL V. L. BARCLAY AND JUDITH A. MARSHALL

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Abstract

The Tanner Beetle *Prionus coriarius* (L.) (Cerambycidae) is recorded developing in Monterey Cypress *Cupressus macrocarpa* Hartweg ex Gordon (Cupressaceae), a new host record for this polyphagous beetle. Further records of the beetle, and a summary of its published UK distribution, are provided. Aspects of its biology, especially those that may have led to its being under-recorded in the UK, are discussed.

Introduction

On 20 June 2001, nine dead specimens of *Prionus coriarius* (L.), six males and three females, were found by JAM behind plant pots in a greenhouse in Farnborough, North Hampshire (VC 12, grid reference SU 8755). Living and dead specimens have been noted in the same greenhouse each year since it was erected in 1993, the most recent being on 27.v.2002. The beetles appear to be emerging from the root system of a large Monterey Cypress *Cupressus macrocarpa* Hartweg ex Gordon (Cupressaceae), buried beneath the greenhouse. The tree, at least 3-feet in diameter, was damaged in the storms of October 1987 and was found to be completely hollow. It was cut down and the stump ground down to below ground level and filled over with about one-foot's depth of light sandy soil. Probably, the *Prionus* were already established in the tree by this time, as they are able to develop in the dead tissue of living trees (Bense, 1995). The annual occurrence of adults over a nine-year period, when larval development is usually three to four years (Hyman & Parsons, 1992), suggests that these beetles are continuing to reproduce in the wood beneath the greenhouse. Most sources give the main period of adult emergence from mid-July to September, but possibly the artificially high temperature of the greenhouse has resulted in adults eclosing earlier. All live examples have been released outside in the early evening, and one pair immediately commenced copulation upon release.

Prionus, like the stag beetle *Lucanus cervus* L. (Lucanidae), develops almost exclusively on well-decayed subterranean wood (Nikitsky *et al.*, 1996), which is more protected from desiccation during the long larval development. This is apparently the first record of *Prionus* developing in wood of the family Cupressaceae, although it is known to utilise a wide variety of tree species, both coniferous and deciduous. Hyman & Parsons (*op. cit.*) lists *Quercus*, *Castanea*, *Fagus* (Fagaceae), *Betula*, *Alnus*, *Carpinus* (Betulaceae), *Malus*, *Prunus* (Rosaceae), *Fraxinus* (Oleaceae), *Ulmus* (Ulmaceae), *Ilex* (Aquifoliaceae), *Aesculus* (Hippocastanaceae), *Salix* (Salicaceae), *Pinus* and *Picea* (Pinaceae). Bense (*loc.cit.*) lists in addition *Corylus* (Betulaceae) and *Abies* (Pinaceae), and Kaufmann (1991) adds *Platanus* (Platanaceae), and 'telegraph poles and old posts'. Very few

saproxyllic Coleoptera are so unselective in larval substrate but, as Alexander (1999) observes, “rotten wood is of a more homogenous nature and supports more general feeders [than more recently dead wood]”. The condition of the wood, i.e. stage of decay and humidity, is probably more important for *Prionus* than the species of tree.

Prionus coriarius is listed as “Notable A” in Hyman & Parsons (1992), defined as “occurring in 30 or fewer 10km squares of the National grid”. However, upon combining the data from Twinn & Harding (1999) and Hyman & Parsons (1992) it becomes apparent that *Prionus* is more widespread than might be expected, with records from forty-two vice counties (1, 2, 3, 4, 5, 7, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 33, 34, 35, 36, 37, 38, 39, 40, 41, 44, 50, 51, 56, 58, 59, 60, 69), and modern (post-1970) records from twenty (2, 3, 9, 11, 13, 14, 15, 16, 17, 18, 19, 22, 24, 25, 26, 27, 35, 44, 50, 51) (Figure 1).

The present paper contributes the first post-1970 records from North Hampshire, VC 12; this record has been incorporated into Figure 1. Kaufmann (*loc.cit.*) also lists an “unconfirmed” record from South Wiltshire (VC 8). Although there are old records from many more vice-counties than there are recent records, it is hoped that the suggestion that it is “apparently extinct in many areas of its former range” (Alexander, 2002) is unduly pessimistic. It seems almost certain that the beetle is under-recorded.

Several factors may have contributed to the lack of records. The adults are strongly nocturnal and, unlike other large nocturnal beetles, e.g. *Melolontha* spp., do not shelter in trees and bushes during the day, so are not collected by beating during daylight hours. In spite of their large size, they are of skulking habits; because of the species’ preference for buried wood, larvae and freshly eclosed adults are rarely discovered. Duffy (1946) suggests that the species might be found to be more abundant if time was spent searching for wood infested with larvae. Similarly, if coleopterists made more use of light traps; or had more correspondence with lepidopterists who routinely use them, a better impression of the species’ distribution might be gained. Adult *Prionus* are most active from July (Duffy, 1946) when many Coleoptera (and hence Coleoptera recorders) are less active. In fact, most records of adults of this species are based on specimens collected by chance, or found dead or at light by members of the public. Below we give details of several unpublished records that clearly illustrate this tendency. MVLB has recorded *Prionus* on only two previous occasions: a single female in a flight interception trap adjoining a dead beech at Silwood Park, Berks (SU 9468, VC 22) on 8.vii.1998 and some fragments (probably from a previous year) in the nest material of the ant *Formica rufa* L. (Hym.: Formicidae) on 9.v.1997 at Chudleigh Knighton Heath, South Devon (SX 8377, VC 03). Hodge (1996) also observed the species under attack by *F. rufa* on 26.vii.1993 in West Sussex (TQ 0615, VC 13). MVLB has received specimens and records from the lepidopterist Colin Hart, collected infrequently in his garden light trap at Buckland, Surrey (TQ 25, VC 17). The Natural History Museum’s ‘public enquiries database’ shows a further four records, as follows: in a lighted bathroom in Weybridge, Surrey (TQ 06, VC 17) in 1995; dead in a garden in Liphook, Hants

(SU 83, VC 12) in 1998; drowned in a fishpond in Bracknell, Berks (SU 86, VC 22) in 1998; and a specimen photographed by Mrs. T.L. A. Franklin at Sidmouth, South Devon (SY 18, VC 3) in 1998. This last locality is also mentioned by Imms (1947), who took a specimen in his garden in Faldonside, Tipton St. John, nr Sidmouth on 21.viii.1946; He suspected he had imported it from a “neighbouring beech plantation” along with a “considerable amount of leaf mould”.

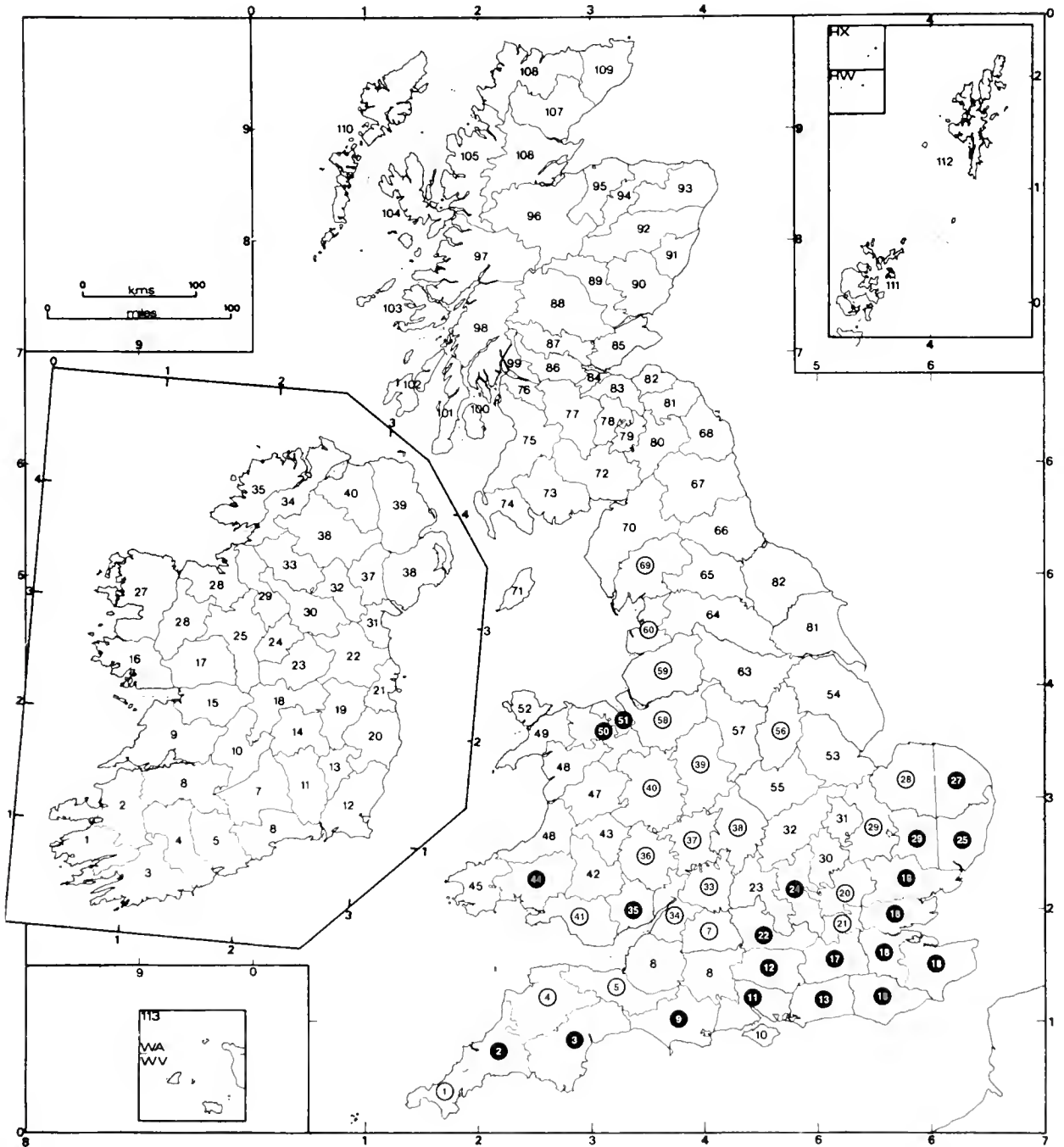


Fig. 1. Distribution of *Prionus coriarius*(L.) (Cerambycidae) in Britain and Ireland. The vice-county numbers are shown within a black dot for post-1970 records and are encircled for older records. Base map copyright © Harley Books, Colchester.

On a final note, *Prionus coriarius* is one of the few beetles with a widely used English name, the "Tanner Beetle". This is a direct translation of the specific name *coriarius*, which is defined by Whitaker (interactive Latin-English Dictionary, on the World Wide Web at <http://lisy2.archives.nd.edu/cgi-bin/words>) as "of / related to leather / the tanning of hides, leather worker, tanner". Linnaeus had a tendency to apply the names of workers or professional guilds to large beetles, in this case no doubt prompted by the leathery appearance of the beetle's elytra. Two recent publications (Hyman & Parsons 1992, Twinn & Harding, 1999) have used the term "Sawyer beetle" for *Prionus*, a name used in the USA for longhorns of the pest genus *Monochamus* (Lamiinae) (e.g., White, 1983), although non-entomologists in North America apply "sawyer beetle" indiscriminately to any large longhorn. Its use for *Prionus* is confusing and should be discontinued.

Acknowledgements

Many thanks to Mrs. T. L. A. Franklin, to Colin Hart, and to all those who have contributed records mentioned in this note. Also to Darren J. Mann and Howard Mendel for attention to the manuscript.

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Spurge Hawk-moth *Hyles euphorbiae* (L.) (Lep.: Sphingidae) breeding in northern France

I have already reported this species breeding in 2000 near Tardinghen, Pas-de-Calais, northern France, (*Atropos* number 13: 66) some 100 kilometres north of the normal range of this species as depicted in the map in Pittaway (1993, *The Hawkmoths of the Western Palaearctic*). In September 2002, in the same area, I again saw a well-developed larva of this species. It was travelling rapidly over the dunes, perhaps searching for a new food supply or for a suitable place in which to pupate. I have also discovered a reference to this species (under the name *Celerio euphorbiae*), occurring near Cap Gris Nez as long ago as 1961 in *Report of the University of London Natural History Society Expedition 1961, Cap Gris Nez, North France, 1961*. It is clear from the context of the report that it was likely to have been found in the dunes near Le Chatelet, very close to where my observations were made, in the period 16 August to 13 September of that year. However, the species is simply listed without comment and without any indication of whether referring to imago or larva. My recent records suggest that this species may now be breeding regularly well north of its reported normal range and the 1961 record suggests at least the possibility that it may have done so for several decades.— P. J. OLIVER, The Briar Patch, Limpsfield Chart, Oxted, Surrey RH8 0TL.

Rannoch Sprawler *Brachionycha nubeculosa* (Esper) (Lep.: Noctuidae) new to north-east Scotland

There is a select group of enigmatic moths that, within Britain, are Scottish Highland specialists. Lepidopterists have long visited Rannoch and Speyside in search of such species as Cousin German *Protolampra sobrina* (Duponchel) and Rannoch Brindled Beauty *Lycia lapponaria scotica* (Harrison). Deeside also has a long history of entomological activity though for some of these species, their discoveries in Aberdeenshire have come comparatively recently; e.g. Rannoch Brindled Beauty in 1984 (Palmer, R. M. & Young, M. R. 1987. *Lepidoptera of Aberdeenshire and Kincardineshire* – 5th Appendix. *Ent. Rec.* **99**: 111-114) and Slender-striped Rufous *Coenocalpe lapidata* (Hb.) in 2001 (Palmer, R. M., Young, M. R. & Leverton, R. 2002. *Lepidoptera of Aberdeenshire, Kincardineshire and Banffshire* – 9th Appendix. *Ent. Rec.* **114**: 145-148). The most recent such addition to the north-east Scotland list is that of Rannoch Sprawler.

Fired with enthusiasm, having just bought a new generator, I found myself on the evening of 5 April 2002 in upper Deeside (VC 92) after spending the day looking at moorland vegetation nearby. The evening's trapping was purely of an opportunistic nature with no special targets. In the event, though, the haul of around thirty moths of six species recorded by 11pm included two Rannoch Sprawlers. These were attracted to an MV light above a white sheet between 22.00 hours and 22.30 hours. A subsequent visit in colder conditions on 11 April produced very few moths and no further Rannoch Sprawlers.

The location was a birch *Betula pubescens* woodland between Braemar and the Linn of Dee with a heavily grazed under-storey of ericaceous shrubs. In Speyside and Rannoch, the species is said to inhabit old growth birch woodland. The birch at this Deeside locality could not be described as old growth though possibly such trees exist nearby. The moth has not yet been recorded from mature birchwoods further east, between Braemar and Ballater.

The Rannoch Sprawler has been added to the list of moths that have occurred in north-east Scotland (Palmer, Young and Leverton, *op. cit.*). Further trapping and daytime searching is planned for early 2003 with the aim of extending knowledge of the distribution of the moth in this area. It is also hoped that moths from Deeside can be compared with specimens from Rannoch and Speyside; these are said to differ slightly from each other and it will be interesting if it can be determined with which population the Deeside moths have the closest affinity.

Thanks to Bob Palmer for commenting on a draft of this note.— NICK A. LITTLEWOOD, University of Aberdeen, Dept. Plant and Soil Sciences, Cruickshank Building, St. Machar Drive, Aberdeen AB24 3UU (E-mail: n.littlewood@abdn.ac.uk).

Scarce Merveille du Jour *Moma alpium* (Osbeck) (Lep.: Noctuidae): an association with Sweet Chestnut *Castanea sativa*?

On 24 June 2002, David Green and myself recorded a single Scarce Merveille du Jour at a 125watt MV light trap run overnight under the canopy of a stand of Sweet Chestnut in Rewell Wood, West Sussex. This Sweet Chestnut block was last coppiced in 1984.

On the 19 August, I re-visited the site with the aim of trying to locate larvae of the Waved Carpet *Hydrelia sylvata* – another UK Biodiversity Action Plan (BAP) priority species. Although I failed to find any Waved Carpet larvae, I was surprised to find a single nearly full-grown larva of the Scarce Merveille du Jour on a scrubby, two metres tall Sweet Chestnut. This young tree was along a ride on the eastern edge of a block of chestnuts averaging about 10 metres in height, and which was last coppiced in 1990. The nearest Oak, the usual foodplant, was about 40-50metres distant. The larva continued to feed on Sweet Chestnut for a few days before pupating.

This would appear to be a new foodplant for the species in this country and quite possibly in Europe. Porter (1997. *The Colour Identification Guide to Caterpillars of the British Isles*. Viking) gives oak, and Nowacki (1998. *The Noctuids (Lepidoptera, Noctuidae) of Central Europe*. Slamka), covering central Europe, lists *Quercus* spp., *Betula* spp., *Fagus* spp. and *Sorbus* spp. as foodplants.

This larva was found during a study on the Waved Carpet at Rewell Wood, funded by Forest Research (an Agency of the Forestry Commission) and Forest Enterprise. This study is part of Butterfly Conservation's *Action for Threatened Moths Project*. I would like to take this opportunity to thank both Robert Thurlow and Stan Abbott for providing access permission to Rewell Wood and the former for also providing details about the ages of the various coppice blocks at the site.— MARK PARSONS, Butterfly Conservation, Manor Yard, East Lulworth, Wareham, Dorset BH20 5QP.

The Tree Lichen Beauty *Cryphia algae* Fabr. (Lep.: Noctuidae) in north-west Kent — a remarkable coincidence?

Scarcer immigrants from continental Europe are very rarely noted at my garden m.v. light here at Dartford. Therefore it was with great surprise that, on 9 August 2000, I found a specimen of what I thought must be the Tree Lichen Beauty at the trap, and this was later confirmed to be correct. It would seem to be the first to be recorded for vice-county 16, West Kent, and also for the London Area as defined by the London Natural History Society (Plant, 1993. *Larger Moths of the London Area*).

On 30 July 2001, a further example arrived. With the unlikelihood of so rare an immigrant, whose visits seemed limited to the south coast and nearby locations, visiting this unlikely spot again and with a large area of woodland close by, was this merely coincidence? However, both arrived during periods of immigrant activity. What if another appeared in 2002?

Exactly one year later, on 30 July 30, 2002, the third one did arrive, probably also at a time of immigrant activity, but has this extended coincidence too far?— B. K. WEST, 36 Briar Road, Dartford, Kent DA5 2HN.

***Coleophora gardesanella* (Toll) (Lep.: Coleophoridae) new to Wiltshire**

On the evening of 5 July 2002, prior to using m.v. light, my brother and I swept over typical chalk downland on the edge of Lavington Down, South Wiltshire (VC 8) on the military training area near to Tilshead. After due setting and dissection one of the micros taken proved to be *Coleophora gardesanella*. According to Palmer (2001. *The Microlepidoptera of Wiltshire*), this species has not before been recorded in Wiltshire. This probably represents a slight westward extension of its known range. Some of the foodplants associated with this species occur in some abundance on the military training areas (one eighth of Wiltshire) and although one cannot be certain it is probable that this species had been previously over-looked.— M. H. SMITH, 42 Bellefield Crescent, Trowbridge, Wiltshire BA14 8SR.

***Coleophora adpersella* (Benander) (Lep.: Coleophoridae) new to Wiltshire**

On 13 June 2001, my brother Godfrey took a coleophorid in his trap at Steple Ashton, South Wiltshire (VC 8, O.S. grid reference ST 8957). Dissection confirmed that the specimen was *Coleophora adpersella*. Reference to Palmer (2001. *The Microlepidoptera of Wiltshire* Privately published), indicates that there is no previous record of this species for Wiltshire.— M. H. SMITH, 42 Bellefield Crescent, Trowbridge, Wiltshire BA14 8SR.

Lepidoptera new to Somerset

Two species of moth new to the Somerset list (VC 5 and VC 6), have been found this year in Edford Wood, North Somerset (VC 6; O. S. grid reference ST 6646). The first was *Ecoedemia rubivora* (Nepticulidae), when two vacated mines were found on *Rubus* sp. on 25 April 2002. The identification was kindly confirmed by John Robbins. The second new species is the Sallow Clearwing *Synanthedon flaviventris* (Sesiidae), with a single male being attracted to a "TIP" pheromone lure at 15:00 hrs on 28 June 2002.

A single male *Niditinea striolella* (Lep.: Tineidae) was taken at a 125W Skinner trap in Leigh Woods (ST 5573) on 30 June 2001. The identity was confirmed by genitalia dissection; this is a new species for the North Somerset vice county.—MARTIN ELLIS, 14 Great Ostry, Shepton Mallet, Somerset BA4 5TT (E-mail: mjellis@tesco.net).

Gymnancyla canella (D.& S.) (Lep.: Pyralidae) confirmed breeding in Devon

Following my earlier report (*Ent. Rec.* **114**: 40), P. Stirling, B. Henwood and myself visited Dawlish Warren on 26 August 2002 and found larvae of *Gymnancyla canella* D.&S. abundantly. Every plant of prickly saltwort *Salsola kali* that was examined had multiple signs of larval feeding with the tell-tale webbing and frass of this species. A few larvae, which were around half grown, were removed to photograph with a some of these being taken to breed through.

It has since been discovered that B. Elliott had visited the site on 26 September 1998 and found feeding signs with a few larvae in prickly saltwort, but did not report the finding. He visited the site on 3 September 2002, after our visit, and found the larvae again.—R. F. McCORMICK, 36 Paradise Road, Teignmouth, Devon TQ14 8NR.

New moths for the Isle of Wight (VC 10) taken in 2002

A mine of *Phyllocnistis xenia* (Hering) was found on *Populus alba* by Bill Shepard at St. Helen's Duver on 17 August – identified by Dr David Biggs and confirmed by Dr John Langmaid.

An adult *Tachystola acroxantha* (Meyr.) was found by David Biggs at Gurnard on 11 August. It was identified by Jim Cheverton and confirmed by Dr John Langmaid.

An example of the plume moth *Oxyptilus laetus* (Zell.) was taken at light in my garden at Freshwater on 15 June and is the thirteenth British example.

Another plume moth, *Ovendenia lienigianus* (Zell.), was taken at my garden at light at Freshwater on 27 June and recorded quite commonly until early September. However, whilst looking through the collection I found an example of this species, dated 17 July 1999, which I must have overlooked. I should like to thank Brian Elliott and Colin Hart for the identification and confirmation of the above two plume species.

Finally, on 26 July I captured an example of *Recurvaria leucatella* (Cl.) at Cranmore, which was identified by Rob Heckford at the annual exhibition of the British Entomological & Natural History Society, during November 2002.

I should like to thank Rob Heckford for identifying so many of my micros which I exhibited at the Annual Exhibition, and Dr John Langmaid for confirmation of the status of the species mentioned above which were all new to the Isle of Wight.—SAM KNILL-JONES, Roundstone, 2 School Green Road, Freshwater, Isle of Wight PO40 9AL.

***Crambus silvella* (Hb.) (Lep.: Pyralidae) new to South Wiltshire (VC 8)**

On 2 July 2002, a specimen of *Crambus silvella* was taken at Plaitford Common, O.S. grid reference SU 2718. According to Palmer (2001. *The Microlepidoptera of Wiltshire*), this species has not been previously recorded in South Wiltshire (VC 8). In an attempt to prevent possible confusion it should be noted that much of Plaitford Common is in VC 8, but also in the modern administrative county of Hampshire.—M. H. SMITH, 42 Bellefield Crescent, Trowbridge, Wiltshire BA14 8SR.

Notes of interest on Butterflies in the Isle of Wight during 2002

The Spring of 2002 was very forward, causing some exceptionally early records of Lepidoptera (see Knill-Jones, 2002. *Ent. Rec.* **114**: 155-153), but followed by a dull and damp June. It was warm and sunny with below average rainfall from mid-July to the end of September, and this caused several examples of partial second and third broods of some of our butterflies. John Rowell saw a Dark Green Fritillary *Argynnis aglaja* L. at Parkhurst on 16 May 2002, which, as far as I can tell, is the earliest ever date that this species has been observed in the British Isles.

There was a small second brood of the Small Blue *Cupido minimus* Fues., which I observed on Afton Down from 15-24 July and a similar second brood of the Dingy Skipper *Erynnis tages* L. seen there from 7 to 21 August. Three second-brood Pearl-bordered Fritillary *Boloria euphrosyne* L. were seen at Parkhurst on 2 August and a further one on 4 August. There was also a partial second brood of the Grizzled Skipper *Pyrgus malvae* L. I saw one on Afton Down on 29 June and John Rowell saw a much later one on 8 August at Arreton Down. A very late Large Skipper *Ochlodes venata* (Brem & Grey) was seen on 25 August on Mottistone Common. A partial third brood of the Common Blue *Polyommatus icarus* Rott. was observed on Afton Down between 28 September and 12 October, when I saw some freshly emerged specimens of both sexes.

The Clouded Yellow *Colias croceus* Geoffroy had a very good year, with the first being seen on 16 April on Brading Down and the last at Ventnor on 18 November. I usually saw several every time I visited Afton Down from the beginning of August to early November although I did not see one f. *helice*. A Camberwell Beauty *Nymphalis antiopa* L. was seen nectaring at a Bramble flower at Beckfield Gross, Chale Green on 28 July.—SAM KNILL-JONES, Roundstone, 2 School Green Road, Freshwater, Isle of Wight PO40 9AL.

Clearwing pheromones – useful for recording Tortricidae!

Having purchased a set of artificial pheromones for attracting clearwings I was, like most lepidopterists during the year 2002, less than delighted with the weather conditions that prevailed during June. Nevertheless, on a sunny, if somewhat breezy day on 19 June 2002 I donned my wellies and ventured into the London Wildlife Trust's Ickenham Marsh Nature Reserve in western Middlesex. The recommended pheromone combination of MYO + TIP + VES was assembled in a string bag and hung from a branch of a sapling oak at chest height on the edge of an area of (very wet) willow/sallow carr. After ten minutes there was no sign of the hoped for *Synanthedon formicaeformis* (Esper), but I had attracted half a dozen greyish tortricoids that were clearly doing their utmost to get to the pheromone lures. These were tubed whilst I continued the search for sesiids and were later identified as males of *Neosphaleroptera nubilana* (Hb.) — confirmed by examination of the genitalia. It seems odd that such a completely unrelated moth, with an unrelated range of foodplants, should be attracted to pheromones designed for *S. formicaeformis*.

I did eventually find a male *S. formicaeformis*; after ten minutes of nothing I moved the lures two metres away and hung the bag on a willow branch, again at chest height. A male arrived within five seconds. Fussy little blighter!— COLIN W. PLANT, 14 West Road, Bishops Stortford, Hertfordshire CM23 3QP (E-mail: colinwplant@ntlworld.com).

Dryocoetes autographus (Ratzburg) (Col.: Scolytidae) in East Suffolk

The bark beetle *Dryocoetes autographus* was for long considered to have an essentially northern and western distribution in this country. Recently, however, Allen and Owen reported its occurrence in a fallen Spruce on Esher Common, Surrey in September, 1999 and summarised its British history (Allen & Owen, 2000). *Dryocoetes autographus* (Ratzeburg) (Col.: Scolytidae) in Surrey, apparently new to south-east England, with a taxonomic note. *Ent. Rec.* **112**: 121).

On 4 July 2001 I found a single example crawling on an unidentified conifer trunk in the Shrubland Park Estate wood yard, Coddendam, East Suffolk (grid reference TM 1252) but careful searching failed to reveal any further specimens. Although the estate has its own extensive plantations of Spruce and other conifers, some coniferous timber is brought in these days from other parts of East Anglia, in particular from the extensive forests around and in the Suffolk/Norfolk Breck, so the beetle could have been transported to the site from elsewhere.

These two recent records from areas well outside the beetle's previously known distribution in this country may indicate that *D. autographus* is currently in the process of extending its range.

I thank Lord de Saumarez for permission to record on the Shrubland Park Estate.— DAVID R. NASH, 3 Church Lane, Brantham, Suffolk CO11 1PU.

Hazards of butterfly collecting. Of caterpillars, snakes, and monkeys – India, Nilgiri Mountains, 1986

It was in April 1986 that I first met Gordon Thompson. It was the beginning of a six-month sentimental journey to the lovely Nilgiri Mountains where I went to school from 1954 to 1958. I even ended up staying in the then house of the most senior of the Danish missionaries, all of whom summered here while their children continued school (long holidays during the pleasant plains winter).

My aim was to study the butterflies in more depth than was possible between the ages of ten to fourteen, and to check of my myriad of recollections and field notes against reality. There were also fine baselines dating back to the late 19th century and a detailed list from the 1930s-1940s. My own evidence indicated that virtually all butterflies ever found in these mountains still occurred there, despite much cutting of forests and degradation in general (a review of the Nilgiri butterflies was published in Larsen, T. B. 1987/88. *J. Bomb. nat. Hist. Soc.* **84**:26-54, 291-316, 560-584 and **85**:26-43). I was told by a tea plantation manager, with whom I had corresponded from Delhi, that Gordon was a must: “Mind you, not always easy to find since he moves a lot.”

So the very first weekend I set off from my residence in Kotagiri (1,800m) to look for Gordon’s in Mettupalayam at the foot of mountains. I found him on his porch sharing a beer with a Lieutenant-Commander in blazing tropical whites, two school friends whose life had moved in different directions. The sailor looked pretty incongruous in a place like Mettupalayam but there was a good reason; further up the mountain was one of the integrated staff colleges of the Indian armed forces.

Gordon and I hit it off and I stayed the night. He came from a tea plantation management community, many of which are Anglo-Indian and/or Christian, where boys are invariably sent to strict boarding schools modelled on what had seemed fine for the Victorians. They were then expected to join tea plantations and start as junior managers of single “blocks”, then working their way slowly up the ladder, with the dizzy heights of General Manager beckoning in the distant future; this was in fact pretty much a life sentence to the boarding school system.

Such a life held no appeal for Gordon, so he went for the top in small plantation businesses that grew spices, betel nuts, sundry unusual fruits, and so on. He did not get much in the way of salary, but the job allowed him a powerful motorcycle and the pleasures of going walking, hunting, tracking, *masheer* fishing, bird-watching, and – not least – butterfly collecting. He knew every last nook and cranny in the Nilgiris and was great company in general.

Some months later I was invited down for the betel nut harvest, the main of Gordon’s crops in his present employ. Betel nut harvesting is specialized business; a full-yielding palm can often be encircled by two hands but are still very tall. The slender stem precludes cutting footholds as they do with the toddy palms that are harvested daily for palm wine. So you hire a crew of itinerant betel nut pickers and we were sharing a splendid lunch with the crew and their equally itinerant families. They were not all that interested in butterflies, though quite a few had managed to

deduce that the Indian Palmfly *Elymnias hypermnestra* L. – a very curious Satyrine – was associated with the betel palms, and came to drink from the toddy tapping. But I had trump in butterflies; earlier that day I had found a full-grown larva of the Giant Orange Tip *Hebomoia glaucippe*, one of the largest of the Pierids and one of nature's more dramatic butterflies.

The larva is a beautiful green, with little ornamentation, and when undisturbed looks pretty much like a large normal pierid, except that thoracic area has a larger diameter than the abdominal and when disturbed can puff up and display two huge, very realistic eyes that were not visible before. The betel nut-pickers were unanimous: "Snake!!!" The larva relaxed, but only the bravest of the brave ventured forward to touch it, to provoke the display once again. This was really good fun!

Which predators would be scared by this type of display? The Large Orange Tip feeds mainly on caper creepers, and here both monkeys and browsing birds were likely culprits. The pickers all agreed that both birds and monkeys ate larvae, but were monkeys scared of snakes? "Yes!," said Gordon emphatically, and pretty soon I had him, four pickers, a bunch of bananas, and sundry pieces of rope in various sizes and colours in my car. For up the road to Ooty were families of monkeys waiting for kind people to toss them some food, which we duly did, and much appreciated it was too, more being applied for with menaces. With the third bits of banana we also threw a piece of garishly coloured rope ... and watch those monkeys run! In absolute panic!! The four pickers on the back seat were almost sick with laughter. We tried out other colours and rope lengths with different groups of monkeys and the result was always the same (we later tried with sugar cane but – not surprisingly – they seemed to recognize this plant).

Back at Gordon's place, the pickers excitedly told their story to the rest of the crowd, and all gathered round us as we explained false-heads, camouflage, and mimicry. They now looked at both us and on butterflies with a lot more respect. And Gordon and I had many interesting adventures pending.– TORBEN B. LARSEN, Bangladesh, World Bank, 1818 H. Street N. W., Washington D.C., 20433, USA (E-mail: torbenlaarsen@compuserve.com).

***Psylliodes luteola* (Müller, O. F.) (Col.: Chrysomelidae) in Wiltshire**

The current status of *P. luteola* in this country has recently been reviewed and a map provided of its current distribution (Cox, 2000. *Coleopterist* 9: 55-63). Most recent records are from Oxfordshire although this frequency may perhaps be directly attributable to the intense chrysomelid recording activity in that county since the mid-1980's. Reference is made to an existing record from South Wiltshire, but no details are provided. It is likely that this reference is to a specimen which I beat from birch scrub bordering woodland near to an arable field on Stony Hill, Great Ridge near Fonthill Bishop, Wiltshire (grid reference ST 9536) on 8 August 1985. I am unaware of any additional records from the county.– DAVID R. NASH, 3 Church Lane, Brantham, Suffolk CO11 1PU.

**ORCHESELLA QUINQUEFASCIATA (BOURLET, 1843)
(COLLEMBOLA: ENTOMOBRYIDAE) FROM CHALK GRASSLAND
IN THE SOUTH DOWNS**

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Abstract

The Collembolan *Orchesella quinquefasciata*, which has not previously been reliably recorded in the UK, has been collected from long grass at the edge of yew forest in Kingley Vale, Sussex. It was found to co-occur with a similar community of other Collembola in Kingley vale as it does in grasslands in the Netherlands. Its density increased significantly away from the path edge.

The genus *Orchesella* contains some of the largest Collembola (5mm), readily recognised by their colour patterns. Hopkin (2000) recognises seven species in the UK, of which *O. quinquefasciata* Bourlet 1843 is described as having “A handful of records from Hampshire, Devon and Wales, [...] its presence in our region needs confirmation”. Additionally, no specimen appears to exist of UK-collected material of this species (Hopkin, pers. comm.). This species is widely if thinly spread on mainland Europe, with published records from Czechoslovakia (Nosek 1969, finding it in woods but at highest densities in meadows), France (Cortet & Poinsoot-Balaguer 1998, Benito & Sanchez 2000 both reporting it from woodland), Italy (Kopeszki & Meyer 1996 from woodland) Spain (Lucianez & Simon 1991, under brushwood) and Switzerland (Gisin 1943, stony meadows on chalk), all authors agreeing it to be a rare species. Unpublished surveys by MPB have found it in fewer than ten sites in Netherlands, while Gisin (1960) summarizes its distribution as “middle-European”.

It is readily identified by having a bold median dark line along its thorax in addition to two lateral lines each side. The two lateral lines converge on the end of abdominal segments three and four. This species closely resembles the immature and female stages of *O. flavescens* Bourlet 1839, but in the latter species the lateral lines do not converge. *Orchesella villosa* Geoffroy 1764 is a much commoner species with similar markings but lacks the dorsal line.

We report here the discovery of *Orchesella quinquefasciata* from chalk grassland in the South Downs. The study site was at the north end of Kingley Vale NNR (O.S. grid reference SU820113), consisting of chalk grassland (at the edge of ancient yew forest) dominated by Tor grass *Brachypodium pinnatum* Beauv. and Yorkshire fog grass *Holcus lanatus* L. on a black rendzina soil (pH 7.25, 47% water content when re-sampled in September 2002). The dicotyledenous plant community was dominated by calcicoles, notably Wild Basil *Clinopodium vulgare* L., Wild Parsnip *Pastinaca sativa* L., Marjoram *Origanum vulgare* L., Salad Burnett *Sanguisorba minor* Scop, and Lady's Bedstraw *Galium verum* L. Turf samples (six replicates of 9cm diameter) were removed in September 1999 by trowel from grassland at two

distances (1m or 5m) from two trampled paths at, wrapped in plastic film, and extracted in a simple Tullgren system, the Collembola identified using Hopkin (2000) and Fjellberg (1982). A total of thirteen species were recorded (Table 1) including 26 individuals of a conspicuous five-striped Collembolan determined to be *O. quinquefasciata* by MPB, who has previous experience of the species from mainland Europe. Mann-Whitney U tests showed *O. quinquefasciata* to be significantly less common 1m from the path than at 5m ($p < 0.05$), although the difference was not significant differences for any other species. A revisit in September 2002 relocated the species at low densities in long grass by the forest edge.

This is a visually striking creature under a binocular microscope due to the five bold purple thoracic lines standing out against its pale yellow ground colour, and may be expected to be reported from long grass elsewhere in the UK. These data suggest it to be relatively intolerant of disturbed, compacted conditions. The remainder of the named Collembola discovered were common, widespread species, although it is worth noting that *Cyphoderus albinus* is a myrmecophile, its high frequency here suggesting a high density of suitable ant hosts.

Orchesella quinquefasciata is found in the Netherlands in a similar Collembolan community in damp meadows. Table 2 lists Collembola from De Veenkampfen at

Table 1. Collembola from Kingley vale grassland.

Species	Density m-2	Number of records (from 24)
<i>Orchesella quinquefasciata</i> (Bourlet 1843)	61	11
<i>Brachystomella parvula</i> (Schäffer 1896)	934	21
<i>Cyphoderus albinus</i> Nicolet 1841	111	11
<i>Folsomia candida</i> Willem 1902	7	1
<i>Folsomia quadrioculata</i> (Tullberg) 1871	4	1
<i>Isotoma viridis</i> Bourlet 1839	481	15
<i>Lepidocyrtus cyaneus</i> Tullberg 1871	623	20
<i>Lepidocyrtus lanuginosus</i> (Gmelin 1780)	12	2
<i>Parisotoma notabilis</i> Schäffer 1896	3868	23
<i>Protaphorura</i> sp	660	15
<i>Pseudosinella alba</i> (Packard 1873)	14	1
<i>Sminthurides</i> spp	601	23
<i>Sminthurinus aureus</i> (Lubbock 1862)	40	3

Wageningen, a wet grassland containing *O. quinquefasciata*, showing both systems to contain *Lepidocyrtus cyaneus*, *Isotoma notabilis*, *Isotoma viridis*, a second *Lepidocyrtus* species, a *Sminthurides* species, a *Sminthurinus* species and a *Protaphorura* species. These are all common and widespread taxa, but the degree of overlap between the lists could imply that *O. quinquefasciata* is a member of a

specific grassland Collembolan assemblage. In order to assess the statistical significance of this observation one would need access to a large number (>200) of Collembola community datasets and apply a Monte-Carlo analysis (Manly 1991).

Species	Density m-2	Number of records (from 35)
<i>Orchesella quinquefasciata</i> (Bourlet, 1843)	25	13
<i>Anurida ellipsoides</i> Stach, 1849	75	9
<i>Arrhopalites caecus</i> (Tullberg, 1871)	6	4
<i>Entomobrya nivalis</i> (Linn., 1758)	6	3
<i>Folsomia quadrioculata</i> (Tullberg, 1871)	230	8
<i>Friesea truncata</i> Cassagnau., 1958	26	8
<i>Isotoma viridis</i> Bourlet, 1839	59	12
<i>Isotomiella minor</i> (Schäffer, 1896)	329	23
<i>Isotomurus palustris</i> (Müller, 1776)	232	22
<i>Lepidocyrtus cyaneus</i> Tullberg, 1871	4929	35
<i>Lepidocyrtus lignorum</i> (Fabricius,)	1662	34
<i>Megalothorax minimus</i> (Willem, 1900)	2	1
<i>Mesophorura macrochaeta</i> Rusek, 1976	21	10
<i>Neanura muscorum</i> (Templeton, 1835)	1	1
<i>Parisotoma notabilis</i> Schäffer, 1896	1838	23
<i>Protaphorura boedvarssoni</i> Pomorski, 1993	184	15
<i>Pseudosinella alba</i> (Packard, 1873)	14	1
<i>Sminthurides malmgreni</i> (Tullberg, 1876)	61	18
<i>Sminthurinus elegans</i> (Fitch, 1863)	52	4
<i>Sminthurus viridis</i> (Linn., 1758)	43	14
<i>Sphaeridia pumilis</i> (Krausbauer, 1902)	215	27

Table 2. Collembola from Dutch grasslands containing *O. quinquefasciata*.

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More on woodlice and spiders

Whilst the association between woodlice and spiders is nothing new – *Dysdera crocata* Koch (Araneae, Dysderidae) is widely known as the “woodlouse spider” on account of its preferred diet, the observation by Richard Jones of a specimen of *Porcellio scaber* Latreille (Isopoda, Porcellionidae) in a spider’s web (*Ent. Rec.* **114**: 181) is possibly of more significance than the author intended.

In the British Isles, *Porcellio scaber* is the main host of *Melanophora roralis* L. (Dipt.: Rhinophoridae) although Irwin, 1985 (*Ent. Mon. Mag.* **121**: 38) discovered an association with *Porcellio spinicornis* Say. However, in 1927 W. Lundbeck, when dealing with the “Tachinidae” of Denmark (*Diptera Danica* **7**: 239-264) stated the following in relation to the fly. “Mr. E. Hoffmeyer bred it from egg-masses of [the spider] *Epeira cornuta*, and he communicated to me that the larva was not uncommon in this way; the imago appeared on 1/7”. This alleged association entered the wider British literature in 1942 when Audcent published “A preliminary list of the hosts of some British Tachinidae” (Dipt.). *Trans. Soc. Br. Ent.* **8**: 1-42) and was repeated by van Emden (1954. *Handbooks for the Identification of British Insects* **10**: part 4(a) and also Herting (1961. *Rhinophoridae in Lindner (ed) Die Fliegen der Paläarktischen Region* 216).

In 1956, A. E. Le Gros (*Ent. Rec.* **68**: 111) challenged this on the grounds that the Rhinophoridae are parasites of woodlice. He stated that he had often reared ichneumonids from the egg masses of *Araneus cornutus* Clerck (Araneidae), and had sometimes found beetles, earwigs and woodlice within the retreats of the spider where they had probably crawled for shelter. He concluded “I would suggest that Lundbeck’s record had its origin in a parasitised woodlouse crawling into a *cornutus* retreat and dying; and that the larvae Hoffmeyer found “not uncommon” were probably those of ichneumons which heavily infest *cornutus* egg sacs”. – LAURENCE CLEMONS, 14 St. John’s Avenue, Sittingbourne, Kent ME10 4NE.

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As part of my PhD research on the ecology and conservation of Netted Carpet *Eustroma reticulatum* (Denis & Schiffermüller) (Lep.: Geometridae) I will be starting a captive breeding programme from next year. I would be extremely grateful if any lepidopterists that may have reared this species in the past could provide me with their accounts, regardless of whether breeding was successful or otherwise. All information received will be invaluable and will be acknowledged.– GRAHAM JONES, Department of Natural, Geographical and Applied Sciences, Edge Hill, St Helens Road, Ormskirk L39 4QP (e-mail: geometrid@msn.com).

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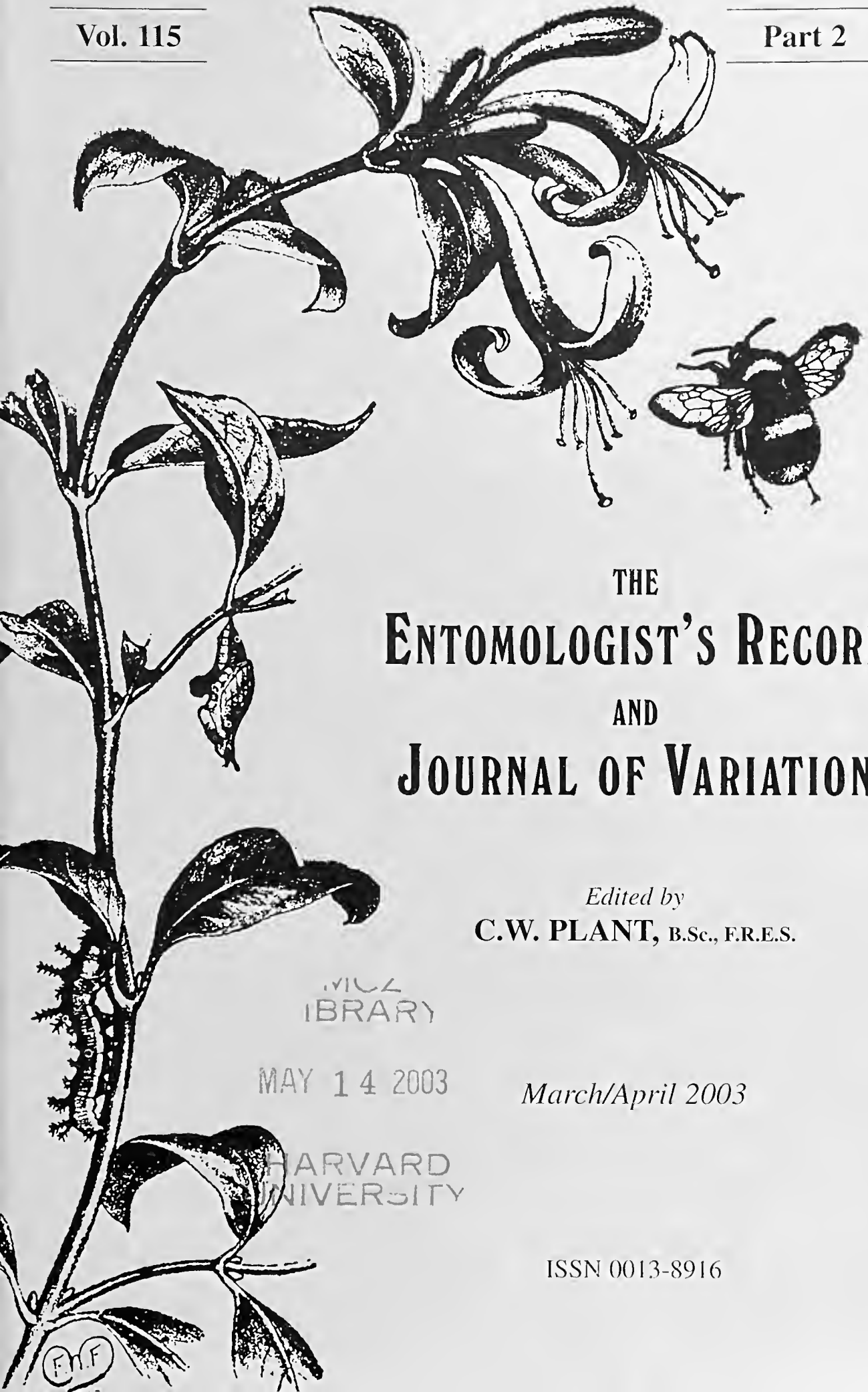
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THE CHANGING MOTH AND BUTTERFLY FAUNA OF BRITAIN DURING THE TWENTIETH CENTURY

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Abstract

This paper attempts to identify those species of Lepidoptera that have colonised Britain and those that have may have become extinct during the twentieth century. Reasons for these changes are discussed and changes in the Lepidoptera fauna in relation to native and non-native plants, along with regional changes, are briefly examined.

Introduction

Over time it would be expected that the number of species recorded from any given area would change either through the processes of colonisation and extinction, or as new species are discovered. This is the case with Britain. By comparing the number of species covered in books on the British Lepidoptera (moths and butterflies) fauna over the last 100 years or so (see Table 1) it is apparent that over 540 species have been added to the British list. To put this another way, on average about five species have been added each year. This total includes many species that have been added through taxonomic changes or occurred on one or just a few occasions, or species that have not become established. This review, however, describes the changing fauna of Britain in the twentieth century by considering adventive and immigrant species that have become established in the wild (the colonisers) and those species that have become extinct or for which there is no recent record.

Source	No. of Species
Meyrick (1895)	2061
Meyrick (1928)	2143
Heslop (1964)	2404
Bradley & Fletcher (1979)	2501
Bradley (2000)	2604

Table 1: Number of species on the British list by publication Note: Some of these publications include the few species found in Ireland that are not found in Britain.

Methods

In this review, species have been divided into broad classes according to information (or lack of) on previous history and nature of arrival in Britain. There is a degree of guesswork about the species considered and it may be argued that some could be attributed to different categories and others added.

The colonisers

This category includes species that have become established as breeding species in the wild in this country either through the assistance of man (the adventives), for

example through accidental introduction, or through immigration. It must be borne in mind when considering some of the tables, that some species could have become established in the country before they were discovered.

Transitory residents

Species have also been included in this review if they were established for at least a ten year period and subsequently died out (the exception to this being any species since 1990 as not enough time has elapsed).

Overlooked species, additions through taxonomic considerations, species with no confirmed records and species that have not become established

Species that were (or probably were) overlooked residents in this country are not covered by this review. The Southern Chestnut *Agrochola haematidea* (see Haggett & Smith, 1993) and *Bactra lacteana* (see Heckford, 1998) are examples of species that could fall into this category. Another group of additions not included are those species that have been added through taxonomic considerations. Examples include *Sorhagenia janiszewskae* (see Bradley, 1963) and Lesser Common Rustic *Mesapamea didyma* (see Jordan, 1986). There are also, perhaps rather surprisingly, a few species on the British list for which there is no confirmed British record, e.g. the Ash Shoulder Knot *Scotochrosta pulla* (see Bradley, 2000). Two further categories of species are the adventive and immigrant moths that have not become established, e.g. *Eccopsia effractella* (see Agassiz, 1996a) and *Cydia amplana* (see Heckford, 1993) respectively are examples of these. Neither of these groups are considered here.

Species considered extinct (or no recent record)

This category covers those species thought to be extinct or for which there is no recent record (and may well be extinct) in the period from 1900 onwards.

Changes in the Lepidoptera fauna from 1900 to 1999

The colonisers

Of the approximately 540 additions to the British list, 89 species are considered to have become established colonisers through immigration or established adventives between 1900 and 1999, although three of these species have subsequently become extinct (see Table 2 and Appendix 1).

A number of species could be added to this list of 89. For example, it is uncertain when the Vine's Rustic *Hoplodrina ambigua* became established. This moth is not included as it was first recorded in 1879 and was later found along the south coast. It was long regarded as an immigrant, at most temporarily established. After about 1940 it spread rapidly inland (Bretherton, Goater & Lorimer, 1983). The Waved Black *Parascotia fuliginaria* is similarly not included. This moth was considered a great rarity usually found near docks or in cellars, although it is now more widely recorded. It was not until 1931 that this moth's true habitat and principal foodplant were discovered (Bretherton, Goater & Lorimer, *loc. cit.*).

Date class	Total no. of new colonisers	Thirty year combined total
1900-1909	3	
1910-1919	2	
1920-1929	6	11
1930-1939	10	18
1940-1949	11	27
1950-1959	14	35
1960-1969	7	32
1970-1979	14 (-1)	35 (-1)
1980-1989	8 (-2)	29 (-3)
1990-1999	14	36 (-3)
<i>Total</i>	89 (-3)	

Table 2: Summary of Lepidoptera colonisers from 1900 to 1999. Figures in parentheses represent the number of colonising species that have subsequently become extinct.

Extinctions (or no recent record)

From 1900 onwards, the present review identifies 62 species of Lepidoptera have either become extinct or for which there is no recent record and may well be extinct (see Table 3 and Appendix 2). An additional four species could be added to this total. These four (*Stenoptinea cyaneimarmorella*; *Scrobipalpula diffluella*; *Gnorimoschema streliciella*; *Scythris fuscoaenea*) are little known in this country, but were probably resident and may now be extinct. Fewer species are included as extinct in recent years as it is very difficult to determine whether or not a species has been lost in such a comparatively short time. For example, the Orange Upperwing *Jodia croceago*, which is not included in the tables, has not been seen in recent years, despite considerable survey effort. The last confirmed sighting was in 1994 (A. Spalding, pers. comm.). It is still hoped that this species will be refound in this country. This total compares with that of Leverton (2001) who suggests that about 65 species of moths are thought to have become extinct since reliable records began around 150 years ago.

It is possible that some of the species listed may be overlooked and may yet be refound in this country. This is illustrated by the rediscovery of the micro-moth *Trifurcula beirnei* which had not been seen since 1935 when it was recorded at Southampton (Emmet, 1986). In 2000, a single adult was found at Southsea (J.R. Langmaid, pers. comm.).

A few species have not been included as their status since 1900 is uncertain, e.g. *Stigmella desperatella* (Frey). Vacated mines, possibly of this species, were found by S.C.S. Brown at Dover in the 1960s (reported to M. Chalmers-Hunt in a letter dated 17th January 1971), but recent searches of the area have failed to find the species (D. O'Keeffe, pers. comm.). The status of *Celypha doubledayana* and *Scythris cicadella* since 1900 are similarly open to question as no confirmed records could be researched during the period since that date.

Date class	Total no. of species considered to be extinct or possibly extinct	Thirty year combined total
1900-1909	8	
1910-1919	7	
1920-1929	6 (+2)	21 (+2)
1930-1939	9 (+1)	22 (+3)
1940-1949	(1)	15 (+4)
1950-1959	6	15 (+2)
1960-1969	13	19 (+1)
1970-1979	9	28
1980-1989	2	24
1990-1999	2	13
Total	62 (+4)	

Table 3: Summary of extinctions or species not recorded from 1900 to 1999. Figures in parentheses represent the number of species that are little known in this country, but may now be extinct.

It is apparent from Tables 2 and 3 that there are a number of peaks (when data are treated on a decade by decade basis) in both numbers of colonisers and possible extinctions, though these peaks do not seem to coincide. Interestingly there is almost an inverse correlation, i.e. when there are more apparent extinctions there are less species colonizing and vice versa.

Regional changes

When examining the broad distribution of change of the colonisers and extinctions in this review, a pattern of change becomes apparent. In both cases south-eastern England and southern England have by far the highest totals of gains and apparent losses (Tables 4 and 5). This suggests that it is these areas where there is greatest turnover in the fauna. Part of this change is undoubtedly due to proximity to the continent (i.e. it is comparatively easy for a species to establish itself from abroad), but the figures imply that changes in these regions dominate overall change in the country, be it through the effects of climate or/and habitat loss or change.

This change is likely to be even greater as it has been beyond the scope of this review to examine the colonisers and extinctions within the faunas of individual regions, but these regional distribution changes are undoubtedly happening. This is probably most easily demonstrated at a county level, for example McCormick (2001) lists a number of species that have not been seen in Devon for many years, along with many recent additions to the county. Further examples are given in Asher *et al* (2001), who discuss distribution changes and trends in butterfly species, and by Agassiz (1996b) who discusses invading Lepidoptera, giving examples of the geographical patterns of spread in the British Isles of various species.

Region	Total no. of species
South-east (includes Kent, Surrey, Sussex, South Essex and Middlesex)	53
South (includes Hampshire, Isle of Wight, Dorset and Berkshire)	17
South-west (includes Cornwall and Devon)	7
East Anglia (includes Norfolk, Suffolk and North Essex)	4
East Midlands (includes Huntingdonshire and Cambridgeshire)	3
West Midlands (includes Derbyshire, Cheshire)	2
North-west (Cumbria)	1
North-east (Yorkshire)	1
Mid Scotland (Perthshire)	1

Table 4: Colonising Lepidoptera on a regional basis (1900 to 1999)

Region	Total no. of species
South-east (includes Sussex, Kent, Surrey and South Essex)	23 (+1)
South (includes Somerset, Dorset, Hampshire, Isle of Wight, Wiltshire, Buckinghamshire, Berkshire and Oxfordshire)	12 (+1)
East Anglia (includes Norfolk and Suffolk)	9 (+1)
East Midlands (includes Huntingdonshire, Cambridgeshire, Northamptonshire, Lincolnshire and Nottinghamshire)	8
West Midlands (includes Gloucestershire, Herefordshire and Worcestershire, Staffordshire and Cheshire)	7
North-east Scotland (includes Moray)	2 (+1)
South-west (Devon)	1
North-west (Cumbria)	1
South Wales (Glamorgan)	1
North Wales (Caernarvonshire)	1

Table 5: Summary of extinctions or species not recorded from 1900 to 1999 on a regional basis.

Reasons for change

The colonisers

Discussing additions to the British list of Lepidoptera has long been a popular topic and one that has been covered by a number of authors over the years, e.g. Ford (1949), Ellerton (1970) and Agassiz (1992) discuss additions to the British list of microlepidoptera (smaller moths), and de Worms (1951 & 1963) and Mere (1961) discuss macrolepidoptera (larger moths) additions, the latter considering England only. Leverton (2001) also lists the presumed gains (and losses) of resident British microlepidoptera, giving 58 apparent gains (and 30 apparent extinctions).

Mere (1961) suggested many of the “new” species were associated with introduced foodplants. Table 6 shows that this is a trend that has clearly continued, many of the species that have become established over the last century are associated with non-native plants. Moreover, there is also a hint from the data collated that this trend may be on the increase.

Date class	Polyphagous	Tree/shrubs		Low-growing plants and grasses		Other, including ferns, leaf litter etc.
		Native	Non-native	Native	Non-native	
1900-1909	1	1				1
1910-1919			1			1
1920-1929		2	3	1		
1930-1939	1	1	3	5		
1940-1949		2	4	1	2	2
1950-1959	1		1	4	1	
1960-1969		2	4	1		
1970-1979		3	5	5		1
1980-1989		1	5	2		
1990-1999		1	6	6	1	
Total	3	13	32	25	4	5

Table 6: Number of colonising Lepidoptera by foodplant type (1900 to 1999).

It is interesting to note that conifers and evergreens were popular in Victorian times but went out of fashion during the first half of the 20th century. These came back into vogue again particularly during the 1960s with the development of garden centres. With the development of the single market in the European Union (EU) countries, an extensive trade in plants between Britain and other EU countries has developed, with the Netherlands, Spain, Italy, Denmark, France and Germany being significant sources of nursery stock. British nurseries also obtain plants from outside Europe (A. Halstead pers. comm.). Twelve species that have become established since 1959 are associated with conifers (including cypresses and junipers).

Although 36 species have probably colonised following the introduction of a non-native host plant (either with the foodplant or because the foodplant has been widely planted, and this could be aided by planting of the foodplant on the continent enabling colonisation through immigration), over 40 species have arrived that feed on long established native foodplants. One of the most likely explanations for this is climate change. As early as 1961, Mere speculated that the most likely cause of colonisations around that time was an increase in spring, summer and autumn temperatures.

Climate change has been considered as influencing changes in Lepidoptera distribution by a number of authors. de Worms (1963) discusses climate change, noting that there had been an apparent northward movement of certain species which had only then recently been recorded in the British Isles on the continent and that this had been correlated with a small but significant warming-up of the average temperature in Northern Europe over the previous 30 years. Burton (1998 & 2001) also discusses apparent responses of European insects to climate change and has

evidence of 245 species of macrolepidoptera and Pyralidae whose breeding distributions have altered. Some of these species have spread irrespective of habitat loss. Burton (2001) concludes that "alterations in geographical ranges of various insects do not in themselves prove without doubt that such distributional changes are due to the effects of climate change, but their broad correlation with known climatic oscillations over the past two centuries....is highly suggestive that climate has been a primary influence in many cases".

Parmesan *et al* (1999) analysed distributional changes over the past century of non-migratory species of butterfly whose northern boundaries were in northern Europe and whose southern boundaries were in southern Europe or northern Africa and suggested that many butterfly species in the northern hemisphere are shifting northwards in response to a common environmental change and that this is increased temperature. They point out that Europe has warmed by about 0.8°C during the last century and that predicted increases for this century are considerably higher and consequently could be a major influence in shifting species' distributions. Fifteen species of resident British butterflies have shown substantial expansions in range recently. Fox *et al* (2001) suggest that climate appears to be the main factor causing butterflies to spread and note that average spring and summer temperatures in Britain have increased by 1.5 and 1°C respectively in the past 25 years. These climatic influences are likely to have a similar effect on many moth distributions.

Habitat change is also likely to have provided opportunities for some colonising species. de Worms (1963) suggested that the White-banded Carpet *Spargania luctuata* had probably been able to gain a foothold in this country due to the growth of its foodplant wherever large tracts of woodland had been cut-down in southern England. The species is still resident and is found particularly in conifer plantations. Habitat change may also explain why the Sussex Emerald *Thalera fimbrialis* continues to maintain a foothold in Britain. The building of the nuclear power stations on Dungeness has altered the shingle habitat and provided suitable conditions for this species, conditions that do not appear to be present elsewhere in the country.

Extinctions (or no recent record)

A wide range of causes has been suggested as resulting in the extinction (or possible extinction) of individual species. These broadly include development, drainage, woodland clearance, coniferisation, agricultural change and intensification, management changes or a lack of management, fire, parasite load (combined with another influence), habitat fragmentation and climate change. Fox (2001) summarised the changing fortunes for butterflies, and to a lesser extent moths, in recent decades and identified four main causes of these changes. These are habitat loss; management changes; fragmentation and isolation; and climate.

Habitat loss through the intensification of agriculture, large-scale commercial forestry using non-native trees and urban development has resulted in the wholesale loss of semi-natural habitats and their associated faunas. Many habitats are now reduced to isolated remnants. For example, as long ago as 1951, large scale afforestation had been recognised as the greatest danger to Breck district species (Bretherton, 1951). Bretherton also stated that conifer planting "is of course a

menace to local species in other places too", citing two species, the Clifden Nonpareil *Catocala fraxini* and the Lunar Double Stripe *Minucia lunaris*, both of which subsequently died out (although it is uncertain whether these species would have survived even if the conifers had not been planted in these areas).

Many moths and butterflies have specific microclimate requirements. Changes in management can disrupt these conditions with a resultant loss of suitable habitat for individual species. This loss of habitat, either through destruction or change in management leads to fragmentation and isolation. Small isolated populations of individual species are more likely to become extinct as a result of chance events, e.g. fire, disease, unfavourable weather etc. Further to this, the chance of recolonisation in a fragmented landscape is greatly reduced which in turn could be compounded by climate change. Fox (*loc. cit.*) suggests that most of the evidence for the effects of climate change is "circumstantial, relying on comparison of periods of large-scale distribution change with the concurrent climatic characteristics" and also that the relationships between climate and Lepidoptera are complex and remain unclear.

Table 7 gives extinctions by foodplant type. Unlike recently colonised species, most extinct species are associated with native plants. Many of these plants are widespread, though some have a localised distribution. This association is, perhaps, what would be expected given the habitat loss, and fragmentation and isolation, and management changes suffered in the British countryside.

Date class	Polyphagous	Tree/shrubs		Low-growing plants and grasses		Other, including ferns, leaf litter etc.
		Native	Non-native	Native	Non-native	
1900-1909	1	3		4		
1910-1919		3		4		
1920-1929		2	(1)	3 (+1)		1
1930-1939		4		5		1
1940-1949						1
1950-1959		4		2		
1960-1969		4		8		1
1970-1979		2		7		
1980-1989				2		
1990-1999		1		1		
Total	1	23	(1)	36		4

Table 7: Number of extinctions (or species with no recent record) by foodplant type (1900 to 1999).

Finally, Fox (*loc. cit.*) rightly remarks that the effects of collecting, atmospheric pollution and the use of insecticides are likely to be insignificant in the vast majority of cases. However, it is interesting to note that the total weight of pesticides sold for use in gardens grew by 70% between 1992 and 1997 and herbicides are now used

more intensively in gardens than in arable crops or in orchards, although insecticide use does appear to be decreasing (Ansell, Baker & Harris, 2001). It is not known what the effect of this is, if any, on Lepidoptera populations at the local and at a wider level.

Conclusions

Change to the Lepidoptera fauna of this country has been a source of fascination for many years and there have been a number of recurring themes.

For those species that have become established, the most regularly suggested factors are climate change and association with non-native plants. There is little doubt that the climate is changing and that insect populations and distributions will change in relation to these. Also, it is beyond question that gardening, tidying up of marginal habitats and amenity planting has increased in the latter half of the twentieth century and that this has created substantial areas of habitat for many species associated with non-native plants. Indeed, within urban conurbations there are areas where some plant species are now so widely planted that these could be described as either large areas of suitable habitat or fragmented habitat patches (such as parks, supermarket car parks etc.) with corridors (suburban gardens) for some of these species to utilise.

Some species have established themselves naturally from the continent, and hence must have good powers of dispersal, enabling them to reach other suitable breeding situations in this country. Other species may not be so good at dispersal within their natural distribution, but have been introduced to a niche that was not previously occupied and hence have spread rapidly to occupy this. Some of these may eventually be restricted by climate requirements.

Additions to the British fauna will continue. Some species are becoming more regularly recorded than formerly, for example the Tree-lichen Beauty *Cryphia algae* (which was probably only recorded on three occasions during the 19th century then not seen until 1991, Skinner (1998) reporting 22 others to 1998). Others such as the Humming-bird Hawk-moth *Macroglossum stellatarum* have shown signs of surviving recent British winters. If climate change accelerates and the movement of non-native plants continues in its current fashion then the rate of colonisation of species to this country is very likely to increase.

Whilst these colonisers may be seen as enriching our fauna, it is more worrying that a substantial number of our native species, part of our natural heritage, associated with native foodplants and native habitats, are under threat or have become extinct during the last century. The specific reasons for these extinctions are often difficult to identify. Frequently mentioned culprits are development, agricultural change and intensification, woodland clearance and afforestation, management change (including inappropriate “conservation” management) or lack of management, habitat fragmentation and climate change or a combination of these. These threats seem likely to continue and, as our countryside evolves and changes, further extinctions it seems are sadly inevitable. It is difficult to predict which species are most at risk. However, there must be concern over severely localized species, for example the Reddish Buff *Acosmetia caliginosa*, species that appear to have declined

dramatically in recent years, for example Pale Shining Brown *Polia bombycina* and Bordered Gothic *Heliophobus reticulata*, and species susceptible to climate change, for example mountain top species. Other species are known to have extreme population and distribution fluctuations over a number of years, e.g. the Dotted Rustic *Rhyacia sinuulans* and, whilst it is assumed that these species will come back as before (though this cannot be guaranteed), the general trend for many of these is unknown.

It is apparent that all these influences are having most effect on the fauna of the southern half of England, particularly south-east and southern England, where change has been most rapid and dramatic. However, change is clearly happening throughout the country.

Paradoxically some of the comparatively recent colonisers could be at risk in the not too distant future. For example there is a trend towards re-establishing "native" woodland or habitat at the expense of conifer plantations. Whilst this is generally to be commended, there are many conifer associates which have been resident in this country for decades (or longer) and could now be considered part of the natural heritage. This is surely a question of balance of land use and management.

The British countryside is the result of man's management of the land over hundreds of years, though it is perhaps the rate of change in recent decades which has been most damaging. A landscape approach is needed for the management of our countryside, aimed at ensuring that there is appropriately managed habitat to support our biodiversity and that this habitat is not fragmented but linked up. Climate change is still likely to play its part, but with a linked-up landscape it is possible that the effects will be reduced.

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Appendix 1: Adventive or immigrant Lepidoptera species that have become established in Britain from 1900 to 1999

Note: Appendices 1 and 2 do not consider species in the Channel Islands or Ireland.

Species	Probable year of first record as a resident, where known	Site first recorded (Vice-county)	Foodplant(s)
<i>Crocioxena plebejana</i> Zeller	1900	Street (3)	Tree Mallow <i>Lavatera arborea</i>
<i>Cacoecimorpha promubana</i> (Hübner)	1905	Bognor (13)	Polyphagous
<i>Tachystola acroxanthia</i> (Meyrick)	1908	Ottery St Mary (3)	Leaf-litter
<i>Clavigesta purdeyi</i> (Durrant)	1911	Folkestone (15)	Pine <i>Pinus</i>
<i>Blastobasis lignea</i> Walsingham	1917	Grange and Witherslack (69)	Yew <i>Taxus</i> , Juniper <i>Juniperus</i> spp., fresh and decaying leaves etc.
<i>Grapholita lobarzewskii</i> (Nowicki)	1922	Sittingbourne (15)	<i>Prunus</i> spp. and Apple <i>Malus</i> spp.
<i>Phyllonorycter geniculella</i> (Ragonot)	1924	Tubney (22)	Sycamore <i>Acer pseudoplatanus</i>
<i>Stigmella suberivora</i> (Stainton)	1927	Ventnor (10)	Evergreen Oak <i>Quercus ilex</i>
<i>Carpatolechia alburnella</i> (Zeller)	1927	Strensall (62)	Birch <i>Betula</i> spp.
<i>Udea fulvalis</i> (Hübner)	1927	Bournemouth (9 or 11)	Labiatae, including Catmint <i>Nepeta cataria</i> , Black Horehound <i>Ballota nigra</i> and Meadow Clary <i>Salvia pratensis</i>
<i>Phyllonorycter strigulatella</i> (Liemig & Zeller)	1928	Cothill (22)	Grey Alder <i>Alnus incana</i>
<i>Ostrinia nubilalis</i> (Hübner)	1930s	Counties bordering the Thames Estuary	Mugwort <i>Artemisia vulgaris</i>
L-album Wainscot <i>Mythimna l-album</i> (Linnaeus)	1930s	Coasts of Cornwall and Devon	Probably various grasses Graminaeae
<i>Cydia conicolana</i> (Heylaerts)	1930	New Forest (11)	Scot's Pine <i>Pinus sylvestris</i> , Austrian Pine <i>P. nigra</i> sp.
<i>Ectoedemia decentella</i> (Herrich-Schäffer)	1931	Eastbourne (14)	Sycamore <i>Acer pseudoplatanus</i>
Yarrow Pug <i>Eupithecia millefoliata</i> Rössler	1933	Hamstreet (15)	Yarrow <i>Achillea millefolium</i>
Clifden Nonpareil <i>Catocala fraxini</i> (Linnaeus)	1935(-1964)	near Hamstreet (15)	Aspen <i>Populus tremula</i>
<i>Epiphyas postvittana</i> (Walker)	1936	Newquay (1)	Polyphagous
<i>Caloptilia azaleella</i> (Brants)	1936	Bournemouth (9 or 11)	Azalea <i>Rhododendron simsii</i> , <i>R. indicum</i> etc.
<i>Ethmia terminella</i> Fletcher	1937	Dungeness (15)	Viper's Bugloss <i>Echinium vulgare</i>
Rest Harrow <i>Aplasta ononaria</i> (Fuessly)	1937	Folkestone (15)	Common Restharrow <i>Ononis repens</i>
<i>Psychoides filicivora</i> (Meyrick)	1940	Bournemouth (9)	Various ferns including Male Fern <i>Dryopteris filix-mas</i>
Lunar Double-stripe <i>Mimucia lunaris</i> (IDenis & Schiffmüller)	1942(-1958)	Orlestone area (15)	Oak <i>Quercus</i>

Species	Probable year of first record as a resident, where known	Site first recorded (Vice-county)	Foodplant(s)
Leek Moth <i>Acroleptopsis assectella</i> (Zeller)	1943	Bexhill district (14)	Onion, leek or garlic <i>Allium</i> spp.
<i>Pannone aurita</i> Razowski	1943	Dover (15)	Sycamore <i>Acer pseudoplatanus</i>
<i>Cydia milleniana</i> (Adaczewski)	1944	Thetford district & East Harling (28)	Larch <i>Larix</i>
<i>Lozotaeniodes formosanus</i> (Geyer)	1945	North-west Surrey (17)	Scots Pine <i>Pinus sylvestris</i>
Blair's Wainscot	1945		
<i>Sedina buettneri</i> (Hering)	(-1952, 1996-)	Freshwater (10)	Lesser Pond-sedge <i>Carex acutiformis</i>
<i>Blastobasis decolorata</i> (Wollaston)	1946	Herne Hill (16)	Fallen and decaying leaves, dead insects etc.
Black V Moth <i>Arctornis l-nigrum</i> Müller	1947(-1960)	Bradwell-on-Sea (18)	Probably on a range of deciduous trees
<i>Ectoedemia turbidella</i> (Zeller)	1948	Stammore Common (21)	Grey Poplar <i>Populus canescens</i>
Varied Coronet <i>Hadena compta</i> (Denis & Schiffermüller)	1948	Dover (15)	Sweet William <i>Dianthus barbatus</i>
<i>Adoxophyes orana</i> (Fischer von Röslerstamm)	1950	Teynham (15)	Polyphagous, including leaves and fruit of Apple <i>Malus</i> , Pear <i>Pyrus</i> etc.
Sussex Emerald <i>Thalera fimbrialis</i> (Scopoli)	1950	Dungeness (15)	Wild Carrot <i>Daucus carota</i> , Ragwort <i>Seuocio jacobaea</i> , Hoary Ragwort <i>S. ericifolius</i>
White-banded Carpet <i>Spargania luctuata</i> (Denis & Schiffermüller)	1950	Hamstreet (15) and Uckfield (14)	Rosebay Willowherb <i>Chamerion angustifolium</i>
<i>Psycholomoides aeriferanus</i> (Herrich-Schäffer)	1951	Westwell (15)	European Larch <i>Larix decidua</i>
<i>Phlyctaenia perlucidalis</i> (Hübner)	1951	Woodwalton Fen (31)	Thistle <i>Cirsium</i> spp.
Toadflax Brocade <i>Calophasia lunula</i> (Hufnagel)	1951	Dungeness (15)	Toadflax <i>Linaria</i> spp.
Blair's Shoulder Knot			
<i>Lithophane leantieri</i> (Boisduval)	1951	Freshwater (10)	Monterey Cypress <i>Cupressus macrocarpa</i> and other Cupressaceae
Marsh Mallow Moth (or Giant Ear)	1952	Romney Marsh (14)	Marsh Mallow <i>Althaea officinalis</i>
<i>Hydraecia osseola</i> (Staudinger)	1952	Pinner (21)	Norway Spruce <i>Picea abies</i>
<i>Coleotechnites piceella</i> (Kearfott)	1955	Dedham Lock (21)	Orange Balsam <i>Impatiens capensis</i>
Balsam Carpet <i>Xanthiorhoe birriviata</i> (Borkhausen)	ca. 1956	Thames estuary	Goosefoot <i>Chenopodium</i> spp.
<i>Ancylosis oblitella</i> (Zeller)	1957	Sandwich (15)	Creeping Willow <i>Salix repens</i>
<i>Stigmella zelleriella</i> (Snellen)	1957 [1914?]	Ockham (17)	Sycamore <i>Acer pseudoplatanus</i>
<i>Stigmella speciosa</i> (Frey)			

Species	Probable year of first record as a resident, where known	Site first recorded (Vice-county)	Foodplant(s)
Cypress Pug <i>Eupithecia phoeniceata</i> (Rambur)	1959	Lamorna Cove (1)	Monterey Cypress <i>Cupressus macrocarpa</i> and other Cupressaceae
<i>Phyllomorcyx platanoidella</i> (Joannis) <i>Argolamprotes micella</i> ([Denis & Schiffmüller])	1962	Denbies (17)	Norway Maple <i>Acer platanoides</i>
<i>Monochroa hornigi</i> (Staudinger)	1963	Ide (3)	<i>Rubus</i>
<i>Acleris abietana</i> (Hübner)	1963	Buckingham Palace (21)	Knotgrass <i>Polygonum</i> spp.
<i>Cydia pactolana</i> (Zeller)	1965	Aberfoyle (87)	Giant Fir <i>Abies grandis</i>
Shaded Fan-foot <i>Hermiina tarsicrinalis</i> (Knoch)	1965	Alice Holt Forest (12)	Norway Spruce <i>Picea abies</i> and Larch <i>Larix</i>
<i>Stenoptilia willieridactyla</i> (Bruand)	1965	Near Thorpeness (25)	Withered leaves
<i>Caloptilia rufipennella</i> (Hübner)	1969	Chesterfield (57)	Saxifrage <i>Saxifraga</i> spp.
<i>Cydia medicaginis</i> (Kuznetsov)	1970	Chippenhams Fen (29)	Sycamore <i>Acer pseudoplatanus</i>
<i>Monochroa moyses</i> Uffen	1970	Southampton (11)	Medick <i>Medicago</i> spp.
<i>Athrips raucidella</i> (Herrich-Schäffer)	1971	Mucking (18)	Sea Club-rush <i>Bolboschoenus maritimus</i>
<i>Ectoedemia erythrogenella</i> (Joannis)	1971	West Wickham (16)	Cotoneaster <i>Cotoneaster horizontalis</i>
<i>Coleophora fuscicornis</i> Zeller	1973	Portland (9)	Bramble <i>Rubus fruticosus</i>
<i>Laupronia flavinitrella</i> (Hübner)	1973	Fingringhoe Wick (19)	Smooth Tare <i>Vicia tetrasperma</i>
<i>Phyllocnistis xevia</i> Hering	1974	Martyr Worthy (12)	Rubus
<i>Ectoedemia sericopeza</i> (Zeller)	1974	near Dover (15)	Grey Poplar <i>Populus canescens</i>
<i>Tingana balteolella</i> (Fischer von Röslerstamm)	1975	Horseheath (29)	Norway Maple <i>Acer platanoides</i>
<i>Cydia illutana</i> (Herrich-Schäffer)	1975	East Kent (15)	Viper's Bugloss <i>Echium vulgare</i>
	1975	Southsea (11)	Norway Spruce <i>Picea abies</i> , Silver Fir <i>Abies alba</i> and European Larch <i>Larix decidua</i>
	1976	Orlestone Forest (15)	Possibly on lichens
<i>Bisignia procerella</i> ([Denis & Schiffmüller])	1978	Shellness (15)	Sea Aster <i>Aster tripolium</i>
<i>Coleophora linoxyridella</i> Fuchs	1979	Dungeness (15)	<i>Salix</i> spp. and <i>Populus</i> spp.
Scarce Chocolate-tip <i>Clostera anachoreta</i> ([Denis & Schiffmüller])	1980	Orlestone Forest (15)	Norway Spruce <i>Picea abies</i>
<i>Dioryctria schuetzeella</i> Fuchs	1981	Harty (15)	Sea Blite <i>Suaeda maritima</i>
<i>Coleophora aestuariella</i> Bradley	1981	Hamstreet (15)	Norway Spruce <i>Picea abies</i> and probably other conifers
Feathered Beauty <i>Peribatodes secundaria</i> (Esper)	1984	Thornden Wood (15)	<i>Rubus</i>
<i>Euettia heinemannii</i> (Wocke)			

Species	Probable year of first record as a resident, where known	Site first recorded (Vice-county)	Foodplant(s)
<i>Monochlora niphognatha</i> Gozmány	1984	Stodmarsh (15)	?Amphibious Bistort <i>Persicaria amphibia</i>
Cypress Carpet <i>Thera cupressata</i> (Geyer)	1984	West Sussex (13)	Monterey Cypress <i>Cupressus macrocarpa</i> and Cypress <i>Cupressocyparis x leylandii</i>
<i>Gelechia senticetella</i> (Staudinger)	1988	Grays (18)	Juniper <i>Juniperus</i> spp., Cyresses <i>Cupressocyparis</i> and <i>Chamaecyparis</i>
<i>Phyllonorycter leucographella</i> (Zeller)	1989	Wickford (18)	Firethorn <i>Pyraucantha</i>
<i>Phyllonorycter platani</i> (Staudinger)	1990	South Kensington (21)	London Plane <i>Platanus x hispanica</i>
Channel Islands Pug <i>Eupithecia ultimaria</i> Boisduval	1990	Walberton (13)	Tamarisk <i>Tamarix gallica</i>
Bloxworth Snout <i>Hypena obsitalis</i> (Hübner)	1990	Torquay (3)	Pellitory <i>Parietaria judaica</i>
<i>Sciota adelpella</i> (Fischer von Röslerstamm)	1992	Dungeness & Greatstone (15)	White Willow <i>Salix alba</i>
<i>Cochylis mollicauda</i> Zeller	1993	Portland (9)	Bristly Oxtongue <i>Picris echioides</i>
<i>Evergestis limbata</i> (Linnaeus)	1993	Chale Green (10)	Garlic Mustard <i>Alliaria petiolata</i> & Hedge Mustard <i>Sisymbrium officinale</i>
<i>Diorcytria sylvestrella</i> (Ratzeburg)	1995	Reindene Wood (15)	Scot's Pine <i>Pinus sylvestris</i> and other <i>Pinus</i> spp., White Spruce <i>Picea glauca</i>
Blair's Wainscot <i>Sedina buettneri</i> (Hering)	1996	(9)	Lesser Pond-sedge <i>Carex acutiformis</i>
<i>Argyresthia cupressella</i> Walsingham	1997	Ufford (25)	Cyresses <i>Cupressocyparis leylandii</i> and <i>Chamaecyparis lawsoniana</i> , Juniper <i>Juniperus scopulorum</i>
<i>Argyresthia trifasciata</i> Staudinger	1997	Cheadle (58)	Juniper <i>Juniperus</i> spp., Cedar <i>Thuja</i> spp. and Cyresses <i>Chamaecyparis</i> spp. or <i>Cupressocyparis leylandii</i>
<i>Vindula biviella</i> (Zeller)	1997	Lydd (15)	Pine <i>Pinus</i>
Small Ranunculus <i>Hecatera dysodea</i> (IDenis & Schiffermüller)	1997	Gravesend (16)	Wild and cultivated Lettuce <i>Lactuca</i> spp.
<i>Eucosma metzneriana</i> (Treitschke)	1998	Wilmington (16)*	Wormwood <i>Artemisia absinthium</i> and Mugwort <i>A. vulgare</i>
<i>Hämibaclia cicatricella</i> (Hübner)	1999	Dungeness (15)**	Common Club-rush <i>Scirpus lacustris</i>

Notes:

* This species has been noted as the occasional singleton prior to this date, but is not thought to have become established in Britain until 1998.

** This species may not be established, but it was also noted in the general area in 2000 and 2001.

Appendix 2: Lepidoptera species considered extinct (or with no recent record) from 1900 to 1999

Note: Four species, indicated by a dagger (†), have very few records in this country and their status is open to question.

Species	Date of last record	Site of last record	Foodplant(s)
<i>Lyoneia prunifoliella</i> (Hübner)	ca1900	Stony Stratford (24) and/or Whittlebury Forest (32) and/or Boughton (37)	Various rosaceous shrubs and trees, including Blackthorn <i>Prunus spinosa</i> and Hawthorn <i>Crataegus</i> spp.
<i>Archips betulana</i> (Hübner)	ca1900	near King's Lynn (28)	Bog Myrtle <i>Myrica gale</i>
<i>Cosmopterix schmidtiella</i> Frey	1901	Shalbourne (8)	Bush vetch <i>Vicia sepium</i>
Mazarine Blue	1903	nr. Epworth (54)	possibly Red Clover <i>Trifolium pratense</i>
<i>Polyommatus semiargus</i> (Rottemburg)	1906	Moulsecoomb (14)	Common Rock-rose <i>Helianthemum nummularium</i>
<i>Mesophleps silacella</i> (Hübner)	1907	Wennington Wood (31)	Wide variety of wild and cultivated trees, there is a suggestion that the British race was biotypically distinct being associated with Bog Myrtle <i>Myrica gale</i> and Creeping Willow <i>Salix repens</i>
Gypsy Moth <i>Lymantria dispar</i> (Linnaeus)			Aspen <i>Populus tremula</i>
<i>Gypsonoma nitidulana</i> (Lienig & Zeller)	1908	Aviemore (95)	?Wild Thyme <i>Thymus polytrichus</i>
† <i>Gnorimoschema strelicella</i> (Herrich-Schäffer)	1909	Stoke Edith Wood (36)	Wild Service Tree <i>Sorbus terminalis</i>
<i>Stigmella torninalis</i> (Wood)	ca1910		
Scarce Dagger			
<i>Acronicta aurricoma</i> (Denis & Schiffermüller)	1912	Abbots Wood (14)	Oak <i>Quercus</i> spp.
<i>Pristeroqantha penthinana</i> (Guenée)	1914	Lake Windermere (69)	Touch-me-not <i>Impatiens noli-tangere</i>
Frosted Yellow <i>Isturgia limbaria</i> (Fabricius)	1914	East Anglia	Broom <i>Cytisus scoparius</i>
Orache <i>Trachea atriplex</i> (Linnaeus)	ca1915	near Stowmarket (25 or 26)	Orache <i>Atriplex</i> spp., Goosefoot <i>Chenopodium</i> spp., Pale Persicaria <i>Polygonum lapathifolium</i>
Flame Brocade <i>Trigonophora flammaea</i> (Esper)	ca1919	Chaitley (14)	Possibly low-growing plants
Union Rustic <i>Eremobina pabulatricula</i> (Brahm)	1919	border of Lincolnshire and Nottinghamshire	Woodland grasses
<i>Phitheochroa schreibersiana</i> (Frölich)	1920	Wicken Fen (29)	Elm <i>Ulmus</i> spp., Black Poplar <i>Populus nigra</i> and Bird Cherry <i>Prunus padus</i>
<i>Depressaria discipunctella</i> Herrich-Schäffer	1924	Tubney (22)	Hogweed <i>Heracleum sphondylium</i> , Wild Parsnip <i>Pastinaca sativa</i> and Wild Angelica <i>Angelica sylvestris</i>
Dusky Clearwing <i>Parathrene tabaniformis</i> (Rottemburg)	1924	Tubney (22)	Poplar <i>Populus</i> spp.

Species	Date of last record	Site of last record	Foodplant(s)
Black-veined White <i>Aporia crataegi</i> (Linnaeus)	ca 1925	(15 & 37)	Blackthorn <i>Prunus spinosa</i> , Plum <i>P. domestica</i> , Hawthorn <i>Crataegus</i> spp. and Apple <i>Malus</i> spp.
<i>Psamatocrita osseella</i> (Stainton)	1926	Cranham (33)	Unknown
† <i>Scrobipalpula diffluella</i> (Frey)	1926	<i>Erith Marshes</i> (16)	? <i>Blue Fleabane</i> <i>Erigeron acer</i>
New Forest Burnet <i>Zygaena viciae ytenensis</i> Briggs	1927	New Forest (11)	Meadow Vetchling <i>Lathyrus pratensis</i> and Common Bird's foot Trefoil <i>Lotus corniculatus</i>
Small Ranunculus	Late 1920s	Whittlesey (29)	Prickly Lettuce <i>Lactuca serriola</i> , Great Lettuce <i>L. virosa</i> , Garden lettuce <i>L. sativa</i>
<i>Hecatera dysodea</i> (Denis & Schiffermüller)	ca 1930	Nettlebed (23)	Hairy Wood-rush <i>Luzula pilosa</i>
<i>Coleophora antennariella</i> Herrich-Schäffer	1931	near Freshwater (10)	Probably low-growing plants
Isle of Wight Wave <i>Idaea humiliata</i> (Hufnagel)	1932	<i>Monks Soham</i> (25)	<i>Rock-rose</i> <i>Helianthemum</i> spp.
† <i>Scythris fuscoanaea</i> (Haworth)	1932 (bred 1933)	St Osyth (18)	Sea Holly <i>Eryngium maritimum</i>
<i>Aethes margaritana</i> (Duponchel)	1932	Plashett Wood, near Lewes and Og's Wood near Eastbourne (14)	Possibly on young leaves of Oak <i>Quercus</i> spp. and Elm <i>Ulmus</i> spp. then low-growing plants (Skinner, 1998)
Red-headed Chestnut <i>Conistra erythrocephala</i> (Denis & Schiffermüller)	1933	Chiddingfold (17)	Blackthorn <i>Prunus spinosa</i>
<i>Dichomeris derasella</i> (Denis & Schiffermüller)	1933	(29 and/or 31)	Hawthorn <i>Crataegus</i> spp. and Blackthorn <i>Prunus spinosa</i>
Marsh Dagger	1934	Dymchurch (15)	Detritus?
<i>Acronicta strigosa</i> (Denis & Schiffermüller)	1935	Wallasey sandhills (58)	Thyme <i>Thymus polytrichus</i>
<i>Teuaga nigripunctella</i> (Haworth)	1938	Hadleigh (18)	Aspen <i>Populus tremula</i>
<i>Pyrausta sanguinalis</i> (Linnaeus)	1944	Bexley (16)	Unknown, but possible rotten wood or lichens
<i>Gibberifera simplana</i> (Fischer von Röslerstamm)	1950s	Aviemore (95)	Aspen <i>Populus tremula</i>
† <i>Stenoptera sinuella</i> (Reutti)	1952	Freshwater Marsh (10)	Lesser Pond-sedge <i>Carex acutiformis</i>
Blair's Wainscot <i>Sedina buetneri</i> (Hering)	ca 1953	nr. Ipswich (25)	Elm <i>Ulmus</i> spp., Sallow and Willow <i>Salix</i> spp.
Large Tortoiseshell	1956	Wimbome (9)	Knotgrass <i>Polygonum aviculare</i>
<i>Nymphalis polychloros</i> (Linnaeus)	1958	Orlestone area (15)	Oak <i>Quercus</i> spp.
<i>Agasma aetatella</i> (Zeller)	1959	Cardiff (41)	Possibly Alder <i>Alnus glutinosa</i>
Lunar Double Stripe	1960	Itchen Valley (12)	Field Scabious <i>Knaantia arvensis</i> and Greater Knapweed <i>Centaurea scabiosa</i>
<i>Minucia lunaris</i> (Denis & Schiffermüller)	1960	Bradwell-on-Sea (18)	Probably on a range of deciduous trees
Conformist <i>Lithophane furcifera suffusa</i> Tutt			
<i>Eurhodope cirrigerella</i> (Zincken)			
Black V Moth <i>Arctornis l-nigrum</i> Müller			

Species	Date of last record	Site of last record	Foodplant(s)
Spotted Sulphur <i>Emmelia trabealis</i> (Scopoli)	1960	Mildenhall (26)	Field Bindweed <i>Convolvulus arvensis</i>
<i>Stenoptilia pneumonanthes</i> (Büttner)	1961	Parley Heath (9)	Marsh Gentian <i>Gentiana pneumonanthes</i>
Lewes Wave <i>Scopula immorata</i> (Linnaeus)	1961	Vert Wood (14)	Probably low-growing plants Skinner (1998)
<i>Choristoneura lafauryana</i> (Ragonot)	1962	near King Lynn (28)	Bog Myrtle <i>Myrica gale</i>
Transparent Burnet <i>Zygaena purpuralis</i> ssp. <i>segonii</i> Tremewan	1962	Abersoch (49)	Wild Thyme <i>Thymus praecox</i>
Feathered Ear			
<i>Pachetra sagittigera britannica</i> Turner	1963	Wye Crown (15)	Various grasses
<i>Oxyptilus pilosellae</i> (Zeller)	1964	Beaconsfield (24)	Mouse-ear Hawkweed <i>Hieracium pilosella</i>
Clifden Nonpareil <i>Catocala fraxini</i> (Linnaeus)	1964	near Hamstreet (15)	Aspen <i>Populus tremula</i>
Small Lappet <i>Phyllodesma ilicifolia</i> (Linnaeus)	1965	Weston-super-Mare (6)	Bilberry <i>Vaccinium myrtillus</i>
<i>Borkhausenia minutella</i> (Linnaeus)	1966*	Chiddingfold (17)	Seeds and dry vegetable matter
Viper's Bugloss <i>Hadena irregularis</i> (Hufnagel)	1968	Breckland, East Anglia	Spanish Catchfly <i>Silene otites</i>
<i>Margaritita sticticalis</i> (Linnaeus)	as late as 1970	Eriswell (26)	Mugwort <i>Artemisia vulgaris</i>
<i>Notharis verbascella</i> (Hübner)	1971	Snettisham Quarry (28)	Hoary Mullein <i>Verbascum pulverulentum</i>
Bond's Wainscot <i>Chortodes morrisii bondii</i> (Knaggs)	1973	Folkestone (15)	Tall fescue <i>Festuca arundinacea</i>
<i>Euthyponeura stannella</i> (Thunberg)	1976	Dovedale (39)	Orpine <i>Sedum telephium</i>
<i>Cydia leguminiana</i> (Lienig & Zeller)	1976	Wicken Fen (29)	Decaying bark of Elm <i>Ulmus</i> spp.
Lesser Belle <i>Colobochyla salicalis</i> (IDenis & Schiffermüller)	1977	near Hamstreet (15)	Aspen <i>Populus tremula</i> , larvae require young growth of aspen
<i>Hypercallia citrinalis</i> (Scopoli)	1979	Trottscliffe (16)	Milkwort
Large Blue <i>Maculinea arion eutyphroi</i> (Fruhstorfer)	1979	south-east Dartmoor (3)	Wild Thyme <i>Thymus praecox</i> and <i>Myrmica sabuleti</i> ants (early stages)
Cudweed <i>Cucullia gnaphalii occidentalis</i> Boursier	1979	West of Peasmarsh (14)	Goldenrod <i>Solidago virgaurea</i>
<i>Coleophora vibigerella</i> Zeller	1980	Isle of Sheppey (15)	Sea Wormwood <i>Artemisia maritima</i>
<i>Coleophora albella</i> (Thunberg)	1985	Wickwar Woods (34)	Ragged Robin <i>Lychnis flos-cuculi</i>
<i>Syncopacma vinella</i> (Bankes)	1990	Ditchling Common (14)	Dyer's Greenweed <i>Genista tinctoria</i> and Crown-vetch <i>Coronilla varia</i>
Essex Emerald			
<i>Thetidia smaragdaria maritima</i> (Prout)	ca1991	(15)	Sea Wormwood <i>Artemisia maritima</i>

* A possible example of this species was found in 2002 in Kent. Confirmation is awaited (D.J.L. Agassiz pers. comm.)

More on *Cacyreus marshalli* (Butler) (Lep.: Lycaenidae)

Following my earlier note "Colonisation by *Cacyreus marshalli* (Butler) (*Ent. Rec.* 114:91), I am pleased to note the return of this species into our garden in south-west France. The winter 2001/2002 was very dry, but quite severe, with temperatures descending to -12°C . Spring arrived, still dry, with few wild flowers and numbers of butterflies and moths much reduced. However, with a little Spring rain, flowers started to grow and insects to appear. We therefore waited impatiently for the first signs of *C. marshalli* – They did not appear. August came and went and it was the 19th September before we saw the first *C. marshalli*. Two females and one male were seen on Field Scabious *Knautia arvensis* at the side of the lane in front of the garden. The temperatures at this time had stabilized to 28° - 30°C during the daytime.

As in previous years, we did not see any more appearances until 15 October, when there were two females resting on the potted *Pelargonium* plants on the balcony. Apart from seeing them the following day, 16 October, no others were observed during 2002.

So, our fears, that *C. marshalli* might not survive the severe winter temperatures were unfounded, although numbers were drastically reduced. This winter, 2002/2003, temperatures have, as yet, been more spring-like, with 1 to 3 January giving record levels of 17°C , and dry. After three consecutive years of sightings, we hope that *C. marshalli* has become a resident, surviving all types of adverse weather conditions.– M. MARNEY, Graddé, 81140 Campagnac, France.

***Criomorphus williamsi* China (Hem.: Delphacidae) apparently new to Kent**

This small hopper was listed as Notable/Nb by Kirby, 1992 (*A review of the scarce and threatened Hemiptera of Great Britain*. UK Nature Conservation, number 2: JNCC) who named eleven English counties, excluding Kent, from which it had been recorded. He stated "There are no records from coastal areas". On 19.v.2002, I swept a single male of this species (confirmed by Dr M. Wilson) from the pitch and putt area at Barton's Point Coastal Park TQ 938746 (VC 15), Sheerness on the Isle of Sheppey. It is not possible to describe the nature of the exact spot where the specimen was found although the small area contains some brackish ditches and a small tree line planted with hawthorn, sycamore, ash and white poplar. Two other delphacids *Euryusa lineata* (Perris) and *Javesella pellucida* (Fabricius) were present in the same place. When he heard of this discovery Mr John Badmin contacted Dr Herbert Nickel of the Institut für Zoologie und Anthropologie, Goetingen on my behalf. Dr Nickel stated that elsewhere in Europe the species was known only from Moravia, Hungary, middle Russia and northern Germany. In some areas there is an association with the grasses *Poa palustris* and *P. trivialis* and the species has occurred at one site in northern Germany "along a ditch between meadows, close to the water".– LAURENCE CLEMONS, 14 St. John's Avenue, Sittingbourne, Kent ME10 4NE.

***Paralister obscurus* (Kugelann) (Col.: Histeridae) in Devon – a recent record**

In his interesting note concerning the capture of the rare histerid beetle *Paralister obscurus* (Kugelann), Hance (2002, *Coleopterist* **11**(2): 71) gives the most recent confirmed record for the beetle as 1947 from Colyton, Devon, and states that it has not been known consistently from any given area. With this in mind, my own single experience of the beetle may be worth recording. In 1993, I detected a specimen in a mass of pitfall trap material which had been collected in Devon, during an ecological assessment of a farm, by my colleague Colin Plant; no further specimens were found despite five consecutive years of trapping by him along the same pitfall transect. The trap concerned was in position from 30 April to 5 June 1993 at Loynton Farm, near Shillingford, Devon only 40 kilometres north-west of Colyton, suggesting that the beetle is still in this part of Devon despite a gap of fifty years. The specimen was exhibited at the annual exhibition of The British Entomological and Natural History Society for 1994.– ALEX WILLIAMS, 40 Preston Park, Faversham, Kent ME 13 8LN.

What value will individual field naturalists have in insect distribution recording in the future?

The mapping of insect distributions is entirely dependent on the willingness and diligence of field naturalists collecting and passing on data. How the records are transcribed on to maps is rather irrelevant to the objective as long as safeguards are present to minimise the introduction of errors. There is nothing contentious in these statements – or is there? I sense that a change is taking place in the status ascribed to field recorders.

That flagship of atlases *The Millennium Atlas of Butterflies in Britain and Ireland* (2001, by J. Asher *et al*) restricted acknowledgements for the records on which it was based, to organisations and regional coordinators, even though the technology used throughout could easily have generated the names of individual recorders. I presume economics were the justification. When cost and other considerations take precedence over the nurture of the army, the outcome of the next battle becomes less predictable, as many past military commanders have found to their cost. Recorders are human and appreciate being credited for their work. Another item of a similar nature deserves note: a short piece in this journal (*Ent. Rec.* **114**(5): 191) from the four members of the Cheshire Moth Panel reporting two macrolepidopteran species new to Cheshire collected by Ian Landucci. Should not Mr Landucci have been a co-author? He did do most of the work. Maybe these are just *lapsa memoria* and I'm being too cynical – or are they?

The National Biodiversity Network (NBN) will be a linked network of recording centres that will allow the Biological Records Centre to access all distribution records and so fulfil the legal obligation the government signed up to at the Rio Conference and elsewhere. Throughout the consultations leading up to its establishment, we campaigned for, and were assured that, the recorders' moral rights of ownership of their records would be observed and they would be acknowledged whenever records

were used. So much for assurances! The latest issue of *NBN News* (Issue 16, Winter 2002, p4) now informs us that the NBN Trust has developed a framework of legal licences that waives the intellectual property rights of the original recorder and previous data handlers! Oh dear, will we never learn from history? Are recorders such magnanimous slaves that they can be ridden over roughshod? We will have to wait and see, but if the NBN fails do not blame the recorders whose work is its building blocks. They may not like being taken for granted and their contributory role unacknowledged.– KEITH P. BLAND, 35 Charterhall Road, Edinburgh EH9 3HS.

Some recent Suffolk (VC 25 & 26) records of the Pauper Pug *Eupithecia egenaria* H.-S. (Lep: Geometridae)

There has been some recent interest in the entomological literature regarding records of *Eupithecia egenaria* and its possible expansion in range. Steve Nash's article (*Ent. Rec.* **114**: 210-211) covered the first confirmed recording of the species for Oxfordshire and mentions that some new sites in Norfolk, Suffolk and Surrey have been discovered. I thought it might be of interest to briefly detail the recent records of this species in Suffolk that may not have previously appeared in literature.

Site	Vice-county	Grid reference	Recorder(s)	Date
Lackford	VC26	TL9742	J Chainey & J Spence	15.5.1996
Groton Wood	VC26	TL9742	Suffolk Moth Group	15.5.1998
Norton	VC26	TL9566	M Armitage, gen. det. G Martin	13.6.1998
Nowton	VC26	TL8661	S Dumican, R Eley & M Hall	29.5.1999
Nowton	VC26	TL8661	S Dumican, R Eley & M Hall	17.7.1999
Sicklesmere	VC26	TL8869	S Dumican	23.5.2000
Minsmere RSPB Reserve	VC25	TM4567	Suffolk Moth Group	2.6.2002

Small-leaved lime occurs sporadically throughout most of Suffolk, but tends to be more prevalent in the south of the county. Groton Wood is well known locally for its stands of small-leaved lime so it may not be surprising that the species was recorded at this site. In the areas of the Minsmere, Nowton and Sicklesmere records of *E. egenaria* there do not appear to be any stands of small-leaved lime but there are of the common hybrid lime. The Suffolk Moth Group meeting at Minsmere RSPB Reserve meeting on 2 June 2002 was targeted at recording this species. Two m.v. traps were operated in close vicinity to the common hybrid lime trees making up one of the avenues approaching the reserve and several *E. egenaria* were recorded in the two traps. This would appear to lend some small weight to the idea that the species may be utilising common hybrid lime as a foodplant.– TONY PRICHARD, 3 Powling Road, Ipswich, Suffolk IP3 9JR (E-mail: tony.prichard@btinternet.com).

Note on the name *eutyphron*, a subspecies of *Maculinea arion* (L.) (Lep.: Lycaenidae)

This name, as it stands, is unexplained, as pointed out by the late Maitland Emmet (1991. *The Scientific Names of the British Lepidoptera*: 151). However, if one letter (h), be inserted, making it *euthyphron*, it at once becomes intelligible even though, like so many such names, of no entomological bearing. *Euthyphron*, "right-minded", is the title of one of Plato's dialogues, where it is a personal name.— A. A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

A note on the apparent rarity of *Orthoceratium lacustre* (Scopoli) (Dipt.: Dolichopodidae) in Kent

Within the Dolichopodidae, and especially the subfamily Hydrophorinae, may be found some of the most magnificent of British Diptera, one of these being *Orthoceratium lacustre*.

This species has been on the British list since at least the first half of the nineteenth century. Walker (1851. *Insecta Britannica* volume 1) described it under the genus *Hydrophorus* and stated "On waters, both fresh and brackish". Verrall (1905. List of British Dolichopodidae with tables and notes. *Entomologist's Monthly Magazine* 16) included it in the genus *Liancalus* and stated "much rarer than the other species and I only know it from Hampshire, Sussex and Suffolk". Verrall's "other species" was *Liancalus virens* (Scopoli). Fonseca (1978. *Handbooks for the Identification of British Insects* 9(5)), stated that it had been recorded from "Merioneths., Norfolk, Suffolk, Glamorgan, Kent, Dorset, Hants & Sussex. Ireland: Kerry". Falk (1991. *A review of the scarce and threatened flies of Great Britain. Part 1*. Research and Survey in nature conservation, 31) listed its status as Notable, that is, estimated to occur within the range of 16 to 100 modern, 10km grid squares. The proposed supplements to Falk's review were never published although a draft manuscript detailing the scarce and threatened Empidoidea, and written by Mr Roy Crossley in the early 1990s, was made available to interested parties. In this, *Orthoceratium lacustre* was removed from even Notable/Nb status.

Having casually amassed some 3000 records of Dolichopodidae, covering 340 one-kilometre O.S. grid squares and 46 ten-kilometre squares, from most habitat types in Kent during the past two decades, my personal view is that *Orthoceratium lacustre* is highly localised, as exemplified by the following data.

17.vii.1981, Murston, TQ 922646, dry grassland and scrub which had developed on the sites of former gardens and allotments; 8.vi.1982, Murston, TQ 929651, small area of chestnut woodland adjacent to the "Three Lakes" fishing ground; 5.ix.1982, Murston, TQ 925661, adjacent to brackish ditches; 18.vii.1983, Tonge Mill, TQ 932635, in alder carr; 21.vii.1983, Oare Gravel Pits, TR 003623, amongst damp scrub with alders; 14.viii.1983 and 6.vii.1994, Berengrave Lane LNR, TQ 8267, in damp former chalk pit; 16.ix.1983, Murston, TQ 928648, along marshy strip colonised by rushes and alders; 23.x.1983, Swalecliffe, TR 139677, coastal grassland

with saline influence; 27.vi.1984, Darland Banks, TQ 793655, open chalk downland; 5.vii.1987 and 13.vi.1992, Kingsnorth-on-Hoo, TQ 812736, dry coastal grassland and brackish ditches on fly ash from the nearby coal-fired power station; 30.viii.1993, Maiden Lane allotment site Crayford, TQ 526749, damp marshland and scrub beside River Cray; 23.viii.2001, Conyer old brickworks, TQ 962652, swept from poplar beside coastal grassland and scrub; 1.vi.200, 2, Great Chattenden Wood, TQ 747734, damp woodland.

All these localities save for Darland Banks and Great Chattenden Wood may loosely be described as coastal and most contained some standing water at the time of investigation. However, I have never seen the species “on waters” as stated by Walker, in contrast to members of the genus *Hydrophorus*, as currently defined, which are always to be found there. The specimens from dry grassland at Darland Banks and Murston could represent strays, but in the absence of further data on the biology of the species this must remain conjectural.— LAURENCE CLEMONS, 14 St. John’s Avenue, Sittingbourne, Kent ME10 4NE.

Further records of *Tephritis matricariae* (Loew) (Dip.: Tephritidae) in Kent

Since this species was described as new to Britain (Clemons, 2000. *Ent. Rec.* **112**: 225-230) it has been found in three additional sites in East Kent (VC15) and in one site in West Kent (VC16). The records are: Grain sand and gravel works TQ 88787705 (VC16), 7.vii.2001, L. Clemons; Richborough Fort near Ramsgate TR 334614 (VC15), 12.vi.2002, N. F. Heal; Barton’s Point Coastal Park, Sheerness TQ 934747, 30.vi.2002 and TQ 94077470, 1.viii.2002 (VC15), L. Clemons; and Whinless Down, Dover TR2941 (VC15), 14.vii.2002, L. Clemons.

A possible reference to *T. matricariae* in the British Literature was unfortunately overlooked when preparing the original paper. In 1889, E. Brunetti (Notes on Diptera, in 1889. *Entomologist* **23**: 122-126) stated the following: “*Tephritis matricariae*, Lw. One specimen taken by Mr. Hall at Dover, in June, appears to be this species, though the wing-markings do not exactly correspond with Loew’s photographic illustrations. It is not in our British list, though it is fairly common on the Continent, and I should not like to introduce it on the evidence of one rather doubtful specimen”.

It is of interest that *T. matricariae* has now been found on the Isle of Sheppey and the Isle of Grain in north Kent since the previous recent addition to the British tephritid fauna, *Campiglossa malaris* Séguy, was discovered there in 1999 and 2000 respectively, having previously been recorded only from sites in the east of the county.— LAURENCE CLEMONS, 14 St. John’s Avenue, Sittingbourne, Kent ME10 4NE.

***Astiosoma rufifrons* Duda (Dipt.: Asteiidae) in East Kent**

Astiosoma rufifrons was added to the British list by Chandler (1978. A revision of the British Asteiidae (Diptera) including two additions to the British list. *Proc. Trans. British Entomological and Natural History Society* **1978**: 23-34), from specimens taken in Windsor Forest and Old Windsor Wood, Berkshire in 1977. Since then it has

been found in Cambridgeshire, Essex, Somerset and from an additional site in Berkshire (J. W. Ismay, pers. comm.). Much has been made of the association with wood ash.

During the early evening of 18.viii.2002 I swept a single female of this species from around a patch of burnt wood ash at Tyler Hill Meadow near Canterbury, O.S. grid reference TR 137611. As the ash was still warm the fire was assumed to have been started the previous day, but it was not possible to discern the material from which it had been made. The site consists of 2.1 acres of unimproved/semi improved neutral grassland, bramble and mixed willow/hawthorn scrub and oak woodland.—LAURENCE CLEMONS, 14 St. John's Avenue, Sittingbourne, Kent ME10 4NE.

***Hydriomena furcata* Thun.(Lep. Geometridae): Melanism in north-west Kent and elsewhere**

Kettlewell (1973. *The Evolution of Melanism*), mentions two melanic forms of *Hydriomena furcata*, the July Highflier – the black ab. *nigra* Hackray for Yorkshire and the London area and ab. *obscura* Peyer, a non-industrial melanic occurring in the Highlands of Scotland and south-west Ireland but an industrial melanic in Lancashire and Yorkshire, described as unicolorous fuscous, or nearly so.

It is this form, presumably as an industrial melanic, that has dominated the *furcata* population here at Dartford. Although Kettlewell mentions ab. *nigra* in the context of London, and not *obscura*, and even though some *furcata* here have appeared blackish when freshly emerged, they have not possessed the dark hind wings of *nigra*.

The *H. furcata* that have been regular visitors to my garden MV light have been of the sallow feeding race, and although from 1969 until 1978 they occurred only in single figures annually, subsequently they increased to between twenty and thirty. For twenty years from 1969, all examples were ab. *obscura*. Then, in 1988, the sequence was broken with the arrival of an example of an ab. *goodsoni* Cockayne, a greenish form with prominent, wide dark bands. It is a form figured in Barrett (1902. *The Lepidoptera of the British Islands*, VIII, fig. 1f.), which appears to have a wide distribution as I have almost identical specimens from Rinnamona, Co. Clare. The next non-melanic example was noted in 1996, an ab. *sordidata* Fabr., greenish with dark, narrow bands, resembling the type form but with green replacing the cinereous ground colour. This form appears to be slowly replacing a proportion of the melanic *obscura* in an irregular pattern, doubtless due to the small samples each year; in 2002 melanics remain dominant at over 75%, and all non-melanics since 1996 have been ab. *sordidata*. Thus there has not been the spectacular decline in melanism as seen with *H. impluviata* D. & S. (*coerulata* Fabr.) here (West, 1992. *Ent. Rec.* **104**: 329).

North-west Kent is fortunate in being a region covered by two very good comprehensive works on the Lepidoptera. Chalmers-Hunt (1971. *The Butterflies and Moths of Kent*, suppt. to *Ent. Rec.*), mentions neither ab. *obscura* nor ab. *nigra*, and these forms are not included in his list of aberrations from Kent in the National Collection. Plant (1993. *The Larger Moths of the London Area*. LNHS) also makes no mention of melanism in this species.

The aberration *obscura* is not confined as a melanic in north-west Kent; my series of *furcata* from Orlestone Forest in rural East Kent contains one specimen of this form

dated 17.vii.1963, suggesting that it might be much more widespread than Kettlewell supposed. If this be so, *furcata* may retain a residue of ab. *obscura* in north-west Kent as appears to be happening with *Acronicta rumicis* L. and its melanic form *salicis* Curtis.

Chalmers-Hunt (*op. cit.*) notes that ab. *sordidata* from extreme north-west Kent is very well represented in the National Collection with specimens caught in the late 19th and early 20th centuries, so it is not surprising that it should be this form to replace the melanic *obscura*, partially or completely, in the future. That the National Collection should possess many specimens of *sordidata* from north-west Kent, taken as late as the early 20th century, suggests, particularly in the absence of any melanics, that melanism was a comparatively late event. In the 1960s and 1970s, ab *sordidata* was the prevalent form in Orlestone Woods.

According to Kettlewell (*op. cit.*), ab. *obscura* occurs as a non-industrial melanic in south-west Ireland and the Highlands of Scotland. However, was this reference to the willow *Salix*- feeding race or to the smaller heather *Calluna*-feeding or bilberry *Vaccinium*-feeding race, or to both? I cannot comment on the *furcata* of south-west Ireland, but Co. Clare to the north has a coast which one might expect to have the climatic features associated with Kettlewell's Western Coastline Melanism. However, my series of *furcata* from the coast at Panore and further inland at Rinnamona show no indication of its presence; the larvae would have probably fed on willow or hazel *Corylus*. Contrary to expectation, quite bright and well marked specimens seem to dominate the populations, with *sordidata* and typical specimens being the most frequent, but most surprising is the high incidence of such striking forms as ab. *goodsoni*. Another of these is ab. *constricta* Strand which has a prominent, broad, pale median band divided into anterior and posterior halves; my specimens of this form have in addition a white sub-basal fascia.

In the Highlands of Scotland, ab. *obscura* is presumably of the high latitude/high altitude type of melanism, but my experience of it has been largely restricted to the smaller heather or bilberry race. In early August 1976, I found *H. furcata* abundant on the mountains of Arran, and obtained a long series off the heather at Gnoc a Chapuill. About 90% were melanics, ab. *obscura*, darker (blackier or very dark brown) than Kentish specimens. However, the population contains a sprinkling of typical specimens and ab. *sordidata*, but more commonly what might be termed sub-varieties of the melanic *obscura*. These include ab. *fasciata* Nitsche, having a narrow, but distinct whitish median fascia, and the more familiar ab. *albipunctata* Nitsche, with a pale submarginal spot at the midpoint of the termen, a feature which seems to occur to some degree in most *furcata* populations. Regarding the mainland of Scotland I can only comment that bilberry/heather feeding race specimens at Dunblane, Perthshire, a lowland situation, give a large proportion of typical specimens and ab. *sordidata*, and few melanics.

The north-west Kent populations of *H. furcata*, and those of several other localities I have visited, have revealed some interesting information, but as is usual questions are left open. Thus, is the heather/bilberry race in the central Highlands of Scotland and the Southern Uplands mainly of f. *obscura*, and allied forms, and to what extent do melanics prevail in the willow-feeding race there?— B. K. WEST, 36 Briar Road, Dartford, Kent DA5 2HN.

***Gnophomyia viridipennis* (Gimmerthal) (Dip.: Limoniidae) in Kent – rare or simply under-recorded?**

For some years I have, with the assistance of Mr A. Stubbs, been collating data on the crane flies (Tipuloidea) of Kent and at the time of writing over 6000 records of 195 species have been ascertained. Until this year just two records of *Gnophomyia viridipennis* were known - 27.vi.1966 Pond Wood, Petts Wood TQ 4369 (VC 16), P. J. Chandler and 24.viii.1988 Ashenbank Wood TQ 6769 (VC16), A. Godfrey.

Falk (1991. *A review of the scarce and threatened flies of Great Britain, Part 1*. Research and Survey in nature conservation number 39. NCC), listed the species as Notable, that is, estimated to occur within the range of 16 to 100 modern 10km grid squares, although as only 15 post-1960 sites were known to him prior to the publication of this work it must have deserved at least Notable A status until the late 1980s. All that was said of its distribution was "Records scattered widely in England as far north as Durham, with a strong southerly bias" and "not infrequent around the outskirts of London".

On 8.vi.2002, Mr Norman Heal presented me with a single male obtained by beating the lower branches of a Lombardy Poplar *Populus nigra* "Italica" as we were recording together at No Man's Orchard, Chartham Hatch, VC 15, TR 108573) and a few minutes later I swept another male from the same line of trees. A month later, on 8.vii.2002, I observed a female in the sweep net of one of my students as we were conducting a ladybird survey in the grounds of St. Anselm's Catholic School, Canterbury (VC15, TR 162561) and the following day yet another female was swept from the same locality. The school grounds are bordered by a range of trees and shrubs including, again, Lombardy Poplar.

Larvae of *Gnophomyia viridipennis* largely develop beneath the bark of trees with those of the Salicaceae seemingly being preferred and Falk (*op.cit.*) stated that they occur in recently fallen trees. How an insect can distinguish a recently fallen tree from a fallen branch or even from a standing specimen which has in some way been damaged is somewhat philosophical, but the poplars at both latter sites were all standing with those at No Man's Orchard having been "topped". There is, of course, no shortage of Lombardy Poplar in the Kent countryside and as the tree is often a productive source of Diptera in otherwise barren agricultural land it usually receives my attention. It is possible, or even probable, that the apparent difficulty in finding adults of *Gnophomyia viridipennis* is, again, simply due to the recorder not being in the right place and at the right time.— LAURENCE CLEMONS, 14 St. John's Avenue, Sittingbourne, Kent ME10 4NE.

Hazards of butterfly collecting.

Butterflies at boarding school in Denmark, 1958-1962

In 1958, at the age of 14, I was exported to boarding school in Denmark. School started in mid-August and I knew there was not much time to find my "butterfly feet" before the season closed down. But there were a number of quite varied localities within biking distance from Haslev, the town in south-central Zealand where my school was located.

After seven years in India, most of what I had read about the Danish butterflies made the fauna look rather tame in comparison. However, the autumn of 1958 was a superb year for Vanessini and every *Buddleia* in town was plastered with Small Tortoiseshells *Aglais urticae*, the Peacock *Inachis io*, Red Admirals *Vanessa atalanta* and even a few Painted Ladies *Vanessa cardui*. I still think the Peacock is one of the most beautiful butterflies anywhere. I also found some lovely meadows bordering untidy woods where large numbers of Fritillaries *Argynnis* sp., patrolled or disported themselves on the flowers; in some places the Silver-Washed Fritillary *A. paphia* was common, with a good sprinkling of the dark female form. I visited several sites, especially small open bogs, which looked very promising for spring. I also found the autumn morph of the Map Butterfly *Araschnia levana*, a species I had never seen before. My final capture of that year was the Brown Hairstreak *Thecla betulae*, hiding in a hedgerow and which I was not destined to see again in Denmark – probably my fault and not that of the butterfly.

Come spring, several of the localities surveyed last year turned out to be interesting. One was Munke Mose, a small bog complete with sundew and other bog plants; here I found my only Danish colony of the False Heath Fritillary *Melitaea diamina* Lang and my only Cranberry Blue *Vacciniina optilete* Knoch. *M. diamina* was quite common and evidently associated with luxurious stands of a *Melanopyrum*, growing along a hedge of irregularly coppiced hazels; it is an extremely localized and generally scarce butterfly in Denmark. I saw more than 50 every year and took a few for my collection. *V. optilete* I saw just that once, trying three summers in a row to find it on the plentiful cranberries in the bog.

The second notable locality was called Stoksbjerg, a sandy hill suddenly plumped down on the lush landscape of Central Zealand. Plumped down is literally true; it had been the bottom of a lake in the Pleistocene ice that covered Denmark several times in the not so distant past. It was heather-clad with some newly planted firs, but part of the hill was subject to small-scale quarrying of sand and gravel. This was the only place in the area where I found the following three interesting butterflies: Purple-Edged Copper *Lycaena hippothoe* L., Idas Blue *Lycaeides idas* L. and Little Blue *Cupido minivus* Fuessly. There were many other more common species. The first two are both very local, though quite widely distributed, while the Little Blue is found in most places with sand and gravel, which support their host plants.

I left school in summer 1961, but in 1971 I married a girl from Haslev and we had annual holidays there. So after ten years I came back to Munke Mose and Stoksbjerg. Both had been protected as sites of scientific interest around the time of my departure from Haslev. *M. diamina* had gone extinct, the reason almost certainly being that the thinning of shade trees for the hazels had stopped; the *Melanopyrum* now grew lushly in dense shade and the caterpillars would not get enough direct sunlight for their development, nor the hazels for developing fresh nuts. The species went extinct throughout Denmark during the 1980s. *V. optilete* remained absent, for no obvious reason since the bog still had open areas with plenty of cranberry. Since being nominated as a protected area, quarrying had stopped at Stoksbjerg and the host plants of *C. hippothoe*, *L. idas* and *C. minivus* had been choked by knee-height grass, so all three were missing.

Many butterflies, not least at the edges of their main ranges, live in transitional habitats which are maintained by human intervention. In the cases mentioned the butterflies almost certainly disappeared because such intervention ceased. However, the main example of extinction in Denmark was that of the Clouded Apollo *Parnassius muemosyne* L., a case that is not well known outside of Denmark. It is here at the edge of its ecological range, with warm, damp winters but it was locally common during the 19th century. In the 1920s, there was an increasing loss of colonies, which was accelerated during the 1940s. From 1941, it was only found in Jægerspris Nordskov, where it died out in 1961. The reason again was misconceived conservation measures – cutting of beech forest and grazing by cows were stopped, but the host plants grew in the clearings and were aided in their growth by grazing of competing vegetation.

There have been about twelve extinctions of established butterflies in Denmark this century, most of them between 1940 and 1980, And many others are in precipitous decline, including most of the Argynnini and Melitaeini. Just two have fully established themselves: The Speckled Wood *Pararge aegeria* L. expanded into all of eastern Denmark between the first record in 1891 and now. Since first recorded in 1881, the Map Butterfly *Araschnia levana* has colonized all of Zealand, southern Funen, and is beginning to establish itself in eastern Jutland.

The extinction process must consist of hundreds or thousands episodes like those I witnessed. My observations are very poorly documented, but unfortunately very few local extinctions are documented apart from a terse note: “Not seen in the locality since 1985.”– TORBEN B. LARSEN, Bangladesh, World Bank, 1818 H. Street N. W., Washington D.C., 20433, USA (E-mail: torbenlarsen@compuserve.com).

SUBSCRIBER NOTICE

List of Middlesex microlepidoptera now available

I have a limited number of spare reprints of my list of Middlesex (VC 21) microlepidoptera, which was published in the November 2002 volume of *The London Naturalist*. I am prepared to supply copies free of charge to anyone who may find it useful. The paper is unbound on A5 pages. If you want a copy, please send me a self-addressed envelope of appropriate dimensions, pre-stamped to cover the weight range 100-150 grams (currently 57p first class and 44p second class) and marked clearly with the words “Middx List”. I will place one copy in the envelope and post it back to you. I will not add extra stamps or enter into correspondence – if you wish to communicate with me on other matters please feel free to do so separately.– COLIN W. PLANT, 14 West Road, Bishops Stortford, Hertfordshire CM23 3QP.

THE BUTTERFLY FAUNA OF CENTRAL ARIÈGE, PYRENEES, FRANCE IN THE 1920s AND 2002

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Abstract

The butterfly fauna of two Ariège (French Pyrenees) communes was studied during 2002 and data compared with similar surveys carried out in the 1920s. With the exception of the genus *Pyrgus* (where identification problems are severe) 95 species were found in the 1920s. Recent surveys have refound all these, either in the two communes or close by, and added a further 12 species. *Carterocephalus palaemon*, *Heteropterus morpheus* and *Araschnia levana* have colonised the area since the 1920s: an extension of range that appears to be due to an increase in open woodland habitats following partial abandonment of farming. *Pyrononia tithonus* has reached higher altitudes, presumably a consequence of climatic changes. Over recent decades, abandonment of some farmland, and continuation of traditional farming elsewhere (combined with more intensive searching for localised species), has resulted in a very diverse known butterfly fauna in Ariège. In the last few years, farming methods have started to intensify (despite the local economy being mainly reliant on green tourism). This diverse fauna is now in danger.

Introduction

The Pyrenees have a diverse butterfly fauna: in France, second only to the Alps in number of resident species. Rondou (1902) produced the first catalogue for the French half of the Pyrenees and at the time the department of Ariège was by far the least well recorded. Rondou could locate only a few casual records from studies centred in other departments.

By the late 1920s the species list for Ariège had grown substantially, due almost entirely to the studies of Fassnidge (1926) who spent the month of August 1925 collecting butterflies and moths in the commune of Auzat and Nabokoff [as Nabokov then spelt his name] (1931) who stayed in the commune of Saurat, (a few kilometres to the north of Auzat) from late April to late June 1929.

In the second edition of his catalogue (1932) Rondou included the results from Fassnidge and commented on how much they contributed to filling the “Ariège Gap”: “The explorations of Ph. Henriot in Ariège in 1919 ... and of Mr Fassnidge in 1925 ... have filled the gap that we deplored in the first edition” [my translation from Rondou’s preface written 15 February 1932]. Henriot seems never to have published his Ariège studies and I know of them only from the very limited amount of information given by Rondou. Although Nabokov’s work was published by the time Rondou was completing his second edition, he seems not to have been aware of the study: he includes no records from Nabokov even in the supplement to the catalogue published in 1935.

In 1990, Willien and Essayen, published 10-kilometre distribution maps for the whole of France for the Satyridae. These added a number of (mainly high altitude) species to the Ariège list, but Willien still commented that his study shows “once

again, the gap, already pointed out several times, in the central Pyrenees (principally Ariège) where one can be certain that the Pyrenean *Erebia* exist" [my translation]. In recent years Graham Hart and I have been studying the butterfly fauna of Ariège with a view to publishing an up to date fauna for the department. In this paper I am concerned solely with comparing the butterfly fauna of Auzat and Saurat in the 1920s with that of today. These are the only two regions where such a comparison is possible.

Since the 1920s studies were both published in English journals (one of them in this journal) and the Ariège is becoming an increasingly popular destination for visits by butterfly enthusiasts from the Rhopaloceran desert of Britain, it seems appropriate to publish in a British journal.

The Nabokov study

Vladimir Nabokov was a lepidopterist throughout his life. As a boy in a privileged family in Russia he collected butterflies in the St Petersburg area (Nabokov, 1951). After the 1918 revolution he became part of the Russian refugee community in Berlin making a precarious living as a writer and teacher. The sale of the German translation and serialisation rights of his second published novel [later published in English as *King, Queen, Knave*] produced enough to repay his debts and encourage him to quit his job to take a four-month collecting trip to the Pyrenees with his wife (Boyd, 1990). The first six weeks were spent in the Pyrenees Orientales where the cold spring winds eventually persuaded him to leave for Saurat in Ariège. His stay in Saurat began, on 24 April 1929 [the day after his 30th birthday] at a hotel that he found inadequate mainly because of its low-quality toilet arrangements. This was presumably the Hotel du Commerce which still stands in the main street, but it no longer functions as a hotel. The main part of his stay was in rented rooms above a shop. He was young and fit enough to spend most fine days exploring the valley on foot, collecting in the "luscious meadows near the village" as well as climbing to the Col du Port and Carlong. He spent evenings moth hunting and still found time to write most of a novel [later translated into English as *The Defense*] which is widely recognised today as his first literary masterpiece (Boyd, 1990).

Nabokov's only publication on his studies in Ariège was published in the *Entomologist*. Although his stay in Pyrenees Orientales features in his autobiography there is scarcely a mention of Ariège. The *Entomologist* paper lists the species found, in date order of first sightings, giving brief indications of locality or relative abundance in some cases. The paper contains no reference list, the only mention of a publication is Oberthür's description of *Melitaea vernetensis* (Oberthür, 1909) to which Nabokov did not have access and so had some difficulty with the certain identification of some specimens. He had only some "later – and very short – descriptions, with which my specimens seem to agree". These short descriptions may have been those in the then current French checklist (Lhomme, 1923) although the nomenclature Nabokov used in his paper does not agree consistently with that in Lhomme nor with that in any other standard text available at the time that I have found.

Nabokov returned to Berlin at the end of June 1929 with “a splendid collection of butterflies” (Boyd, 1990). These specimens he was able to compare with those in the entomological collections in the Entomological Institute, Dahlem and the Natural Science Museum, Berlin. His collection later travelled with him when he escaped Germany for Paris in 1938, but was lost during the upheavals of the Second World War (Nabokov, 1951).

The Fassnidge 1925 study

William Fassnidge was a francophile teacher of modern languages who spent many of his summer vacations in Europe studying Lepidoptera. He appears to have chosen Auzat deliberately as an unexplored region that might produce exciting finds “our high hopes were not fulfilled, yet we spent a very pleasant holiday among a kindly people” (Fassnidge, 1926). He had read Rondou’s first catalogue and knew of the gap in the Ariège records. He arrived, with his collecting companion Mr A. E. Burras, by electric tramway from Tarascon station. It is still possible to travel by train from England to Tarascon but the electric tramway to Auzat has long since disappeared. The two friends stayed mostly at the Hotel Denjean, expressing pleasant surprise at the up-to-date bathroom. This hotel is still the main Auzat hotel and restaurant, I have enjoyed meals there but have not put its bathrooms to the test. Fassnidge was 37 years old in 1925. During his stay in Auzat all his entomological work was done on foot: “only rough tracks lead further up the valleys and any long excursion is a toilsome business”. None the less, he reached a range of habitats including up to 5500ft [1650m] in altitude. It seems that he did not explore the very high altitude habitats at the limits of the commune, near its borders with Andorra and Spain.

Fassnidge’s paper is a model of what such a collecting report should be. The checklist is taxonomically arranged, using the nomenclature standardised to that in “the catalogue of Staudinger and Rebel, 1901, so that reference to Monsieur Rondou’s catalogue is facilitated”. The body of the paper gives some descriptions of the valley and its habitats, specifies the map used for place names, and includes information on the places where localised and interesting species were found. All this woven into an interesting holiday narrative.

Fassnidge’s collection (many moths as well as the butterflies) was taken back to London where H. J. Turner, A. F. Hemming and the entomological staff at the British Museum helped with identifications.

The Fassnidge collection

On his death, the Fassnidge collection of macrolepidoptera passed to the British Museum (Natural History). Most of his butterflies remain in the drawers to which they were transferred when bought by the museum from his widow. These I have examined (but not dissected to examine the genitalia of difficult species). All the lycaenids and maybe some other specimens have been incorporated in the main collection and I have yet to locate these.

The specimens I have seen agree with those reported in his paper. I was, however, surprised to discover that many specimens from Auzat were dated August 1927 and these included a fritillary labelled (on the pin) "*M. pseudathalia?* AFH" [i.e. *Melitaea athalia celadusa* – a determination that appears correct to me]. Fasnidge had originally reported some of his 1925 specimens as *M. athalia* and then corrected this in the light of examination of the specimens by Capt A.F. Hemming who assigned them to "*M. dictynna*, Esp., race *vernetensis*, Obthr., and to *M. deione*, Hb.". These specimens are in the collection and it is evident that Hemming made genitalia examinations although his preparations are not part of the extant collection. The collection also includes four *Boloria pales* from Auzat dated 4 August 1927. This is also a species not reported from his 1925 visit.

Thus it seems that Fasnidge made a second visit to Auzat two years after the 1925 study. I can find no trace of any publication resulting from this visit. His diaries/log books in the possession of the Natural History Museum (London) cover only his entomological work in England. "Left for France" and "Returned from France" mark the start and end of the long vacations in both 1925 and 1927. Such a methodical man would surely have kept special diaries during his work in France. There is a large collection of his papers at the museum which I have yet to examine. Meanwhile, from his specimens, it is clear that he spent the summer of 1926 in the high Pyrenees, well to the west of Ariège and in the area where Rondou lived. They probably met. Rondou certainly had a copy of the 1926 paper when he prepared his 1932 edition of the catalogue. But Rondou did not indicate that he knew of Fasnidge's second visit! Some detective work still remains to be done on the history of Fasnidge's work in the Pyrenees.

The present study

Since 1985 I have made frequent visits to Ariège and made butterfly surveys in most parts of the Department. These included several single-day visits to Saurat and Auzat in the 1990s. In addition, Graham Hart, now resident in Ariège, made several visits to these communes from the late 1990s onwards. During 2002, we focused our attention on these two communes, endeavouring to make visits to a wide range of habitats within each commune at the same seasons in which they were surveyed by Fasnidge and Nabokov. We visited all the habitats specifically mentioned in the Fasnidge and Nabokov studies plus a range of others which we believe they are likely to have visited. In the case of "Roc des Yregges" mentioned by Nabokov, we have been unable to locate the place name on either old or current maps but from Nabokov's description it is assumed to be the 908m high peak half a kilometre due north of Saurat village. The total number of man-days spent collecting in the two communes was much less than the time available to Fasnidge and Nabokov during their stays. We were also a little older than the 1920s collectors, but the availability of motor transport enabled us to visit a wide-range of habitats more quickly.

Our survey objective was to establish which species found in the 1920s could be confirmed as still present in the valleys. For this purpose, we included records made

at any season, not just during the months when the 1920s surveys were made. In addition we wished to establish which species could be added to the lists from the 1920s: for this purpose we included only species found during the same time of year as the 1920s surveys (very late July to end of August in Auzat, late April to late June in Saurat).

In the results table we have used the nomenclature given in the current standard French field-guide (Lafranchis, 2000). In general we did not collect voucher specimens (except for a few *Pyrgus* species: see below). We were satisfied that we can identify most other species alive when netted and examined closely (but see the comments on *Erebia* “*tyndarus*” group and *Leptidea* spp below). For *Hipparchia* and *Melitaea/Melicta* fritillaries genitalia examination of the males was used in the field (with live butterflies) by gentle pressure on the sides of the abdomen, which enables examination of the key features with a hand-lens.

Leptidia reali and *L. sinapis* (sensu stricto) are both now known to occur in Ariège (Mazel & Leestmans, 1996 & 1999): these can only be separated by examination of dead specimens and this was not done for this study. Only one *Leptidea* specimen from Auzat survives in the Fassnidge collection. The genitalia have yet to be examined. In the present paper, both the records from the early and recent studies are *Leptidea sinapis* (sensu lato).

The *Pyrgus* problem

The genus *Pyrgus* is the only taxon of Ariège butterflies where both I and my colleague Graham Hart frequently have great difficulty in arriving at an identification of which we are confident. This despite using the keys in Lafranchis, supplemented by the more detailed (genitalia-based) keys in Guillaumin (1964 & 1966). Also, many specimens have evaded the net or not been consigned to the killing bottle. Although both Fassnidge and Nabokov explained the difficulties they had identifying the *Melicta/Melitaea* fritillaries, they made no comment about doubts relating to the *Pyrgus* species they found. I find this surprising.

Nabokov reported *malvoides*, *armoricanus*, *serratulae* and *onopordi*. There are no extant specimens and the record of *onopordi* is the only one from Ariège (and there is, according to Lafranchis (2000), no confirmed recent record from anywhere in the Pyrenees). On the other hand, there are several records of *P. onopordi* in the Pyrenees early in the 20th century and few people have looked seriously for it since. Rondou (1932) records *onopordi* for Ariège on the authority of Fassnidge, but Fassnidge does not report the species in his paper and, as yet, I have found no specimen in his collection.

The Fassnidge paper reported *alveus*, *serratulae*, *cirsii* and *carthami*. His collection reveals that he had doubts and difficulties not expressed in his paper. There are two specimens labelled *foulquieri* (one 1925, one 1927), a species he did not include in his published list. Two other specimens carry a label reading: “? *Alveus* teste WF, *fritillum* teste WPL some *carlinae* characters. They are intermediates”. I know just how he felt!

Until such time as the ecology and taxonomy of the Pyrenean *Pyrgus* populations have had some study (and the Fassnidge specimens examined closely) it seems that the safest course is to exclude the genus *Pyrgus* from further discussion.

Survival of the 1920s' fauna to the present time

Almost all the species found in the 1920s have been confirmed as still existing in the habitats or valley regions where they were originally found (see Appendix). Of the species not refound in the present survey all are known to be present in nearby Ariège communes and are much more likely to be absent from the present survey list because of insufficient surveying than through real absence. The current situation for all species not confirmed as still present is discussed below. While it is reasonable to predict that all the species known to Fassnidge and Nabokov still inhabit the same communes, we have no way of knowing whether the species are as abundant now as was once the case. The general abundance of butterflies in the two valleys seems very high: not just compared to northern Europe but also compared with the northern part of (lowland) Ariège where farming is more intensive. On the other hand, older residents of the two valleys all state that butterflies are rarer now than in their youth (Graham Hart, pers. comm.). This may be evidence of a genuine reduction in abundance or of the selective memories of the best butterfly days of years gone by.

Surprising absences from the 1920s' records

Fassnidge and Nabokov each failed to report a species that it is almost impossible to believe would not have been seen commonly at the time of their studies. Fassnidge's list does not include *Pieris napi*: today a common butterfly everywhere in Ariège and one which all other reports from the 1920s suggest was common throughout the Pyrenees. That part of his collection so far examined contains a few *P. napi* but none from Auzat. Nabokov found *Vanessa atalanta* in the Pyrenees Orientales but does not mention it in his list of sightings in Ariège. Again this is today a very widespread species, easily found as adult or larva in any part of the Pyrenees below the tree line and all early reports suggest that this was also the case in the 1920s. The least improbable explanation is that these species were actually seen in the 1920s in both valleys and that the omissions from one list in each case were clerical errors.

Changes in the faunal lists due to taxonomic changes since the 1920s

The original names used by Nabokov and Fassnidge are given in the Appendix, together with the current nomenclature used for each species. The current names are those in Lafranchis (2000): the best present guide to the French butterfly fauna. The standard French checklist (Leraut, 1997) was used to relate the names used by Nabokov and Fassnidge to the current taxonomy. In the following cases, splitting of species since the 1920s has occurred and some interpretation of the old records is required:

Leptidea sinapis is now divided into *L. reali* Reissinger and *L. sinapis* (sensu stricto).

As explained above, all records in the Appendix are for *L. sinapis* sensu lato.

Colias hyale is now divided into *C. hyale* (sensu stricto) and *C. alfacariensis*. There are no known confirmed records of *C. hyale* (sensu stricto) from Ariège, so the old records have all been assigned to *C. alfacariensis*.

Erebia tyndarus This name is now reserved for brassy ringlets from the Alps. There are two Pyrenean species accepted today *E. cassiodes* and *E. hispania*. Rondou regarded these as subspecies or forms of *E. tyndarus* and Fassnidge did not state which forms he found. According to Willien (1990) only *E. cassiodes* is known from the relevant area of Ariège. The Fassnidge specimens from Auzat appear all to be *E. cassiodes*. This needs confirmation by someone with more experience of this group of *Erebia* species. The *Erebia tyndarus* group taxonomy has been complicated by Leraut (1997) who has designated the Pyrenean taxa as *E. arvernensis carmenta* and *E. rondoui* ssp *rondoni* & ssp *goya*. This is said to be “in accordance with the remarkable work of Lattes, Mensi, Cassulo & Balletto (1994)” although these authors use neither *arvernensis* nor *carmenta* as a name for any Pyrenean taxon.

Aricia argyronomon. In the 1920s this taxon included *A. idas* and *A. argyrognomon* (sensu stricto). There are no confirmed records for *A. argyrognomon* (sensu stricto) in the Pyrenees, so the 1920s records are assigned to *A. idas*.

Species now known in Saurat and/or Auzat, probably present but undetected in the 1920s

The following species were detected neither by Fassnidge nor Nabokov yet there seems no good reason to postulate that they have colonised the area since the 1920s. They were all found in one or both of the valleys during the current survey and at the time of year when one or both of the 1920s surveys were carried out. I consider that the following species were present but not detected in Ariège during the 1920s:

Pieris manni. Nabokov mentions finding this species in the Pyrenees Orientales but did not record it from Saurat. Today it is fairly widespread, flying with *P. napi*. Since this species is today mainly restricted to the warmer, eastern, half of Ariège it may have colonised the region from the Pyrenees Orientales since the 1920s but I consider it more likely that it was already present at that time.

Pieris ergane. This species was unknown from France at the time of the early surveys, not being discovered in the Pyrenees until the 1960s (Dufay & Mazel, 1981). The report in the present paper is the first publication of any record from Ariège although there are now unpublished records from several localities in the eastern half of the department (Hart, pers. comm.). The species is extremely local and was found in just one part of the Saurat valley: a hot, dry calcareous slope near Bedheillac in grid square UTM-WGS34 0343 4747. This is the base of Mount Calamès: Nabokov specifically mentioned exploring the scree slopes.

Satyrus acaciae. A fairly widespread species in dry habitats in the centre and eastern part of Ariège, although we have found no specific Ariège pre-1990 records but Rondou (1932) knew it from “Tout la chaîne”.

Polyommatus thersites. Nabokov specifically states that he looked for this species amongst the *P. icarus* but found none. The recent record is from the same hot, dry habitat where *P. ergane* was found. This is the same type of habitat that has *P. thersites* elsewhere in Ariège today.

Hipparchia fagi. This species was known from several parts of the Pyrenees by Rondou (1932) but was described as “fairly rare” or “rare”. We found it much rarer than *B. circe* and restricted to calcareous sites. Its peak flight-time in the recent Ariège surveys is July (i.e. between the Nabokov and Fassnidge visits). The records in the present study in Saurat and Auzat are from the very end of June and the first couple of days of August.

Argynnis niobe. All the *A. niobe* in the Pyrenees are form *eris* (Rondou, 1932), which resembles form *cleodoxa* of *A. adippe*. Fassnidge found *cleodoxa* as did I in the present survey. There were also a small number of *A. niobe eris* at fairly high altitude in Saurat, flying with *A. adippe* (both typical and *cleodoxa*). All the *cleodoxa* in the Fassnidge collection from Auzat are correctly identified.

Brenthis ino. Nabokov was too early in the year to find this species and Fassnidge may have been just too late or unlucky. It is a widespread species today as it was in Rondou's time.

Mellicta athalia. Both Nabokov and Fassnidge admitted difficulties in identifying some of the *Melitaea/Mellicta* fritillaries. Neither reported *M. athalia* although see above regarding specimens collected by Fassnidge (Auzat, August 1927). Based on the examination of male genitalia in the field Graham Hart and I are satisfied that *M. athalia celadusa* occurs in both valleys.

Erebia sthenyo. This is a high altitude species, which was found around the Lac de Soulcem (a reservoir created since the 1920s) in an area which probably was not reached by Fassnidge. It is widespread at altitude in Ariège.

Evidence of colonisations since the 1920s

Pyronia tithonus. Rondou (1932) states “Very Common. The whole chain [of the Pyrenees]. Scarcely ever lives above 700m and it is only by chance that it can be found at a higher altitude.” [my translation]. Since the whole Auzat valley is above 750m, it is not surprising that it was absent during Fassnidge's survey. It would certainly have been present in Saurat but not flying by the end of June when Nabokov left. In 1985, when I acquired a house at 800m in the Rivèrenert Valley (western Ariège), this species never reached the environs of the house but was common at 700m and below. It is now common around the house and found up to 900m. In view of the above, the fact that *P. tithonus* was common at 800-1000m in Auzat (in habitats warmer than in the Rivèrenert valley) is easily explained as the result of a fairly recent expansion in altitudinal range. This could easily be related to environmental warming in the same way that the recent northwards extension of its range in Britain has been interpreted.

Carterocephalus palaemon. This species is now easy to find in Saurat and it is very unlikely that Nabokov could have missed it if it were established in the valley in 1929. It was known as a rarity in the more central/western regions of the Pyrenees (e.g. near Lourdes) by Rondou (1932). The first record for Ariège of which I am aware is a specimen collected in 1976 by J-P. Mary in the extreme west of the department. It has now been found in wooded valleys from west to extreme east. It has yet to be confirmed for the Pyrenees Orientales but this must happen soon since it occurs so close to the border in Ariège. Neither Fassnidge nor I surveyed Auzat at a season appropriate for this species. The evidence that the species has colonised and spread through the department in recent decades is convincing. The reason is less easy to deduce. A move into warmer, more Mediterranean climates is unlikely to be a direct result of global warming, but if associated changes in the quantity or seasonality of rainfall have occurred then this may be important. The evidence against this is that the species is now found in communes where the average annual precipitation is under 1000mm and others where it exceeds 1500mm per year. This variation from place to place greatly exceeds any possible change in rainfall levels over a few decades. A more probable explanation is the increase in shady, moist, wooded valleys at the right altitude associated with the decline in the human resident population and the abandonment of intensive cultivation on marginal lands (see discussion below).

Heteropterus morpheus. The situation for this species is almost identical with that for *C. palaemon*. The first records for Ariège are from the 1980s (R. Essayen, pers. comm.) and it is now widespread and easy to find in wooded valleys at low or medium altitudes. This species was unknown to Rondou (1932) anywhere in the Pyrenees. Whatever the explanation for its spread into the area, it is likely to be the same as that for *C. palaemon*.

Araschnia levana. This is yet a third species with a similar history and habitat requirements. It requires light shade, normally open woodland, habitats. The first record for Ariège is 1975 (R. Essayen, pers. comm.) and it is now widespread throughout the department at altitudes below 1000m. Its spread into the Department has happened as the species has also colonised Spain and spread further north at the northern edge of its range. As with the two hesperids, increases in suitable woodland habitats seems the most plausible explanation.

Species not refound in Saurat or Auzat – probably still present but undetected

Carcharodus lavatherae. This is the least common of the three Ariège *Carcharodus* species, but it is widespread at higher altitudes with scattered records from localities close to Saurat and Auzat.

Neozephyrus quercus. Its habit of staying mainly in the oak canopy is the main reason for limited numbers of records in Ariège. It is widespread at low to medium altitudes and certain to be present in both Saurat and Auzat.

Satyrrium w-album. There is a recent record (Ted Benton, pers. comm.) from Ax-les-Thermes. Like *N. quercus*, its canopy-dwelling habits have probably led to serious under-recording.

Lycaena hippothoe. There are many records in recent years, including from Miglos, very close to Auzat.

Cupido osiris. Although not yet refound in Saurat itself, the species has been found in the south-east of the Saurat valley (Col de Marmar) in 2001.

Polyommatus dorylas. There are scattered records from the 1970s (Roland Essayen pers. comm.) and recently (G. Hart, pers. comm.), including one from Niaux, just a few kilometres from Auzat and Saurat.

Erebia euryale. This is a widespread species between 1000 and 2000m.

Hipparchia semele. There are only a few recent records: all from very dry, low altitude habitats, some not far from Auzat.

Eurodryas aurinia. This is a declining but still widespread species which can usually be found easily as adults or larvae. Suitable habitats were found in Saurat and Auzat but we were not able to check them at an appropriate time of year.

Habitats in the 1920s

It is clear, both from the comments in the Fassnidge and Nabokov papers and from the detailed statistics available from INSEE (web-site of the French government statistical service) that both Saurat and Auzat had large populations of peasant farmers who extracted a living from the valleys by mixed farming. This involved terracing to create fields on valley sides, transhumance of stock (and stockmen) to high summer pastures and fairly severe pressure on woodland habitats. The human population had declined from its peak in the late 19th century but was still well over double the resident population of today.

Habitat changes – present

The most noticeable change has been a considerable increase in high woodland, resulting from secondary regeneration on abandoned farmland and from re-growth of coppices previously cut on very short coppice cycles. The lowland farmland that has remained in use has tended to be farmed in traditional low/input low/output methods by an ageing and dwindling population of small farmers. Some farms have increased in size and are now farmed in more specialist ways concentrating on rearing beef cattle (and even an ostrich farm). Stock is still grazed at high altitude but without constant care by resident shepherds or herdsman. This has tended to increase grazing pressure on areas easily accessible by motor vehicles and lessen it in others.

One habitat change that is presumably related to the changing pattern of high altitude grazing is the loss of *Rhododendron* from Col du Port (Saurat). Nabokov specifically comments that *Erebia epiphron* was “very common among the rhododendrons” at 5000 feet of altitude. The butterfly is still common, but the rhododendrons have gone, replaced by bracken *Pteridium* and broom *Ulex*.

Possible future developments

An encouraging trend is the arrival of new small farmers, seeking to escape the rat-race by small scale, fairly traditional, farming. Some regard these “neo-ruraux” as undesirable marginal members of society but they may well increase the chances of the survival of small scale farming and the biodiversity that goes with it. Official support for farming still seems to favour the creation of larger units and increase in fertiliser inputs leading to low diversity pasture replacing the “luscious meadows near the village” of Nabokov’s time. A more enlightened approach, supporting traditional (organic) farming would produce products for which there is high demand in the local shops and food markets and maintain the countryside which is what the tourists (the mainstay of the economy) come to see. Wonderful opportunities exist to ensure the survival of one of the most diverse butterfly faunas of western Europe. But it is difficult to believe that the Common Agricultural Policy, combined with the attitudes of the local chamber of agriculture, will not ensure that Ariège soon has a countryside much like the rest of France. Just with more mountains.

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This study would not have been possible without the help of Graham Hart who assisted with much of the field work and made visits to the sites on dates when I was unable to be in France. I am extremely grateful to P.R Ackery for allowing me access to the Fassnidge collection and papers at the Natural History Museum, London and to Berit Pedersen, Librarian at the Royal Entomological Society, for much help in obtaining copies of papers and unpublished biographical information on Fassnidge. Many people, from France and Britain, have kindly supplied unpublished records for the Ariège butterfly survey. Those used in this paper are acknowledged in the text. The early part of the current Ariège butterfly survey, was encouraged by the Association des Naturalistes de l’Ariège who made grants to both Graham Hart and myself. My gratitude to the ANA for their early help is tempered by the fact that they have been unable to pay the final instalments of the promised grants and that they submitted our unpublished reports for publication in the distribution maps in Delmas & Maechler (1999) and Lafranchis (2000) in the name of one of their employees and with no acknowledgment of the actual source of the records.

Dedication

This paper is dedicated to the memory of William Fassnidge (born 7 January 1888, died 19 April 1949) and Vladimir Nabokov (born 23 April 1899, died 2 July 1977). Their enthusiasm for Ariège and its butterflies, has made possible this comparison with the fauna of today.

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APPENDIX

This table lists all the butterflies, except those in the genus *Pyrgus*, found by Fassnidge (Auzat) and Nabokov (Saurat) plus those found in the present survey at the same localities at the same seasons as the 1920s survey. Species not refound in the present survey have the first column (page number) in *italics*. Those found in the present survey but not in the 1920s have the first column in **bold**.

Lafranchis page	Lafranchis (2000) name	Nabokoff (1931) name	Saurat 1920s	Saurat recent	Fassnidge (1926) name	Auzat 1920s	Auzat recent
96	<i>Erymnis tages</i> (Linné, 1758)	<i>Nisoniades tages</i>	28/04/29	24/04/2002			
99	<i>Carcharodus lavatherae</i> (Esper, 1783)				<i>Erymnis lavatherae</i>	Aug. 1925	
100	<i>Carcharodus alceae</i> (Esper, 1780)	<i>Carcharodus alceae</i>	28/04/29	24/04/2002	<i>Erymnis alceae</i>	Aug. 1925	02/08/2002
101	<i>Carcharodus flocciferus</i> (Zeller, 1847)	<i>Carcharodus altheae</i>	28/04/29	16/06/2002	<i>Erymnis altheae</i>	Aug. 1925	
102	<i>Spialia sertorius</i> (Hoffmensegg, 1804 [Lafranchis gives 1840 in error])						
120	<i>Carterocephalus palaemon</i> (Pallas, 1771)	<i>Hesperia sao</i>	28/04/29	12/06/2002	<i>Hesperia sao</i>	Aug. 1925	
121	<i>Heteropterus morpheus</i> (Pallas, 1771)						
123	<i>Thymelicus acteon</i> (Rottemburg, 1775)				<i>Thymelicus acteon</i>	Aug. 1925	
124	<i>Thymelicus sylvestris</i> (Poda, 1761)	<i>Thymelicus thaumas</i>	06/06/29	19/06/2002	<i>Adopaea flava</i> (thauinus)	Aug. 1925	05/08/2002
125	<i>Thymelicus lineolus</i> (Ochsenheimer, 1808)	<i>Thymelicus lineola</i>	06/06/29		<i>Adopaea lineola</i>	Aug. 1925	05/08/2002
126	<i>Hesperia comma</i>				<i>Urbicola comma</i>	Aug. 1925	18/08/1991
127	<i>Ochlodes venatius</i> (Bremer & Grey, 1853)	<i>Augiades sylvanus</i>	14/06/29	19/06/2002	<i>Augiades sylvanus</i>	Aug. 1925	02/08/2002
132	<i>Parnassius apollo</i> (Linné, 1758)				<i>Parnassius apollo</i>	Aug. 1925	05/08/2002
135	<i>Parnassius mnemosyne</i> (Linné, 1758)	<i>Parnassius mnemosyne</i>	16/06/29				

Lafranchis page	Lafranchis (2000) name	Nabokoff (1931) name	Saurat 1920s	Saurat recent	Fassnidge (1926) name	Auzat 1920s	Auzat recent
138	<i>Aphricides podalirius</i> (Linné, 1758)	<i>Papilio podalirius</i>	28/04/29	24/04/2002	<i>Papilio podalirius</i>	Aug. 1925	02/08/2002
139	<i>Papilio machaon</i> Linné, 1758	<i>Papilio machaon</i>	28/04/29	24/04/2002	<i>Papilio machaon</i>	Aug. 1925	05/08/2002
144	<i>Leptidea sinapis</i> [s.l. - see text] (Linné, 1758)	<i>Leptidea sinapis</i>	28/04/29	24/04/2002	<i>Leptidea sinapis</i>	Aug. 1925	02/08/2002
146	<i>Aporia crataegi</i> (Linné, 1758)	<i>Aporia crataegi</i>	23/05/29	11/06/2002	<i>Aporia crataegi</i>	Aug. 1925	05/08/2002
148	<i>Pieris brassicae</i> (Linné, 1758)	<i>Pieris brassicae</i>	28/04/29	24/04/2002	<i>Pieris brassicae</i>	Aug. 1925	02/08/2002
149	<i>Pieris rapae</i> (Linné, 1758)	<i>Pieris rapae</i>	28/04/29	24/04/2002	<i>Pieris rapae</i>	Aug. 1925	02/08/2002
150	<i>Pieris nani</i> Mayer, 1851			19/06/2002			05/08/2002
151	<i>Pieris ergane</i> (Geyer, 1828)			19/06/2002			
152	<i>Pieris napi</i> (Linné, 1758)	<i>Pieris napi</i>	28/04/29	24/04/2002	see text		02/08/2002
154	<i>Pontia daphnice</i> (Linné, 1758)	<i>Pontia daphnice</i>	28/04/29		<i>Pontia daphnice</i>	Aug. 1925	02/08/2002
156	<i>Anthocharis cardamines</i> (Linné, 1758)	<i>Euchloë cardamines</i>	28/04/29	24/04/2002			
157	<i>Anthocharis euphenoides</i> Staudinger, 1869	<i>Euchloë euphenoides</i>	28/04/29	24/04/2002	<i>Euchloë euphenoides</i>	Aug. 1925	
167	<i>Colias alfaccariensis</i> Ribbe, 1905	<i>Colias hyale</i>	28/04/29	24/04/2002	<i>Colias hyale</i>	Aug. 1925	02/08/2002
168	<i>Colias crocea</i> (Geoffroy, 1785)	<i>Colias edusa</i>	28/04/29	24/04/2002	<i>Colias croceus (edusa)</i>	Aug. 1925	02/08/2002
169	<i>Gonepteryx rhamni</i> (Linné, 1758)	<i>Gonepteryx rhamni</i>	28/04/29	24/04/2002	<i>Gonepteryx rhamni</i>	Aug. 1925	02/08/2002
170	<i>Gonepteryx cleopatra</i> (Linné, 1767)	<i>Gonepteryx cleopatra</i>	28/05/29	12/06/2002	<i>Gonepteryx cleopatra</i>	Aug. 1925	
174	<i>Hamearis lucina</i> (Linné, 1758)	<i>Nemiobius lucina</i>	06/05/29				
178	<i>Neozelephyrus quercus</i> (Linné, 1758)				<i>Rivalis quercus</i>	Aug. 1925	

Lafranchis page	Lafranchis (2000) name	Nabokoff (1931) name	Saurat 1920s	Saurat recent	Fassmidge (1926) name	Auzat 1920s	Auzat recent
180	<i>Strymon acaciae</i> (Fabricius, 1787)			29/06/2002			
182	<i>Strymon ilicis</i> (Esper, 1779)	<i>Thecla ilicis</i>	24/06/29	19/06/2002	<i>Strymon ilicis</i>	Aug. 1925	
183	<i>Strymon w-album</i> (Knoch, 1782)				<i>Strymon w-album</i>	Aug. 1925	
185	<i>Strymon spini</i> (Dennis & Schiffermüller, 1775)	<i>Thecla spini</i>	24/06/29	19/06/2002	<i>Strymon (Thecla) spini</i>	Aug. 1925	27/07/2002
186	<i>Callophrys rubi</i> (Linné, 1758)	<i>Callophrys rubi</i>	28/04/29	24/04/2002			
189	<i>Lycæna phlaeas</i> (Linné, 1761)	<i>Chrysothamnus phlaeas</i>	28/04/29	24/04/2002	<i>Heodes (Rumicla) phlaeas</i>	Aug. 1925	27/07/2002
191	<i>Lycæna virgaureae</i> (Linné, 1758)				<i>Heodes virgaureae</i>	Aug. 1925	14/08/89
192	<i>Lycæna tityrus</i> (Poda, 1761)	<i>Chrysothamnus doritis</i>	28/04/29	24/04/2002	<i>Heodes doritis</i>	Aug. 1925	
193	<i>Lycæna alciphron</i> (Rottemburg, 1775)	<i>Chrysothamnus gordius</i>	24/06/29	02/07/2002	<i>Heodes alciphron</i>	Aug. 1925	
196	<i>Lycæna hippothoe</i> (Linné, 1761)				<i>Heodes hippothoe</i>	Aug. 1925	
201	<i>Lampides boeticus</i> (Linné, 1767)	<i>Lampides boeticus</i>	14/06/29	27/2002/2002	<i>Lampides boeticus</i>	Aug. 1925	02/08/2002
203	<i>Celastrina argiolus</i> (Linné, 1758)				<i>Lycænopstis argiolus</i>	Aug. 1925	
204	<i>Everes alcetas</i> (Hoffmannsegg, 1804)	<i>Everes alcetas</i>	17/05/29	24/04/2002			02/08/2002
205	<i>Everes arglades</i> (Pallas, 1771)	<i>Everes arglades</i>	28/04/29	24/04/2002			27/07/2002
206	<i>Cupido osiris</i> (Meigen, 1829)	<i>Lysandra sebrus</i>	17/05/29				
207	<i>Cupido minutus</i> (Fuesslin, 1775)	<i>Cupido minutus</i>	05/05/29	24/04/2002			
208	<i>Glaucopsyche alexis</i> (Poda, 1761)	<i>Lysandra cyllarus</i>	28/04/29	24/04/2002			
214	<i>Maculinea arion</i> (Linné, 1758)	<i>Lysandra arion</i>	24/06/29	27/07/2002	<i>Lycæna arion</i>	Aug. 1925	02/08/2002
218	<i>Pseudophilotes baton</i> (Bergsträsser, 1779)	<i>Lysandra baton</i>	28/05/29	27/07/2002	<i>Scolitantides baton</i>	Aug. 1925	27/07/2002
220	<i>Cyaniris semiarctus</i> (Rottemburg, 1775)	<i>Lysandra semiarctus</i>	17/05/29	23/05/1991	<i>Polyommatus semiarctus</i>	Aug. 1925	18/08/1991

Lafranchis page	Lafranchis (2000) name	Nabokoff (1931) name	Saurat 1920s	Saurat recent	Fassnidge (1926) name	Auzat 1920s	Auzat recent
227	<i>Polyommatus dorylas</i> (Dennis & Schiffmüller, 1775)	<i>Lysandra lylas</i>	24/06/29		<i>P. lylas</i>	Aug. 1925	
230	<i>Polyommatus escheri</i> (Hübner, 1823)				<i>Polyommatus escheri</i>	Aug. 1925	02/08/2002
231	<i>Polyommatus thersites</i> (Cantener, 1834)			16/06/2002			
232	<i>Polyommatus icarnis</i> (Rottemburg, 1758)	<i>Lysandra icarnis</i>	28/04/29	24/04/2002	<i>Polyommatus icarnis</i>	Aug. 1925	02/08/2002
234	<i>Lysandra coridon</i> (Poda, 1761)				<i>Polyommatus coridon</i>	Aug. 1925	02/08/2002
236	<i>Lysandra bellargus</i> (Rottemburg, 1775)	<i>Lysandra bellargus</i>	28/04/29	24/04/2002	<i>Polyommatus bellargus</i>	Aug. 1925	02/08/2002
244	<i>Aricia agestis</i> (Dennis & Schiffmüller, 1775)	<i>Lysandra medon</i>	05/05/29	24/04/2002	<i>Plebeius medon (astiarche)</i>	Aug. 1925	08/08/1993
250	<i>Plebeius argus</i> (Linné, 1758)			19/06/2002	<i>Plebeius argus</i>	Aug. 1925	06/07/1997
252	<i>Plebeius idas</i> (Linné, 1761)	<i>Plebeius argus</i> (argyrogonon)	28/05/29	19/06/2002	<i>Plebeius argyrogonon</i>	Aug. 1925	08/08/1993
261	<i>Pararge aegeria</i> (Linné, 1758)	<i>Pararge aegeria</i>	28/04/29	24/04/2002	<i>Pararge aegeria</i>	Aug. 1925	02/08/2002
263	<i>Lastomata maera</i> (Linné, 1758)	<i>Pararge maera</i>	05/05/29	23/05/1991	<i>Pararge m.</i>	Aug. 1925	05/08/2002
264	<i>Lastomata megera</i> (Linné, 1767)	<i>Pararge megera</i>	28/04/29	24/04/2002	<i>Pararge m.</i>	Aug. 1925	02/08/2002
268	<i>Coenonympha arcania</i> (Linné, 1761)	<i>Coenonympha arcania</i>	06/06/29	19/06/2002	<i>Coenonympha arcania</i>	Aug. 1925	05/08/2002
275	<i>Coenonympha pamphilus</i> (Linné, 1758)	<i>Coenonympha pamphilus</i>	28/04/29	24/04/2002	<i>Coenonympha pamphilus</i>	Aug. 1925	02/08/2002
278	<i>Pyronia tithonus</i> (Linné, 1771)						02/08/2002
280	<i>Aphantopus hyperantus</i> (Linné, 1758)	<i>Aphantopus hyperantus</i>	24/06/29	19/06/2002	<i>Aphantopus hyperantus</i>	Aug. 1925	02/08/2002

Lafanchis page	Lafanchis (2000) name	Nabokoff (1931) name	Saurat 1920s	Saurat recent	Fassnidge (1926) name	Auzat 1920s	Auzat recent
281	<i>Maniola jurtina</i> (Linné, 1758)	<i>Epicnephela jurtina</i>	28/05/29	19/06/2002	<i>Epicnephela j</i>	Aug. 1925	02/08/2002
290	<i>Erebia euryale</i> (Esper, 1805)				<i>Erebia euryale</i>	Aug. 1925	
291	<i>Erebia manto</i> (Dennis & Schiffermüller, 1775)				<i>Erebia manto</i>	Aug. 1925	18/08/1991
292	<i>Erebia epipliron</i> (Knoch, 1783)	<i>Erebia epipliron</i>	17/06/29	11/06/2002	<i>Erebia epipliron</i>	Aug. 1925	29/07/1993
298	<i>Erebia triaria</i> (Prunner, 1798)	<i>Erebia evias</i>	22/05/29	24/04/2002			
307	<i>Erebia cassioides</i> (Reiner & Hohenwarth, 1793)				<i>E. tyndarus</i>	Aug. 1925	18/08/1991
318	<i>Erebia sthenyo</i> Graslin, 1850						
320	<i>Erebia neolaus</i> (Prunner, 1798)	<i>Erebia stygne</i>	07/05/29	01/07/1972	<i>E. stygne</i>	Aug. 1925	18/08/1991
322	<i>Melanargia galathea</i> (Linné, 1758)	<i>Melanargia galathea</i>	06/06/29	19/06/2002	<i>Melanargia galathea</i>	Aug. 1925	02/08/2002
330	<i>Brantestia circe</i> (Fabricius, 1775)	<i>Satyrus circe</i>	24/06/29	19/2002/06			02/08/2002
339	<i>Hipparchia semele</i> (Linné, 1758)				<i>Satyrus s.</i>	Aug. 1925	
343	<i>Hipparchia fagi</i> (Scopoli, 1763)			29/06/2002			02/08/2002
346	<i>Apatura ilia</i> (Dennis & Schiffermüller, 1775)				<i>Apatura ilia</i>	Aug. 1925	20/07/2002
346	<i>Argynnis paphia</i> (Linné, 1758)				<i>Dryas paphia</i>	Aug. 1925	02/08/2002
351	<i>Argynnis aglaja</i> (Linné, 1758)				<i>Argynnis aglaja</i>	Aug. 1925	05/08/2002
352	<i>Argynnis adippe</i> (Dennis & Schiffermüller, 1775)	<i>Argynnis cydippe</i>	06/06/29	19/06/2002	<i>A. cydippe (adippe)</i>	Aug. 1925	02/08/2002
353	<i>Argynnis niobe</i> (Linné, 1758)			16/06/2002			
355	<i>Issoria lathouia</i> (Linné, 1758)	<i>Issoria lathouia</i>	28/04/29	24/2002/2002	<i>Issoria lathouia</i>	Aug. 1925	05/08/2002
358	<i>Brenthis iuo</i> (Rottemburg, 1775)						08/08/1993
361	<i>Boloria pales</i> (Dennis & Schiffermüller, 1775)				see text	Aug. 1927	

Lafranchis page	Lafranchis (2000) name	Nabokoff (1931) name	Saurat 1920s	Saurat recent	Fassnidge (1926) name	Auzat 1920s	Auzat recent
367	<i>Clossiana euphrosyne</i> (Linné, 1758)	<i>Brenthis euphrosyne</i>	05/05/29	24/04/2002	<i>Brenthis euphrosyne</i>	Aug. 1925	06/07/1997
370	<i>Clossiana dia</i> (Linné, 1767)	<i>Brenthis dia</i>	28/04/29	24/04/2002	<i>Brenthis dia</i>	Aug. 1925	05/08/2002
374	<i>Linnetis reducta</i> (Staudinger, 1901)	<i>Linnetis rivularis</i>	17/05/29	19/06/2002	<i>L. rivularis</i> Scop. (<i>cautilia</i> Schiff.)	Aug. 1925	
376	<i>Nymphalis antiopa</i> (Linné, 1758)	<i>Vanessa antiopa</i>	28/04/29	29/04/1991	<i>Eu Vanessa antiopa</i>	Aug. 1925	
377	<i>Nymphalis polychloros</i> (Linné, 1758)			24/04/2002	<i>Eteonia polychloros</i>	Aug. 1925	
378	<i>Aglais urticae</i> (Linné, 1758)	<i>Vanessa urticae</i>	28/04/29	24/04/2002	<i>Vanessa urticae</i>	Aug. 1925	
379	<i>Inachis io</i> (Linné, 1758)	<i>Vanessa io</i>	28/04/29	24/04/2002	<i>Vanessa io</i>	Aug. 1925	27/07/2002
380	<i>Vanessa atalanta</i> (Linné, 1758)	see text		24/04/2002	<i>Pyraunais atalanta</i>	Aug. 1925	02/08/2002
381	<i>Vanessa cardui</i> (Linné, 1758)	<i>P.[?Pyraunais] cardui</i>	06/06/29	11/06/2002	<i>Pyraunais cardui</i>	Aug. 1925	02/08/2002
384	<i>Polygonia c-album</i> (Linné, 1758)	<i>Polygonia c-album</i>	28/04/29	24/04/2002	<i>Polygonia c-album</i>	Aug. 1925	02/08/2002
385	<i>Araschnia levana</i> (Linné, 1758)			24/04/2002			27/07/2002
389	<i>Melitaea cinxia</i> (Linné, 1758)	<i>Melitaea cinxia</i>	28/04/29	24/04/2002	<i>Melitaea cinxia</i>	Aug. 1925	
390	<i>Melitaea diamina</i> (Lang, 1789)	<i>Melitaea dictynna</i>	22/05/29	19/06/2002	<i>Melitaea dictynna</i>	Aug. 1925	10/07/1991
391	<i>Melitaea phoebe</i> (Dennis & Schiffermüller, 1775)	<i>Melitaea phoebe</i>	28/04/29	24/04/2002	<i>Melitaea phoebe</i>	Aug. 1925	
392	<i>Melitaea didyma</i> (Esper, 1779)				<i>Melitaea didyma</i>	Aug. 1925	02/08/2002
394	<i>Melicta athalia</i> (Rottemburg, 1775)				see text	Aug. 1927	27/07/2002
395	<i>Melicta dejone</i> (Geyer, 1832)	<i>Melicta deione</i>	17/05/29	25/04/2002	<i>Melicta deione</i>	Aug. 1925	02/08/2002
397	<i>Melicta parthenoides</i> (Keferstein, 1851)	<i>Melicta parthenoides</i>	05/05/29	19/06/2002	<i>Melicta parthenie</i>	Aug. 1925	10/07/1991
402	<i>Eurodryas aurinia</i> (Rottemburg, 1775)	<i>Melitaea aurinia</i>	17/05/29				

**THE VALIDITY AND SYNONYMY OF THE NAMES *BICYCLUS MARTIUS*
FABRICIUS, 1793 AND *B. SANAOS* HEWITSON, 1866
(NYMPHALIDAE; SATYRINAE)**

TORBEN B. LARSEN

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Abstract

The taxon *Papilio martius* Fabricius, 1793 has erroneously been considered a *nomen dubium* since 1965. It is here resurrected as the valid name for *B. sanaos* Hewitson, 1866 in the combination *B. martius* through the designation of a neotype and the designation of Sierra Leone as the Type Locality. The name *melas* Condamin, 1965 becomes a junior synonym of *B. martius* **syn. nov.**

***Bicyclus* butterflies**

Just as I was beginning to take a scientific interest in African butterflies, Condamin (1965) replaced the name *Bicyclus martius* Fabricius, 1793 with *M. sanaos* Hewitson, 1866. Though this decision was based on an erroneous interpretation of the International Code of Zoological Nomenclature, it has been treated as thus since then, even in the most authoritative works (Ackery *et al.* 1995, Williams 2002). The purpose of this note is to reinstate the Fabrician name of this common and widespread African forest butterfly, the Black Bush Brown.

Condamin based his decision on two facts: first, the holotype of *Papilio martius* Fabricius did not exist, and second it was therefore impossible to decide to which of two subspecies the name *martius* belonged, especially as it had no locality. Both these premises are true, but the problem cannot be solved as he did simply by relegating the Fabrician name to oblivion as a *nomen nudum* without referring the matter to the International Commission of Zoological Nomenclature.

Though the type is lost, *B. martius* was well illustrated in “*Jones’ Icones*”, an illustrated catalogue of many Fabricius types; indeed Condamin was not in doubt that *Papilio martius* illustrated one of the two subspecies of what he considered as *B. sanaos*. When the holotype is missing, the only valid route to solve such an issue seems to be the selection of a neotype.

The International Code of Zoological Nomenclature has a number of recommendations, one of which is that the neotype should be from as close to the original locality as possible. Most of Fabricius’ African material was from Sierra Leone, South Africa, or Mauritius. *Bicyclus martius* is common in Sierra Leone and a specimen from here is selected as neotype. The correct nomenclature of *M. martius* thus becomes:

***Bicyclus martius* Fabricius, 1793**

Papilio martius, Entom. Syst. 3, 1:219

Type locality: Sierra Leone (**male neotype here designated**, in Natural History Museum, London).

***Bicyclus martius martius* Fabricius, 1793**

Distribution: Guinea, Sierra Leone (TL), Liberia, Côte d’Ivoire, Ghana including Volta Region, Togo, western Nigeria.

Bicyclus martius sanaos Hewitson, 1866*Mycalesis sanaos*, Exotic butterflies, III:94**Type locality:** Nigeria, Old Calabar (male holotype in Natural History Museum, London)= *Bicyclus sanaos melas* Condamin, 1965 **syn. nov.**

Bull. I.F.A.N., XXVII:1439-1448.

Type locality: Côte d'Ivoire, Abidjan**Distribution:** eastern Nigeria (Cross River loop) to most of the equatorial forest zone.

The differences between the two subspecies are mainly these: The male of ssp. *martius* has the inner androconial hair pencil beige; it is black in ssp. *sanaos*. The female of ssp. *martius* is uniformly dark brown above; in ssp. *sanaos* there is a prominent white subapical band. Specimens between the Niger and the Cross River loop in eastern Nigeria may be somewhat intermediate.

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Request for British examples of allegedly Japanese species

During the late 18th century, Carl Peter Thunberg stayed in Japan and published two booklets, *Fauna Japonica* and *Fauna Japonica Continuata*, in which over a hundred insect species were reported from Japan. One of the problems I have is that most species described by those earlier scientists are in fact not actually found in Japan. I am, therefore, looking for examples of these non-Japanese species in an attempt to establish what species Thunberg had really observed during his stay in Japan. The list of *desiderata* is as follows:

Coleoptera: *Paederus riparius*, *Staphylinus erythropterus*, *Potosia aeruginosa*, *Hister unicolor*, *Epuraea aestiva*, *Ptinus fur*, *Buprestis rustica*, *Palorus depressus*, *Corticeneus bicolor*, *Corticeneus fraxini*, *Exochomus quadripustulatus*, *Mordella aculeata*, *Phyllotreta nemorum*, *Lochna capreae*, *Cassida nobilis*.

Lepidoptera: *Sphinx atropos*, *Antitype chi*, *Elophila nymphaeata*, *Eulithis prunata*, *Scopula immutata*, *Tortrix viridana*.

Diptera: *Sarcophaga carnaria*, *Psila fimetaria*, *Seioptera vibrans*, *Sepsis cynipsea*, *Haematopota pluvialis*, *Melanostoma mellinum*, *Psychola phalaenoides*.

Hymenoptera: *Ancistrocerus parietum*, *Liris niger*, *Sirex cyaneus*.

Odonata: *Calopteryx virgo*, *Coenagrion puella*.

Orthopteroidea: *Macroscytus brunneus*, *Blatta orientalis*, *Gryllotalpa gryllotalpa*.

If you have specimens of these insects and are able to provide to me one or two examples of each, I will be most grateful.— HIDEO OGAI, Nariki-build. No. 301, 2-7-27, Tabata, Kita-ku, Tokyo, 114-0014 JAPAN.

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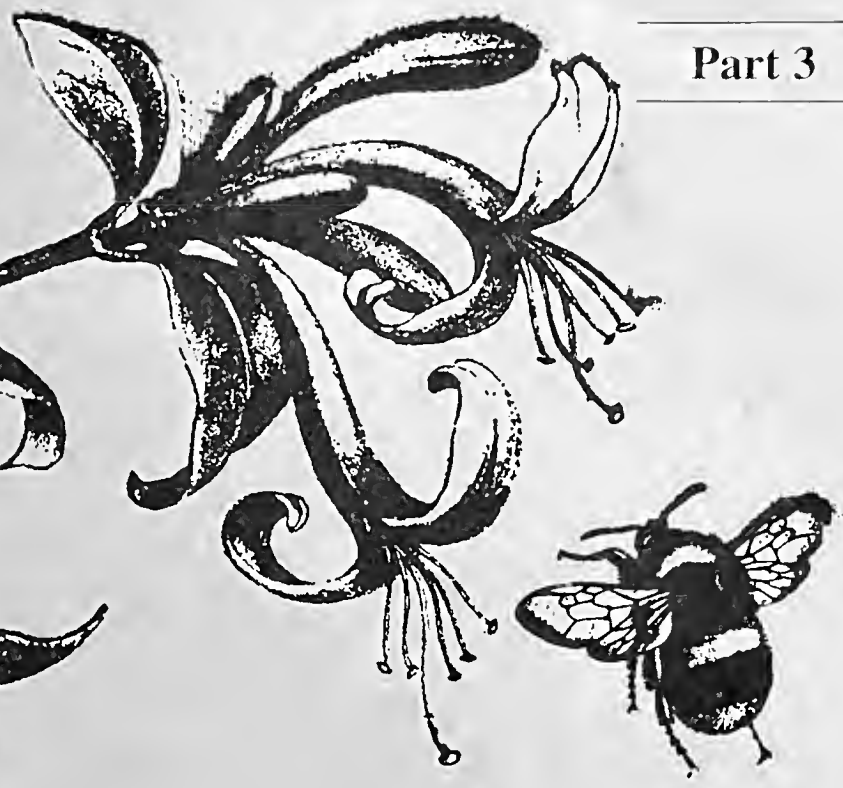
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INTERPRETING A SPECIES LIST: AN ANALYSIS OF THE MACRO-MOTHS RECORDED AT A BANFFSHIRE SITE, 1990-2002

R. LEVERTON

Whitewells, Ordiqullill, Cornhill, Banffshire AB45 2HS.

Abstract

Macro-moths were surveyed at a site in north-east Scotland from 1990 to 2002; 274 species were found. Only 66% of these species are considered resident on the site throughout the period of the survey, the remainder being temporary residents (14%), strays (15%), or migrants and adventives (5%). Other sites may show a similar pattern.

Introduction

After moving to Banffshire, I began recording macro-moths at my new home site in 1990. Previously I had done the same in Lancashire and then Sussex, but here was the opportunity for a fresh start. Although Barbour (1974) had produced the first list of the vice-county's macrolepidoptera, this mainly covered the western parts, and the eastern side of Banffshire was almost unknown. Virtually every species would be a new record for my 10km square, if not for me.

However, there is recording and there is recording. I wanted something more than just a site list. Or rather, I wanted a site list that I could interpret, quantify and qualify, with hard data to back up (or confound) my assumptions and hunches. That meant the recording needed to be reasonably systematic and consistent, without going to tedious extremes. After all, this was recreation, not work.

Site and methods

Whitewells is a croft with 14.5 hectares (35 acres) of land. The garden and steading cover about one acre, permanent pasture comprises 12 acres, but the rest is excellent semi-natural habitat, part of a very varied, unimproved wet hillside dominated by rushes and sedges that rises to drier heather moorland with belts of gorse. For my recording area, I decided to use the whole of one-kilometre O.S. grid square NJ 5755, in which the croft is roughly central. The characteristic deciduous trees are willows (*Salix caprea*, *S. cinerea* and *S. aurita*), alder *Alnus glutinosa*, birch *Betula* spp. and rowan *Sorbus aucuparia*, while there are scattered clumps of larch *Larix decidua* and Scots pine *Pinus sylvestris* on drier parts of the hillside itself. However, this is relatively open country, with little actual woodland as such. In altitude, the recording site ranges from 140 metres (430 feet) to 260 metres (800 feet) above sea level, on a north-facing slope that then drops more gently towards the coast 11 kilometres away. The wider area of the 10km square is given over to mixed arable and pastoral farmland, again very open except for a few small spruce plantations. Fields are bounded by drystone dykes, ditches and barbed wire rather than hedges.

Moths were recorded by a wide variety of methods. A Robinson light trap with a 125 watt bulb was run on suitable nights from spring to late autumn, always in the

garden. The catch, however disappointing or mundane, was faithfully recorded by numbers of individuals as well as species. At this latitude the weather is often wholly unsuitable, or at least marginal, so if no more moths were arriving the trap would often be taken in at midnight. Nor is there any proper darkness either side of the summer solstice, again affecting catches. However, the trapping regime was roughly consistent throughout the study period. Lighted windows backed up the Robinson trap; surprisingly, they often attracted a different mix of species.

Secondly, "sugar" was used on virtually every possible night, even in December and January if mild enough. The same 25 fenceposts (just across the road from the house) were used throughout, nor was the sugar recipe altered. Again, consistency was the aim. At night, natural attractions including willow catkins, heather and ripe blackberries were regularly worked in their seasons, likewise garden flowers such as honeysuckle and buddleia. Moths were also found by torchlight sitting around on bushes and other vegetation.

Daytime fieldwork was regularly employed, both for diurnal moths and others such as geometrids that can easily be disturbed by day or found at rest. In general, less effort went into searching for the early stages, though the caterpillars of numerous species were found casually or sometimes deliberately.

The basic site list

I do not propose to list in this paper every moth ever recorded from my site – that would bore most readers – but would be happy to send the full list to anyone requesting it. Instead, my aim is to analyse and interpret the records. Although in detail this analysis can apply only to my particular site, the underlying principles will be relevant to most sites and most types of moth recording.

Over the thirteen-year period from 1990 – 2002, no less than 274 species of macro-moth (defined as the families covered by Skinner, 1998) were recorded from the one-kilometre square NJ 5755. This is a surprising total, perhaps, from such a northerly location. Of these, 33 species were first records for VC 94 when found. However, the average annual total was only 197 species, ranging from 181 in 1993 to 220 in 1996 (Fig. 1). In fact, only 135 (under half) of the species were seen in all thirteen years. Surprisingly, the second-highest category comprised moths seen, usually as singletons, in one year only (Fig. 2).

The list also emphasises the value of using different methods of finding moths rather than relying solely on the mercury vapour light trap. Of the 274 species, 23 (8%) were never recorded at the light trap. Of these, 12 were found only by daytime fieldwork. Naturally these included purely diurnal species like Six-spot Burnet *Zygaena filipendulae*, Common Heath *Ematurga atomaria* and Wood Tiger *Parasemia plantaginis*, plus others that seem to be largely diurnal here, such as Satyr Pug *Eupithecia satyrata callunaria* and Double-striped Pug *Gymnoscelis rufifasciata*. Sugar, though very productive, only added four species that otherwise would not have been seen: Turnip Moth *Agrotis segetum*, Old Lady *Mormo maura*, Crescent *Celaenaleucostigma* and Small Fan-foot *Herminia grisealis*. However, sugar proved invaluable for assessing the numbers and status of moths that come less frequently to

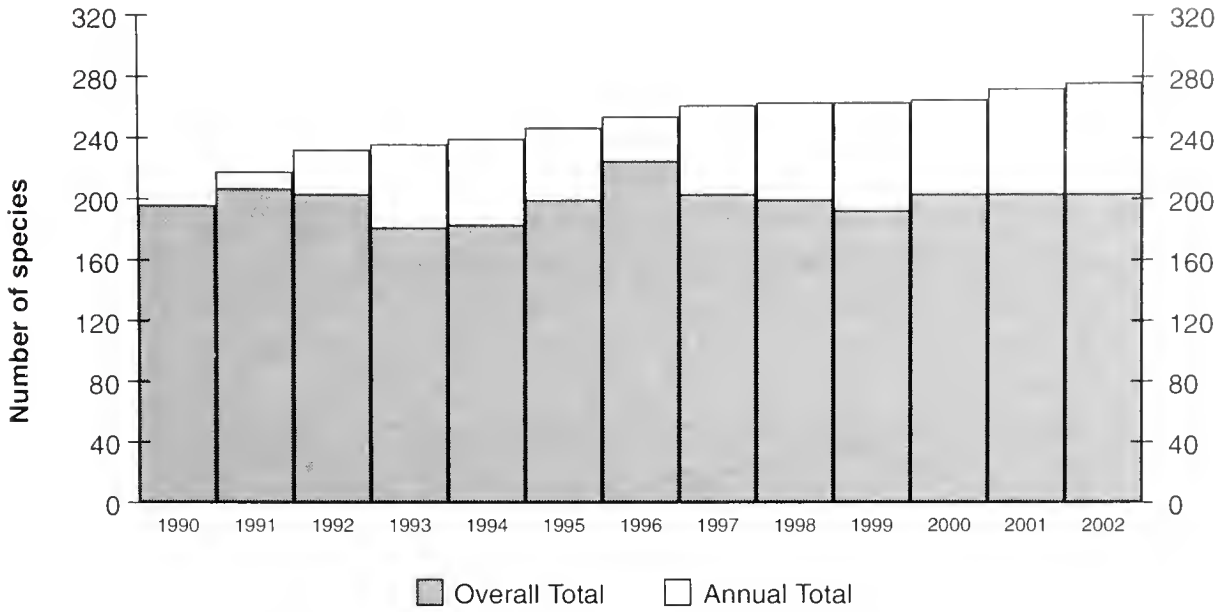


Figure 1. Annual totals and overall totals of macro-moths recorded at Ordiquhill, Banffshire during 1990-2002.

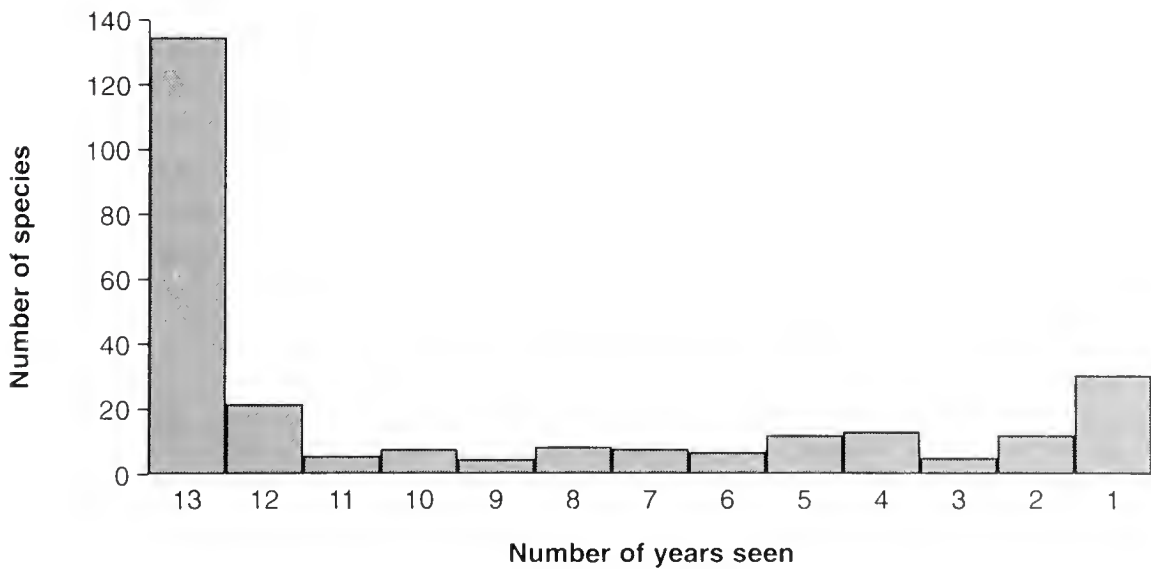


Figure 2. Species of macro-moths recorded at Ordiquhill, Banffshire during the thirteen years 1990-2002 against the number of years in which they were seen.

light. A further five species were recorded only at flowers, but these included some memorable finds: Vestal *Rhodometra sacraria*, Bedstraw Hawk-moth *Hyles gallii* and Bordered Straw *Heliothis peltigera*.

On the other hand, 41 (15%) of the 274 species were recorded only at the Robinson trap. Most of these were migrants or strays, but they included at least four species believed to be low-density residents on the site: Brussels Lace *Cleorodes lichenaria*, Heath Rustic *Xestia agathina*, Nut-tree Tussock *Colocasia coryli* and Plain Golden Y *Autographia jota*. A further ten or so of the 41 species were probably temporary residents during part of the recording period. It is too simple to say that all these species would have been missed without the use of mercury vapour light. Such an effective means of attracting moths engenders laziness; without it I would have been forced to do more traditional fieldwork, and may well have found at least some of the missing residents.

It is a measure of the difference between macrolepidoptera and microlepidoptera recording that not one of the species was found only in its early stages (apart from an adventive). However, a few were most frequently seen as caterpillars, particularly Ruby Tiger *Pluragmatobia fuliginosa borealis*. Its larvae were often numerous from February onwards in spring, with cocoons in the heather later, but most years I never saw the adult moth either in the daytime or at light.

Defining and assessing status

Like any site list, mine consisted of resident species augmented by obvious migrants and probable strays. Would it be possible to allocate every species to its appropriate category, using the amassed data purely objectively? Unsurprisingly, the answer was no. For instance, that indisputable migrant the Silver Y *Autographia gamma* was far more abundant and regular than its resident congeners Plain Golden Y and Gold Spangle *A. bractea*. Overall, the Dark Sword-grass *Agrotis ipsilon* far outnumbered the Gothic *Naenia typica*, a low-density resident not seen at all in some years. Frequency alone could not distinguish between my single Clifden Nonpareil *Catocala fraxini* from across the North Sea and the single Old Lady presumably from the valley of the River Deveron only 15km away. Clearly, a subjective element was also required. All factors had to be considered; often the best that could be achieved was an educated guess based on the most likely (or least unlikely) scenario. Doubtless further work will prove that some of my assessments were wrong. Even so, I feel that the exercise was worth doing. The species seemed to fall into six categories, as follows:

Permanent residents (181 species, 66%)

Definition: species breeding continuously on the site throughout the survey period.

This verdict was based on a combination of numbers recorded plus annual regularity. Of course, some species are very abundant, like the Large Yellow Underwing *Noctua pronuba*, while others such as the Herald *Scoliopteryx libatrix* persist at much lower densities. Species were not disqualified from this category just because only one or

two specimens were seen annually or with only the occasional missed year. Even relatively numerous residents like Brown-spot Pinion *Agrochola litura*, Mouse Moth *Amphipyra tragopoginis* and Marbled Minor *Oligia strigilis* had the odd poor year when none was seen. Many, but not all, of the species in this category were also found in their larval stage, giving added confirmation.

Temporary residents (39 species, 14%)

Definition: species considered to have bred on the site for only part of the survey period.

This category was more debatable. Species placed in it tended to show a pattern of occurrence in several consecutive years, interspersed with a gap or gaps of three or more years of apparent absence. However, species recorded even less frequently were automatically placed in this category if larvae were found (with the exception of Silver Y). Thus only two adults of the Brindled Pug *Eupithecia abbreviata* were trapped during the survey, in 1997 and 2001, and were thought to be strays until its caterpillar was found on one of the few oaks in 2002. Broken-barred Carpet *Electrophaes corylata* would also have been considered a stray, with only four singles to light over 13 years, if a pupa had not been dug from beneath a hillside rowan in 1999.

Other examples were Cabbage Moth *Mamestra brassicae* and Heart and Dart *Agrotis exclamatoris*, caught annually in small numbers during the early years of the study but not seen lately, whereas Common Wainscot *Mythimna pallens* and Clouded Border *Lomaspilis marginata* were initially absent but now breed. The latter has recently colonised north-east Scotland as a whole (Palmer & Young, 1994). Then there were a few species that seemed to come and go, as if the site were not quite large enough or good enough to maintain a permanent population. They included Northern Deep-brown Dart *Aporophyla lueneburgensis* and Light Knot Grass *Acronicta menyanthidis*.

Local strays (29 species, 11%)

Definition: species originating from elsewhere within the same 10km square or an adjacent one.

Infrequency was one criterion: species were considered to be strays if they were recorded so rarely and at such long intervals that they were unlikely to be even temporary residents. A second and perhaps more compelling qualification was absence of the foodplant or of the required habitat, but these were both known to be present elsewhere within the same or an adjoining 10km square. Often the moth concerned was known to occur there too. Many such strays were recorded on one occasion only. Some were apparently from the coast, 11km away to the north, others most likely came from mature woodland or less acid soils. Those lacking foodplant at the site included Rivulet *Perizoma affinitata* (no red campion), Brown Silver-line *Petrophora chlorosata* (no bracken), Marbled Coronet *Hadena confusa* (no sea or bladder campion) and Orange Sallow *Xanthia citrigo* (no lime).

Regional strays (11 species, 4%)

Definition: species originating from beyond an adjacent 10km square, but within north-east Scotland.

Here, foodplant and habitat again provided the clues. If there was no habitat or foodplant within the same or an adjoining square, the moth was presumed to have come from further afield. This applied to the occasional specimens of Chestnut-coloured Carpet *Thera cognata*, Juniper Pug *Eupithecia pusillata* and one Manchester Treble-bar *Carsia sororiata*, the nearest suitable habitat being 30km or more away. Also placed in this category was the single Cinnabar *Tyria jacobaeae*, its nearest known colony being 90km away in Kincardineshire.

Migrants (13 species, 5%)

Definition: species known to migrate, originating outside NE Scotland and probably from overseas.

The site did surprisingly well for migrants considering its latitude, nor is it even on the coast. Well-known migrants recorded, besides those already mentioned, included Convolvulus Hawk-moth *Agrius convolvuli*, Hummingbird Hawk-moth *Macroglossum stellatarum*, Pearly Underwing *Peridroma saucia* and Great Brocade *Eurois occulta* of the pale grey immigrant form. Also considered to be migrants, since they are not known to be resident in north-east Scotland, were the single Turnip Moth (in September) and two Crescent, the latter apparently of the nominate subspecies rather than the Highland race *scotica*. A further two species resident on the site also occurred as migrants, but are not counted as such in this analysis. Setaceous Hebrew Character *Xestia c-nigrum* is univoltine here, flying in July, but one was recorded in May and several in autumn associated with influxes of known migrants like Dark Sword-grass. Similarly, unusual numbers of Angle Shades *Phlogophora meticulosa* often appeared during these influxes. None of the migrant *Myliuina* species was seen; curiously they have never been reported from north-east Scotland.

Adventive (1 species)

Definition: a species accidentally transported to the site in goods or produce.

A small caterpillar of the Scarce Bordered Straw *Helicoverpa armigera* was found in a packet of mange-tout peas from Zambia, and the moth reared.

Discussion

During the 13-year survey period, 80% of the species found were believed to have been resident on the site in some years at least. All the permanent residents had been found by the end of the fourth year (the last of these being Lunar Hornet *Sesia bembeciformis*, a species not attracted to light, sugar or flowers). The remaining 20% were considered to be casuals: purely strays, migrants or adventives (Fig. 3). However, if their foodplant is present and the climate becomes suitable, such species

are potential colonists. In spite of the length and intensity of recording, a few new casuals are still being added nearly every year. Most of the further 48 species on the Banffshire list, plus others in neighbouring vice-counties, are within straying distance and may turn up sooner or later.

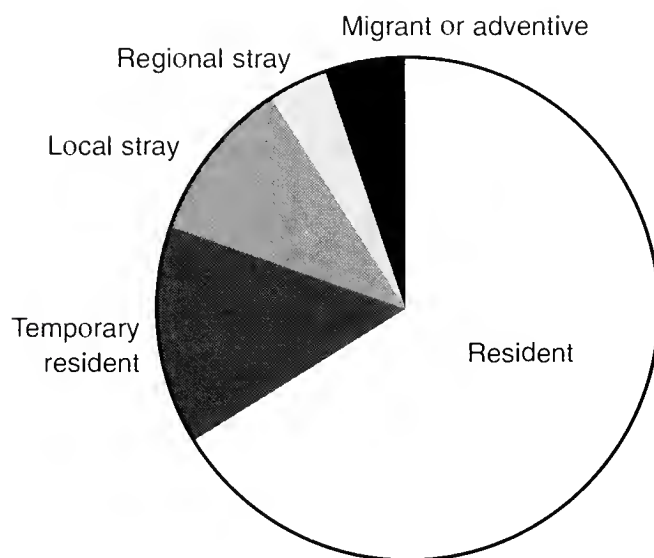


Figure 3. A breakdown, by most likely status, of 274 species list of macro-moths recorded at Ordiquhill, Banffshire during 1990-2002.

So how typical is my site? Will other well-worked sites show a similar pattern? Almost certainly, the answer is a qualified yes. Moths are relatively mobile insects: they do move around. However, a stray from further afield will only be recognised as such if it does not normally occur in that area. We notice the Redwings *Turdus iliacus* and Fieldfares *T. pilarus* that visit us in winter from Scandinavia, but not the Blackbirds *T. merula* that come with them. Therefore, the percentage of strays in any site list will depend on the local circumstances. A list from an area of varied, prime habitat surrounded by much less interesting countryside will have very few such species, since most of the moths arriving as strays will already breed there. By contrast, an impoverished site surrounded by far better and more diverse habitat will have a much higher percentage of species that only occur as short distance strays or migrants. An extreme example would be an offshore oil rig, with no resident species. Finally, the length of the recording period will have an effect: with every passing year the proportion of ‘casuals’ on a site list will gradually increase (Fig. 4).

Conclusion

A simple species list can be misleading, however accurately it has been compiled. It sets the ‘once in a lifetime’ strays on the same level as the abundant residents. This is hardly a new observation, of course. I have tried to show that it is possible to make sense of a site list, to break it down into different categories, by methodically

recording numbers and frequency of the species seen. The use of many different fieldwork techniques to supplement light trap records leads to a far more accurate picture of status: many of my species were scarce or absent in the trap but easily found by other methods. Finally, analysing thirteen years of field notebooks from scratch would be a formidable task. Fortunately I summarised the data at the end of every year to produce an annual list, so merely needed to combine these accounts.

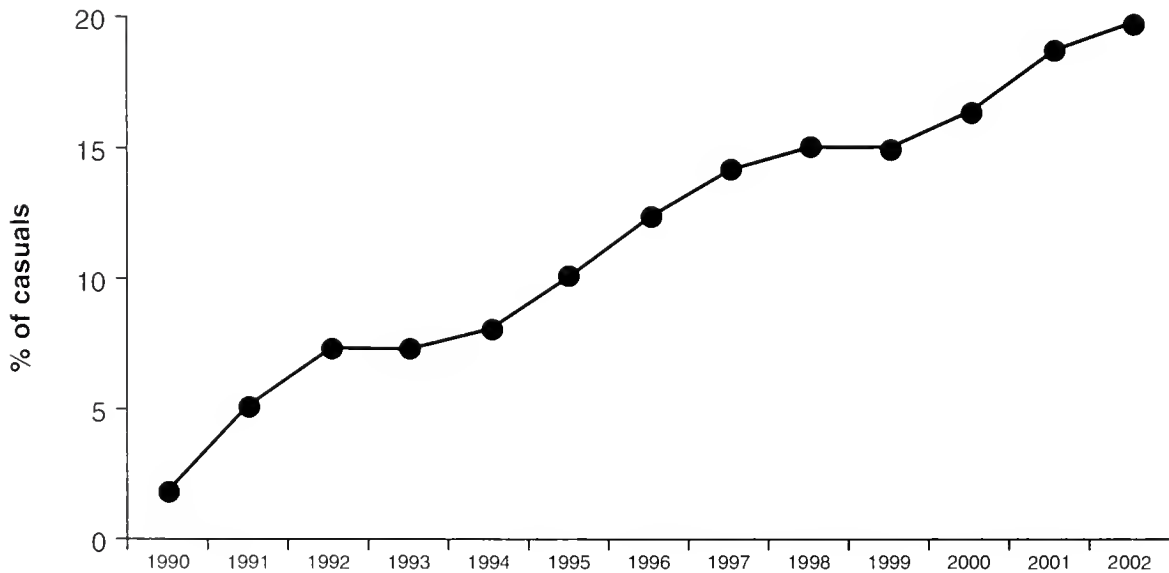


Figure 4. The rising percentages of casuals (strays, migrants and adventives) in a species list of macro-moths recorded at Ordiquhill, Banffshire during 1990-2002.

Acknowledgements

I thank my neighbours, Ron and Sheila Runcie and Jimmy and Phemie Addison, for allowing me to wander at will over their land at all hours of day and night. My son David expertly prepared the graph and histograms for me.

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XANTHANDRUS COMTUS (HARRIS) (DIP.: SYRPHIDAE) NEW TO THE ISLE OF MAN AND WITH NEW PREY RECORDS

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Abstract

Xanthandrus comtus (Harris) (Dipt.: Syrphidae) is reported from the Isle of Man for the first time. The fly's larvae were found to be predated the larvae of the Carnation Tortrix moth *Cacoecimorpha prouubana* (Hb.) (Lep.: Tortricidae), also reported for the first time from the Isle of Man, and possibly another tortricid – *Lozotaenia forsterana* (Fabr.) feeding on ivy *Hedera* growing on a garden wall. During the course of this study, a third tortricid, the Light Brown Apple-moth *Epiphyas postvittana* (Walk.), was reared on the island for the first time.

Introduction

Xanthandrus comtus (Harris), whose larvae are predators of certain lepidopterous larvae, is not recorded in the most recent published list of the Syrphidae of the Isle of Man, (Crellin, 1985 — note that in Stubbs & Falk, 2000, Second Supplement, and in Stubbs et al, 2002, authorship of this paper was erroneously credited to A. Moore the author of the following paper on an unrelated topic in the journal cited). Since then, SMC has collected adults on several occasions, some of which appear in Ball & Morris (2000), and FDB has found larvae preying on the larvae of an unreported tortricid host and reared them to the adult stage.

Collection Records

The occurrence of *X. comtus* appears to be sporadic and unpredictable; on the Isle of Man, over the past 15 years, adults have been observed or captured only occasionally, (Table 1). These records are all from the Ramsey area, where observations have been concentrated; given the same effort it is probable that this syrphid would prove to be widespread on the Island.

Table 1. Collection and sighting records of *Xanthandrus comtus*.

Locality	Grid Reference	Date	Sex	Plant Association
Ash Grove, Ramsey	SC 445952	06.viii.1986	female	-
Ash Grove, Ramsey	SC 445952	20.ix.1987	female	-
Abbeville, Sulby	SC 403947	17.x.1987	female	-
Ash Grove, Ramsey	SC 445952	27.vii.1998	female	-
Wildlife Park	SC 364944	28.viii.1999	female	On <i>Heracleum spondylium</i> umbel
Mayhill, Ramsey	SC 451939	13.x.2002	female	On <i>Hedera</i> leaf

Prey and rearing records

On 15 January 2002, a collection of webbed leaves from an ivy *Hedera* covered garden wall on the Minorca Hill Road, Laxey (OS grid reference SC 441839) contained more than 60 leaf-webbing larvae and two syrphid larvae which matched the photographs of *X. comtus* in Rotheray (1993). One of the syrphid larvae, placed in a container with three large larvae of the tortricid *Lozotaenia forsterana* (Fabr.) between webbed ivy leaves, collected earlier at Victoria Road, Douglas, consumed them within a forty-eight hour period, another three in the following 48 hours and two more before forming a puparium on 3 February. The other larva which had been left in a large rearing container with the foliage and tortricid larvae from Minorca Hill (initially thought to be *L. forsterana*, but see below) also pupated on 3 February. A male emerged from the latter on 9 February and a female from the former on 10 February.

A collection of webbed ivy leaves from Minorca Hill on January 26 yielded approximately 80 leaf-webbing larvae and one small, one medium and one large larva of *X. comtus*. A further collection of webbed ivy leaves on 7 February contained approximately 75 tortricid larvae and one medium syrphid larva. No syrphid larvae were found in collections of 50 or more tortricid larvae from the same site on 24 February, 14 March and 14 April or from a collection on 30 April that yielded 20 larvae and 30 pupae of the leaf-webber.

Most of the moths emerging from collections of webbed ivy leaves from several sites in Laxey (including Minorca Hill) and Douglas during 2000 and 2001 were *L. forsterana* with an occasional specimen of three other Microlepidoptera; the tortricids *Ditula angustiorana* (Haw.) and *Clepsis consimilana* (Hübner) and *Blastobasis lignea* Wals. (Lep.: Blastobasidae). However most adults emerging from collections from Minorca Hill made in 2002 were the Carnation tortrix, *Cacoecimorpha pronubana* (Hb.), a tortricid only reported from the Isle of Man in 2001 and not reared from any of the 2000 – 2001 ivy collections. Only an occasional adult of *L. forsterana* emerged from the January and February 2002 Minorca Hill collections.

Additionally a few specimens of *Epiphyas postvittana* (Walk.), a tortricid not previously reared in the Isle of Man, were present in the collections of 24 February and subsequent collections from Minorca Hill.

During 2002, *C. pronubana*, as well as *L. forsterana*, was reared from collections of ivy leaves from Finch Road, Douglas whereas only *L. forsterana* emerged from several collections from the Victoria Road, Douglas site during 2002. The three species of tortricids are polyphagous and are known to attack a wide range of herbaceous plants, shrubs and trees (Emmet, 1988). On ivy on garden walls both *L. forsterana* and *C. pronubana* lay eggs in batches often of 50 or more on the leaves and the hatching larvae feed usually in solitary fashion between overlapping leaves webbed tightly together and move from leaf to leaf. Feeding results in large unsightly patches of damaged leaves; the damage by one species is indistinguishable from that of the other.

SMC's most recent adult *X. comtus* capture was from ivy growing on a garden wall in Ramsey. The specimen, a female, was tubed from an ivy leaf in rather cool and damp weather. A subsequent visit by SMC found signs of webbed leaves, but no *X. comtus* larvae; the identity of the larvae causing the webbing was not ascertained.

Adults of *X. comtus* survive for extended periods in cages. The male emerging on 9 February and the female emerging on 10 February were held in a 20 × 20 × 30cm clear plastic vented container containing a "bouquet" of ivy foliage infested with laboratory hatched small larvae of *L. forsterana* and with honey droplets streaked on the sides of the container; water was sprinkled daily onto the foliage through a mesh panel in the cage top. The cage, held in the house in subdued light for most of the time, was placed near a bright light for an hour or longer each morning and evening. During these periods of exposure the adults took flight several times and hovered near the top of the cage for several seconds at a time. Neither courtship behaviour nor attempts to mate were observed which is not surprising considering the small size of cage and holding conditions. A male emerging on 24 February survived for 34 days in a similar cage.

Discussion

Xanthandrus comtus is reported for the first time from the Isle of Man, but it is well known in the British Isles (Shaw and Rotheray, 1990) and occurs as far north as Scotland (Rotheray and Bland, 1992). Although initially considered to migrate north annually during the summer evidence of the occurrence of a resident population over several years in Perthshire, Scotland has been documented (Bland and Rotheray, 1998). Our discovery of active larvae in January and February is substantial evidence that it is a year-round resident in the Isle of Man. *C. pronubana* has overlapping generations (Emmet, 1988); its apparent recent arrival in the Isle of Man, where larvae are present throughout the year, may enhance the year round breeding of *X. comtus*.

The only published records of prey for *X. comtus* for the British Isles that we are aware of are *Ancylis apicella* (D.& S.) (Tortricidae) on alder buckthorn *Frangula alnus* (Shaw and Rotherway, 1990) and *Caloptilia syringella* (L.) (Gracillariidae) on young ash *Fraxinus* trees (Rotherway and Bland, 1992 and Bland and Rotherway, 1998). These are from rural areas and from shrubs and trees. Our rearing from *C. pronubana* and possibly from *L. forsterana* on a vine *Hedera* on the wall of a village garden in the Isle of Man adds to the known host, type of host plant and habitat ranges of this syrphid.

Epiphyas postvittana has been extending its range nationally in recent years. Porter (2001), Pratt (2002) and Littlewood (2002) all show that the range of this Australian import, which was first recorded breeding in Britain at Newquay, West Cornwall, in 1936, has spread northwards and eastwards since 1980. Our records are further evidence of this trend.

Acknowledgements

K. P. Bland, National Museums of Scotland kindly identified the moths and G. D. Craine provided information on their distribution in the Isle of Man. Several members of the Hoverfly Discussion Group, (*syrphidae@nottingham.ac.uk*), offered helpful comments; these are appreciated.

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Stratiomys longicornis (Scopoli) Dipt.: Stratiomyidae) in East Sussex, VC 14

The Thames Marshes in northern Kent and South Essex are, perhaps, the current national stronghold for this conspicuous species and other locations were mapped by Drake (1991. *Provisonal atlas of the Larger Brachycera (Diptera) of Britain and Ireland*). It may, therefore, be worth mentioning here that on 10.vii.1999 I observed three specimens of *S. longicornis* on the flowers of wild carrot *Daucus carota* along the main roadway at Rye Harbour National Nature Reserve, at O.S. grid reference TQ 9418. These were accompanied by larger numbers of the much more widespread *Stratiomys singularior* (Harris).— Laurence Clemons, 14 St. John's Avenue, Sittingbourne, Kent ME10 4NE.

RECORDS OF GALL MIDGES (DIPT.: CECIDOMYIIDAE) FROM THE ISLE OF MANK. M. HARRIS¹ AND F. D. BENNETT²¹ 81 Linden Way, Ripley, Woking, Surrey, GU23 6LP (e-mail: kmharris@lineone.net)² Crofton, Baldhoon Road, Laxey, Isle of Man, IM4 7NA (e-mail: fdb@thecrofton.freereserve.co.uk)**Abstract**

Records of Cecidomyiidae (Diptera) known to occur in the Isle of Man are listed, with notes on biology, when known, and on geographic ranges. Six species are new additions to the British fauna: *Aprionus insignis* Mamaev, *Aphidoletes thompsoni* Möhn, *Coquillettomyia lobata* (Felt), *Manevia vysineki* Skuhrová, *Mycodiplosis sphaerothecae* (Rübsaamen) and *M. pucciniae* (Rübsaamen).

Isle of Man Cecidomyiidae

The most recent checklist of the Diptera of the British Isles (Chandler, 1998) contains 620 species of Cecidomyiidae, indicating that, in number of species, this is the largest family of British Diptera. Despite this, the family has been little studied in the British Isles. This is especially true of the Isle of Man where few cecidomyiids have been recorded, other than some gall-inducing species (Allen, 1952; Garrad, 1976; O'Connor, 1996; O'Connor & O'Connor, 1999).

Since 1997 one of us (FDB) has collected cecidomyiids in the Isle of Man and has sent specimens to the other (KMH) for identification. As a result new records have been made, including six species not previously recorded in the British Isles. The following annotated checklist, which includes records from the publications listed above, summarises the information currently available, which could be substantially extended by further studies. Voucher specimens (microscope slides) for our records will be deposited in the Manx Museum, except those for the new British records (indicated by *), which will be deposited in the Natural History Museum, London [NHM].

Grid references for the main locations cited are: Laxey, Baldhoon Road and Glen Gardens, SC 42 84; Mountain Railway and Valley gardens, SC 43 84; Douglas, Harris Terrace, SC 37 76, Villa Marina, SC 38 76; Ramsey, Grove Museum, SC 44 95; Lezayre, Tea Rooms, SC 40 94.

LESTREMIINAE

This is the most primitive of the three subfamilies of Cecidomyiidae. Larvae feed on fungi in decaying organic matter, especially leaf litter, soil and decaying wood. Adults are often abundant and are easily caught in traps. Jaschhof (1998) published a thorough revision, based on adult morphology, of the 318 species known in the Holarctic Region and the identifications made here are based on his work, which should be consulted for additional information. All specimens were collected from yellow pan water traps and all identifications are based on examination of males. In most cases associated females could not be identified to species.

Anaretella defecta (Winnertz). A widespread Holarctic species. Laxey, Baldhoon Road, in water trap, 13-14.03.1999, [FDB 00-252], 1 male.

* *Aprionus insignis* Mamaev. First British record of this Holarctic species which was first described from Russia and later recorded from Sweden, Germany and Canada (Jaschhof, 1998). Laxey, Baldhoon Road, in water trap, 01-05.05.2000, [FDB 00-303], 1 male, M. Jaschhof det., to be deposited in the NHM.

Campylomyza flavipes Meigen. A widespread and locally abundant Holarctic species. Laxey, Baldhoon Road, in water trap, 10-11.01.1998, [FDB 00-248]; 15-16.03.1998, [FDB 00-250]; 28-29.08.1999, [FDB 00-254]; 21.02.2000, [FDB 00-300], 2 males; 26.02.2000, [FDB 00-301], 4 males; 27-29.03.2000, [FDB 00-302], 1 male; 1-5.05.2000, [FDB 00-303], 3 males; 15.05.2000, [FDB 00-305], 1 male.

Catocha latipes Haliday. A widespread and locally abundant Holarctic species. Laxey, Baldhoon Road, in water trap, 13-14.03.1999, [FDB 00-252], 1 male; 27-29.03.2000, [FDB 00-302], 1 male, 1 female.

Lestremia cinerea Macquart. A widespread and locally abundant cosmopolitan species, sometimes a pest of cultivated mushrooms. Laxey, Baldhoon Road, in water trap, 04-05.10.1997, [FDB 00-249], 1 male; 24-26.08.1998, [FDB 00-251], 1 male; 26.09.1999, [FDB 00-255], 1 male

PORRICONDYLINAE

This subfamily was represented by two adults in pan trap catches. Identification of the species was not attempted.

CECIDOMYIINAE

This is the most diverse and species rich of the three subfamilies. It contains species that are primarily phytophagous (including those that induce plant galls) as well as species that are mycophagous, and some that are zoophagous, preying on aphids and other small invertebrates. Due to lack of taxonomic study, the higher classification of the subfamily has not been clearly defined. For the purposes of this checklist species are listed under the two Supertribes that are currently recognised.

LASIOPTERIDI

Dasineura crataegi (Winnertz). This species is widespread in western Europe and occurs throughout most of the British Isles. The terminal rosette galls on young shoots are conspicuous and are often abundant in hedgerow re-growths after cutting. Laxey, 07.08.2000, larvae in shoot-tip gall of hawthorn, *Crataegus monogyna* Jacq., [FDB], 5 larvae.

Dasineura fraxini (Bremi). A widespread and locally common Palearctic species. Galls develop on leaf mid-ribs (and occasionally on petioles) of ash (*Fraxinus excelsior*), as thickened pouches with slit-shaped openings above. Douglas, Manx Museum grounds, larvae in mid-rib galls on leaves of ash, 01.09.1999, 07.08.2000, 17.09.2000, [FDB], 19 larvae. Recorded earlier by O'Connor (1996).

Dasineura glechomae (Kieffer). Recorded by Garrad (1976). A common and widespread species throughout Europe inducing distinctive tubular ('lighthouse') galls on upper leaf surfaces of ground ivy, *Glechoma hederacea* L.

Dasineura pustulans (Rübsaamen). Recorded by O'Connor (1996) and O'Connor & O'Connor (1999). A common and widespread species throughout Europe inducing galls on leaves of meadowsweet, *Filipendula ulmaria*(L.) Maxim. Larvae live exposed in shallow depressions on the undersides of leaves briefly in early summer. After the larvae have fallen to the soil distinctive yellow to white leaf spots, about 5 mm across, remain through the summer and autumn.

Dasineura ulmaria (Bremi). Recorded by Allen (1952) and Garrad (1976). Also a widespread and common gall on *F. ulmaria* throughout Europe. Galls appear as rashes of small yellow to red swellings, 1-2 mm across, on upper leaf surfaces with corresponding conical projections on undersides.

Dasineura urticae (Perris). Larvae induce conspicuous galls of varied shape and size on leaves, flowers and stems of stinging nettle, *Urtica dioica* L. The species is widespread throughout Europe and often locally very abundant, especially in autumn. Laxey, Baldhoon Rd., 04.10.2001, adults emerged 28-30.10.2001, [FDB IOM-144], 3 males, 4 females. Recorded earlier by Allen (1952) and Garrad (1976).

Dasineura sp. on *Acer* flowers. This is probably an undescribed species that merits further study. Professor Edvard Sylvén (in litt.) informed us that he had found an undescribed species of *Dasineura* in flowers of Norway maple, *Acer platanoides*, in Sweden but knew of no records from *A. pseudoplatanus*. Laxey, Glen Gardens, larvae in flowers of sycamore (*Acer pseudoplatanus*), 18-24.05.2000, [FDB]; 25-28.06.2001, [FDB IOM-0106], 3 larvae; 05.2002, [FDB], 4 larvae.

Jaapiella veronicae Vallot). Recorded by Allen (1952) and Garrad (1976). This is a very common and widespread species in Europe inducing conspicuous and remarkably uniform terminal hairy galls, about 5-10 mm across, on shoot tips of germander speedwell, *Veronica chamaedrys* L.

Rabdophaga strobilina Bremi. Recorded by Garrad (1976) [as *R. rosaria*]. This widespread Palaearctic species induces conspicuous terminal rosette galls on shoots of willows.

CECIDOMYIID

Aphidoletes aphidimyza (Rondani). This is a widespread and common cosmopolitan species, first described from Italy in 1847. Larvae are well-known specialised predators on aphids (with occasional records from whiteflies) and the species is used as a commercial biocontrol agent against aphid pests, especially on glasshouse crops but also on outdoor crops. Laxey, larvae preying on *Hyalopterus pruni* on plum, 30.08.2000, [FDB]. Laxey, Glen Garden, preying on *Myzus cerasi* on ornamental cherry, 11.06.2001, [FDB, IOM-0104]. Laxey, predator on

Periphyllus acericola (Walker) on sycamore, 12.10.2000, [FDB]. Laxey, Baldhoon Road, with aphids on plum, 26-30.09.2001, [FDB IOM-0128] Laxey, Baldhoon Road, preying on *Cryptomyzus ribis* on red currants, 19.08.2002, [FDB IOM-149]. Jurby Water Gardens, feeding on glasshouse whitefly, 18.08.2002, [FDB IOM-151], 2 larvae. Laxey River Gardens, with aphids on *Cotoneaster*, 27.09.2002, [FDB IOM-154], 3 larvae.

Aphidoletes urticaria (Kieffer). This is also a predator on aphids but generally less widespread and abundant than the preceding species. It may have a more northern distribution than *A. aphidimyza*. Laxey, Glen Gardens, larvae preying on *Myzus cerasi* on ornamental cherry, 15.06.2000, [FDB]; 11.06.2001, [FDB, IOM-0104]. Laxey, predator on *Periphyllus acericola* (Walker) on sycamore, 12.10.2000, [FDB]. Laxey, Baldhoon Road, with aphids on plum, 26-30.09.2001, [FDB IOM-0128] Laxey, Baldhoon Road, preying on *Cryptomyzus ribis* on red currants, 19.08.2002, [FDB IOM-149].

* *Aphidoletes thompsoni* Möhn. This is one of two European species that prey on adelgids. Möhn (1954) described larvae, males and females from Germany preying on two species of *Adelges* on a species of *Abies* and indicated morphological characters that distinguish this species from *A. abietis* (Kieffer), which also preys on species of *Adelges*. It has been suggested that the two species may be synonymous (Gagné, in prep.) but larvae collected in the Isle of Man agree well with Möhn's description, in which case this is the first British record of this species and the first record of the species from *Pineus pini* (Macquart). Adults have yet to be reared to confirm this identification. Laxey, Valley Gardens, larvae with *Pineus pini* on *Pinus sylvestris*, 10.07.2000, [FDB]; 07.06.2001, [FDB, IOM-0103]. Laxey River Gardens, with *Pineus pini* on pine, 22.06.2001, [FDB IOM-143], 3 larvae. Laxey Mountain Railway, from collection of *Pineus pini* on pine, 22.06.2001 [FDB IOM-0119]; 23.06.2001, [FDB, IOM-0112].

Clinodiplosis cilicrus (Kieffer). This is a very common Palaearctic species. Larvae are mycophagous and are often abundant in decaying plant tissues. Laxey, Baldhoon Road, from raspberry fruits infested by raspberry beetle, *Byturus tomentosus* (DeGeer), 01.09.1997, [FDB 00-239 / 00-240 / 00-244 / 00-245], 2 males, 2 larvae; on gooseberry leaf, 22.08.2001, [FDB IOM-0122], 2 larvae; larvae under scales of rotting onion in store, 30.12.2000, [FDB], 5 larvae.

Contarinia jacobaeae (Loew). Recorded by O'Connor (1996). Larvae live in flower buds of *Senecio jacobaea* L. which become slightly swollen and pear-shaped. Common and widespread in Europe.

Contarinia pyrivora (Riley). This is the pear midge which is sometimes a serious pest of cultivated pears, especially in gardens. Females lay eggs in pear blossom and the larvae feed in the young fruitlets, which fail to develop. Ramsey, from pear fruitlets, 04.06.2001, [FDB IOM-0105], 2 larvae.

Contarinia quercina (Rübsaamen). Larvae of this widespread Palaearctic species feed in buds and expanding shoots of various species of *Quercus*, sometimes causing appreciable distortion and stunting of young growths. Douglas, Villa Marina, larvae in distorted oak shoots, 31.05.2000, [FDB], 2 larvae.

Contarinia tiliarum (Kieffer). This is a common and widespread Palaearctic species that induces hard globular swellings on petioles, flower stalks and young stems of various species of *Tilia*. Peel Road, Douglas, 02.07.2001, [FDB IOM-0119]. Also recorded by O'Connor & O'Connor (1999).

* *Coquillettomyia lobata* (Felt). This is a Holarctic species, easily identified by the structure of the male genitalia. It was first described from Lake Clear, New York State, USA and has since been recorded in the Netherlands, Germany and the former USSR. Most records are of caught specimens and the biology of the species is unknown. This is the first published British record of the genus and species but the species has been taken in a light trap at Ripley, Surrey in recent years (Harris, unpublished). Laxey, Baldhoon Rd., in water trap, 17-18.07.2002, [FDB IOM-148], 1 male (cecid 200134) to be deposited in the NHM.

Lestodiplosis spp. Larvae of *Lestodiplosis* are predators on various small invertebrates, including larvae of other gall midges, beetle larvae, caterpillars, mites and even millipedes. The genus occurs worldwide and many species have been named. Thirty-seven names are included in the British checklist but some of these are likely to be synonyms as they were erected on the unproved assumption that each different plant or invertebrate host supports a distinct species of *Lestodiplosis*. It seems much more likely that many species are generalist and opportunistic predators, as indicated by recent observations in Wytham Wood, Oxford (Cole & Harris, 2002). The Isle of Man records are summarised below and specimens that may be of value in future revisionary taxonomic studies will be deposited in the Natural History Museum, London.

Lestodiplosis pini Barnes. The species of *Lestodiplosis* that was encountered most frequently occurred as larvae in colonies of the adelgid, *Pineus pini* (Gmelin) on Scots pine, *Pinus sylvestris* L. These larvae may have been feeding directly on the adelgids but could also have been preying on *Aphidoletes thompsoni* larvae, which are specialised predators on adelgids (see above). The species is tentatively identified as *Lestodiplosis pini* Barnes, which was originally described (Barnes, 1928) on adults reared from larvae found in aphid colonies living on the bark of Weymouth pine, *Pinus strobus* L. in Delamere Forest, Cheshire, during August and September, 1925. *Aphidoletes* larvae were also present and Barnes considered it most likely that they were the prey of *L. pini* rather than the aphids, as there were at that time no authenticated cases of *Lestodiplosis* larvae feeding on aphids. Future revisionary studies will probably show that *L. pini* is a junior synonym of one of the many other *Lestodiplosis* species described from western Europe. Laxey, Valley Gardens, 10.07.2000, 1 larva; 06.08.2000, 2 male, 1 female; 01-05.09.2000, 1 larva, 1 female pupa; 22.06.2001 [FDB IOM-143], 1 female;

28.06.2002, adults emerged 10-20.07.2002, [FDB IOM-140], 3 males, 2 females; 12.07.2002, emerged 21.07.2002 [FDB IOM-139], 1 female, emerged 29.07.2002 [FDB IOM-141], 1 male. Laxey, Mountain Railway, 23.06.2001, adults emerged 26.06-05.07.2001, [FDB IOM-112], 2 males, 4 females; 27.07.2001, [FDB IOM-0120], pupal exuvium. All from colonies of *Pineus pini* on *Pinus sylvestris*. Laxey, Mountain Railway, from *Pineus pini* colony on *Pinus nigra* var. *maritima*, 22.07.2002, adult emerged 06.08.2002, [FDB IOM-152], 1 female.

Lestodiplosis urticae Nijveldt. Larvae of this species prey on larvae of *Dasineura urticae* (Perris), which is a widespread and common species inducing galls on stinging nettles, *Urtica dioica*, (see above). As with the previous species of *Lestodiplosis*, it may be synonymous with an earlier described species. One larva was observed feeding on a larva of *D. urticae*, which confirms this association. Laxey, Baldhoon Rd., feeding on *Dasineura urticae* larva, 03.09.2001, [FDB IOM-0124], 1 larva, plus prey larva; on nettle foliage, [FDB IOM-0126], 1 larva; 26.08.2001, [FDB IOM-0125], 2 larvae; on nettle leaf, 18.08.2001, [FDB IOM-0121], 2 pupae.

Lestodiplosis spp. (*raphani* gp.). Laxey, Baldhoon Rd., yellow pan water trap, 10-11.01.1998, [FDB 00-248], one male. This is an unusually early date for an adult *Lestodiplosis*. So far as is known, most species overwinter as larvae and adults emerge in the following spring. Laxey, Baldhoon Rd., caught on laboratory bench, 02.07.2002, [FDB IOM-142], one female. This is probably sp. A (*raphani* gp.) recorded by Cole & Harris (2002) from oak in Wytham Wood, Oxford. Douglas, Harris Terrace, on *Tilia* leaf, 27.06.2001, [FDB IOM-0115], one larva.

A number of other specimens of *Lestodiplosis* were collected, mostly belonging to the *Lestodiplosis trifolii* species group, and have been retained for further study. These include: Douglas, from cocoons on twigs of sycamore, *Acer pseudoplatanus* L., 31.03.1999, [FDB 00-242], 3 females; under bark of dead rowan, *Sorbus aucuparia* L., with aphid mummies, 31.05.2000, [FDB], one larva; preying on caterpillar of *Caloptilia syringella* (Fabricius) in leaf mine on ash, *Fraxinus excelsior* L., 13.09.2000, [FDB], one larva. Ramsey, from colony of *Eulecanium tiliae* on elm, 4.03.2001, [FDB IOM-0101], 1 female; with *Eulecanium* and *Pulvinaria* on *Ribes*, 24.05.2002, adult emerged 04.06.2002, [FDB IOM-146], 1 female; Grove Museum, with *Aulacaspis rosae* on rose, 21.04.2001, [FDB IOM-145], 1 male. Lezayre, from colony of *Chionaspis salicis* on willow, 11.03.2001, adult emerged 23.03.2001, [FDB IOM 0102], 1 male. Laxey, larva on hawthorn leaf, 12.06.2001, [FDB IOM-0113], 1 female.

* *Mamaevia vysineki* Skuhrová. This is a new British record of a European species first described from Czechoslovakia and later recorded from Poland, Germany and the USSR (Skuhrová, 1986). All records are of caught specimens and the biology of the species is unknown. Laxey, Baldhoon Road, in water trap, 16-17.05.1999, [FDB 00-253], male 20048, to be deposited in the NHM.

- * *Mycodiplosis sphaerothecae* (Rübsaamen). This mycophagous species has been recorded on many occasions on powdery mildews (*Sphaerotheca*, *Erysiphe*, *Microsphaera* etc.) in Germany (Holz, 1970) and has also been recorded from the Netherlands. It is probably widespread and abundant throughout the British Isles but this is the first published record. Laxey, Baldhoon Road, larvae with mildew on black currant leaves, 05.07.2000, and 19.08.2002, [FDB IOM-150]. Slide no. 20123 (3 larvae) to be deposited in the NHM.
- * *Mycodiplosis pucciniae* (Rübsaamen). This is a second mycophagous species for which there is no previous published record in the British Isles. In Germany it has been recorded frequently on rust fungi (*Melampsora* and *Puccinia*) (Holz, 1970) and it has also been recorded from Latvia and Russia. Groudle Glen, larvae on *Alnus* leaves infected by fungus, 29.09.2002, [FDB IOM-155]. Slide 20122 (4 larvae) to be deposited in NHM.

Adults of one or more additional species of *Mycodiplosis* were caught at Laxey in a yellow pan water trap on two occasions, 9-10.09.1997, [FDB 00-247]; 28-29.08.1999, [FDB 00-254] but the species have not been identified.

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Discovery of a new site for the White-mantled Wainscot *Archanara neurica* (Hb.) (Lep.: Noctuidae) in Suffolk

The Suffolk Moth Group (SMG) and Suffolk Branch of Butterfly Conservation (SBBC) in recent years have been carrying out surveys to bring up to date records the records of White-mantled Wainscot *Archanara neurica* at known sites. In addition to monitoring work carried out at known locations, the SMG held a meeting at Benacre Broad in 2002 to determine if the species was present at this site. The site seemed a likely place for the species to occur as the preferred habitat of dry reed-beds was present in this area of extensive reed-beds. Lights were operated at the inland end of the broad covering the drier areas of the reed-bed; two examples of *A. neurica* were recorded during the evening. This would appear to be a new location for the species, extending its known northerly range within the county.

The following is a summary of recent records for *A. neurica* that are held in the Suffolk county moth record database.

Site	Date	Recorder(s)	OS Grid reference
Benacre Broad	2nd Aug 2002	SMG	TM5182
Walberswick	3rd Aug 2001	SMG	TM4873
Westwood Marshes	27th Jul 2001	SMG	TM4772
Dunwich	1996	Rafe Eley	TM4770
Dunwich Heath	11th Aug 2000	SMG	TM4767
Minsmere	11th Aug 2001	SBBC	TM4767
Minsmere	29th Jul 2000	SMG	TM4666
Minsmere	25th Jul 1997	John Chainey	TM4667
Darsham Marshes	3rd Aug 1990	Arthur Watchman	TM4268
North Warren, Thorpeness	26th Jul 2002	SMG	TM4659

The known range of the moth in the county runs from Thorpeness in the south to Benacre Broad in the north and it has been recorded from all the major coastal reed-beds between Thorpeness and Walberswick. Between Walberswick and Benacre Broad lie further reed-beds, but these have not yet been surveyed by the SMG or SBBC. If anyone has any records for these areas I would be grateful to receive them. The record for Darsham Marshes is interesting as it is more than six kilometres inland from the nearest known site on the coast and is not in an area containing extensive reed-beds. This is the only inland record that we have for the species despite this being a relatively well-recorded area of the county.— TONY PRICHARD, 3 Powling Road, Ipswich, Suffolk, IP3 9JR (E-mail : tony.prichard@btinternet.com).

Pyrrhalta viburni (Paykull) (Col.: Chrysomelidae) breeding on *Viburnum tinus*

On 16 September 2000, I observed some foliar damage to a *Viburnum tinus*, an evergreen shrub often known as Laurustinus, growing in a town garden at Pershore, Worcestershire (OS grid reference SO 94), and noted six static examples of *Pyrrhalta viburni* on it. The evidence strongly suggested that the shrub was a host-plant of *P. viburni*. This was confirmed on 3 June 2001, when 42 mature larvae of *P. viburni* were counted on the leaves. I had assumed during 2000 that this instance of utilisation of *V. tinus* by *P. viburni* was novel, but this may not have been so; a reference in *The Garden* (127(6):483) during 2002 implies that this may have been part of a wider trend in English gardens.

The damage caused by the larvae was noticeable, and consisted of extensive series of "shot-holes" and some larger perforations, with skeletonisation of the leaf apparent for some distance around the actual perforations. The damage is persistent and would be regarded by most people as unsightly, the damaged areas becoming discoloured during the growing season. Damage also occurred to leaves prior to their unfolding, so that the visible effects were later compounded. The larvae generally remain concealed on the leaf undersides, and damage to the plant, measuring 2m × 1m, during 2002 was such that its vigour was rather reduced.

This observation raises a number of interesting questions. Host plants of *P. viburni* are usually given exclusively as either Guelder Rose *Viburnum opulus* or Wayfaring Tree *Viburnum lantana*. It may also occur on the Snowball Tree *Viburnum opulus* "Roseum," a sterile plant of cultivation, since Warchalowski (1994, Chrysomelidae 4, *Fauna Polski* 16) refers to this as a host plant. There is no difficulty in explaining the arrival of *P. viburni* on the *V. tinus*, since examples have been observed in flight over Pershore town (Whitehead, pers. obs.) and *V. opulus* is a characteristic plant of local ancient woodlands.

Viburnum tinus is a sclerophyllous shrub of up to 3.5m in height, but often no more than 1.5m in its native woodlands around the fringes of the Mediterranean Sea-basin. Warchalowski (*op. cit.*) mapped the European range of *P. viburni*, which overlaps with that of *V. tinus* in the French Maritime Alps; the beetle-plant association seems not to have been recorded there. According to Loudon (1844, *Arboretum et Fruticetum Britannicum* 2, Longman Brown Green & Longmans, 1256 pp.) *Viburnum tinus* was introduced into Britain as an ornamental plant in 1596, so there has been plenty of time for the association to develop here. At the present time, I have not been able to find other examples of this beetle-plant association in the immediate area, although when the original host-plant was dug out during January 2003, an example of the cultivated *Viburnum tinus* "Gwenllian" planted during 2001 and some 4m distant, also revealed evidence of leaf damage caused by larval *P. viburni*. *Viburnum tinus* is increasingly seen as a naturalised plant in England (Preston, C.D., Pearman, D.A. & Dines, T.D. (eds.) 2002, *New atlas of the British and Irish flora*. Oxford, 910 pp.), which may also bulk up rapidly by layering, so that the opportunity exists for this association to develop yet more widely.

The difference in leaf texture and structure between *V. opulus* and *V. tinus* is substantial and one wonders whether the ability of the larvae to succeed in this way will result in particular structural adaptations to them.

Finally, a matter which may perhaps have been overlooked. *Pyrrhulatta* Joannis, 1866 is closely related to *Galerucella* Crotch, 1873, some of which are *Salix*-associated; in most checklists they are placed consecutively. In terms of molecular phylogeny Caprifoliaceae is apparently far removed from Salicaceae, yet *Viburnum* may contain Salicin (Trease, G.E. & Evans, W.C., 1972. *Pharmacognosy*. Ballière Tindall, London. viii, 794 pp.), which may have some bearing on the utilisation of *Viburnum* by *P. viburni*.— P. F. WHITEHEAD, Moor Leys, Little Comberton, Pershore, Worcestershire WR10 3EH (E-mail: paul@moorleys.freemove.co.uk).

A December record of *Wesmaelius subnebulosus* (Stephens) (Neur.: Hemerobiidae) in Hertfordshire

It was unseasonably mild on 22 December, 2002, with temperatures exceeding 15°C (59°F). In the morning we observed a Peacock butterfly *Inachis io* flying in Tewin churchyard, in central Hertfordshire. The mild weather was further evidenced by our moth catch that evening which included in excess of 100 Winter Moths *Operophtera brumata*, two Satellites *Eupsilia transversa*, and a Pale Brindled Beauty *Apocheima pilosaria*, a species not normally seen here before February. Most unusual, however, was an active specimen of the brown lacewing *Wesmaelius subnebulosus*.

Our records for Digswell show that adults appear in early spring, peak in late July through August, and occur continually into late autumn. The previous latest record we have is 16 October. Plant (1994. *Provisional atlas of the lacewings and allied insects (Neuroptera, Megaloptera, Raphidioptera and Mecoptera) of Britain and Ireland*), notes that “This species has a long season occurring from late March to early November, but with a definite peak in July and August” and there are no literature references of this species overwintering as an adult. However, at a later date Plant (2001. *London Naturalist* **80** (Suppl.): 159-167) records a single (live) adult female inside a curled plane tree leaf caught up in a shrubbery in Buckingham Palace Garden, central London, on 21 February 2000 and notes that this appeared to be the first record of this species over-wintering as an adult in Britain.

Our own December record fuels the debate as to whether or not small numbers of this species hibernate in the adult phase. Large, curled leaves, caught up in bushes, where they are relatively protected from the frost and certainly protected from waterlogging, are the “natural” hibernation sites of the common green lacewing *Chrysoperla carnea* and its segregate siblings (Colin Plant, pers. comm.) and so it is no surprise that this is where the first example of an overwintering *Wesmaelius subnebulosus* was found by Colin. Perhaps careful searching of this micro-habitat may reveal more over-wintering insects?— TOM and JANET GLADWIN, 99 Warren Way, Digswell, Welwyn, Hertfordshire AL6 0DL.

EPICHORISTODES ACERBELLA (WALKER) (LEP.: TORTRICIDAE). THE FIRST OCCURRENCE OF A WILD-CAUGHT MOTH IN GREAT BRITAIN¹STEVEN NASH AND ²MARTIN CORLEY¹23 Henley Drive, Highworth, Wiltshire SN6 7JU.²Puckety Farm Cottage, Faringdon, Oxfordshire SN7 8JP.**Abstract**

The first capture of a wild-caught adult of *Epichoristodes acerbella* (Walker) (Lep.: Tortricidae) in Britain is reported. The occurrence is discussed and some hints for recognising the species are given.

Introduction

On the morning of 26 July 2002, whilst sorting through the contents of the Robinson m.v. trap in his parents' garden in Fernham, Oxfordshire (within that part of the county which falls into Vice-county 22: Berkshire), the first author found a male of an unfamiliar looking tortricid resting on the wall near the trap. The moth was later photographed, and a copy of the image loaded to the files area of the UK Moths e-group forum for comment. The only suggestion forthcoming was that it could be an ochreous form of *Acleris rufana* D. & S., however its normal foodplant (*Myrica gale*) is not found in the north-west part of VC 22, and the moth itself had not been recorded in the vice-county for over 100 years. With this in mind the specimen was set, and eventually passed to the second author for dissection. It was at once apparent that the moth was not an *Acleris*. It was evidently a member of the Archipini, but did not match any of the native or established alien species of the tribe.

This led to consideration of the possibility that it might be either *Homona menciama* (Walker) or *Epichoristodes acerbella* (Walker). A drawing of the genitalia was sent to Kevin Tuck at the Natural History Museum, London. Kevin was quick to confirm that the moth was indeed *Epichoristodes acerbella* – the first occurrence of a wild-caught moth in the UK.

The moth is illustrated in Plate A. However, the description that follows is based on 51 specimens in the Natural History Museum, London. Wingspan 16 – 26 mm. Male with head and anterior part of thorax ochreous to dark brown. Forewing narrow, without costal fold, apex slightly falcate; ground colour yellowish or ochreous; base of costa sometimes dark brown, fasciate markings absent or reduced to an irregularly shaped dark brown tornal blotch, occasionally with a second spot, most specimens with scattered blackish scales on the forewing. Hindwing whitish grey. The adult moth is illustrated by Razowski (2002). Male genitalia are figured by Chambon (1999) and Razowski (2002). The acdeagus has a patch of small carinae externally, which readily distinguishes it from other Archipini found in the UK. We found no significant differences in markings between males and females except that a few females had scattered blackish scales on the forewing. The female genitalia are figured by Razowski (2002).

E. acerbella is a variable species. Specimens with yellow forewings usually have light coloured head and thorax; those with ochreous forewings have dark head and front of thorax, this colour extending to a variable extent along costa. The dark brown tornal blotch is frequently extended as a narrow streak along the dorsum, and in heavily marked specimens it can form an oblique partial fascia extending to nearly half way across the wing. Occasionally this is broken into two spots. A few specimens had a small spot in mid-wing at 5/6 wing length. Three specimens from Madagascar were only 13 – 17 mm wingspan, and were heavily marked, one specimen having a spot on the costa representing the costal end of the fascia. The Fernham specimen was unique among the material examined in having scattered blackish scales with no other dark markings.

E. acerbella has been recorded previously from Britain as larvae intercepted at airports on flowers imported from Africa, particularly *Dianthus* from East Africa (Bradley *et. al.*, 1973). Also reported on chinchinchees (*Ornithogalum thyrsoides*) from South Africa (Pelham-Clinton, 1969). Razowski (2002) gives other plant genera as food plants: *Chrysanthemum*, *Erigeron*, *Sonchus* (Asteraceae), *Medicago*, *Lupinus* (Fabaceae), *Capparis* (Capparidaceae), *Lycopersicon* (Solanaceae), *Rosa*, *Malus*, *Pyrus*, *Prunus* (Rosaceae) and *Carex* (Cyperaceae). In Africa it is recorded from South Africa, Angola, Zimbabwe, Kenya, Reunion and Madagascar. It occurs as an introduction in Southern Europe (Mediterranean parts of France, Spain and Italy), where it can become a pest of cultivated *Dianthus* and *Chrysanthemum*. Razowski (2002) also mentions that it occurs in greenhouses in Britain, Germany and Denmark.

At present it is only possible to speculate on the origin of the Fernham moth. It is unlikely that it is breeding outdoors in Fernham. It could have come from discarded imported flowers obtained from a florist or as an escape from a greenhouse in which it is breeding. The British climate is probably not sufficiently warm for it to become established in the wild, but in view of the continued spread of other introduced tortricids, particularly *Epiphyas postvittana* (Walker), this possibility cannot be excluded.

Acknowledgements

We are most grateful to Kevin Tuck for confirming the identity of the Fernham moth, for assistance at the Natural History Museum and for valuable comments on the manuscript.

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Plate A. *Epichoristodes acerbella* (Walker) (Lep.: Tortricidae) male, 26.vii.2002, Fernham, Berkshire (VC 22). Photograph: ©Steven Nash, 2003

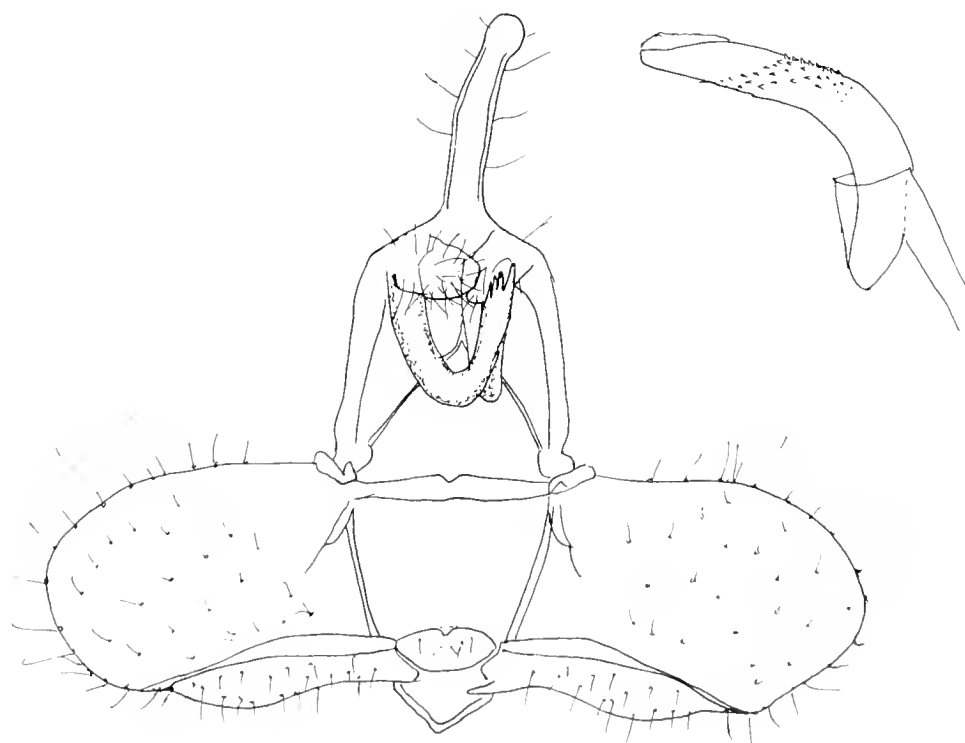


Figure 1. Male genitalia of *Epichoristodes acerbella* (Walker) (Lep.: Tortricidae), 26.vii.2002, Fernham, Berkshire (VC 22). Illustration: ©Martin Corley, 2003

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“British leaf mining fauna” – a new web site describing the leaf miners found in Britain

We are pleased to announce a new website which has the ultimate aim of picturing all the leaf mining species in Great Britain – Coleoptera, Diptera, Hymenoptera and Lepidoptera. The site may be found at [http:// www.leafmines.co.uk](http://www.leafmines.co.uk).

The site has been assembled and funded by us and now contains images of over 200 leaf mining species. The Lepidoptera illustrated have up-to-date distribution maps – generated by Mapmate software, which utilises the data from the National Leaf Mining Lepidoptera Scheme (around 76,000 records). We realise that gaps in some areas of the country remain and we would encourage recorders to send their data in. We would also like to incorporate maps from other orders into the website and again would, encourage recorders to help us with this aim. The website is also available in CD form for a donation to cover costs (but please bear in mind we are not a professional organisation). Regular updates will be available either from the site or as a CD.

For the future, we want you to help us now to further improve the site, by increasing the range and quality of images available. We particularly need photographs of fresh mines and larval stages of the miners. We would also like to replace the pictures of the preserved mines, which we have used in the construction of the site.

We invite coleopterists, dipterists and hymenopterists to join this project, as we are predominantly lepidopterists and would welcome expertise in other orders. We look forward to hearing from you and we hope that our experience in assembling this site will encourage other to set up their own web sites as we can visibly demonstrate what six enthusiastic amateurs can achieve in a relatively short time span, with limited funding.– BARRY DICKERSON, 27 Andrew Road, Eynesbury, St Neots, Huntingdon, Cambs PE19 2QE (E-mail: BARRY@eynesbury27.freeserve.co.uk), ROB EDMUNDS, 32 Woodcote Green, Fleet, Hants GU51 4EY (E-mail: r.edmunds@ntlworld.com), MARTIN ELLIS, 14 Great Ostry, Shepton Mallet, Somerset, BA4 5TT (E-mail: mjellis@tesco.net), IAN KIMBER, 6 Bank Close, Littleborough, Lancashire OL15 0DP (E-mail: ian@ukmoths.force9.co.uk), DAVID MANNING, 27 Glebe Rise, Sharnbrook, Bedford MK44 1JB (E-mail: dvmanning36@hotmail.com) and PAUL TALBOT, 133 Park Road, Elland, West Yorkshire HX5 9H7 (E-mail: paulinvc63@blueyonder.co.uk).

Parasitoids *Homolobus annulicornis* (Nees) (Hym.: Braconidae) and *Eumea linearicornis* (Zetterstedt) (Dipt.: Tachinidae) reared from larvae of the White-spotted Pinion moth *Cosmia diffinis* (L.) (Lep.: Noctuidae), with notes on habitat of the host

Three larvae of the White-spotted Pinion moth *Cosmia diffinis* (L.) were found during searches in 2002 as part of Butterfly Conservation's *Action for Threatened Moths project*. All three were collected for rearing. Two out of the three produced parasitoids. The details are as follows:

One larva of the White-spotted Pinion, in its black-headed penultimate instar, was found by the author at Overhall Grove, Cambridgeshire (OS grid reference TL 332627) on 26 May 2002. Plate B shows the habitat in which the larva was found. The arrow marks the exact spot of the larval spinning, which was just above head height and several trees into a stand of tall but relatively immature Small-leaved Elms *Ulmus minor minor*.

The larva was collected for rearing and kept in a large plastic box in an unheated garage. During the rearing attempt it was noted that the larva emerged from its original leaf shelter to feed at night and returned to it to moult, entering its final instar on 30/31 May. In the final instar the head is reddish brown. By 3 June, the larva was becoming translucent with its dorsal heart visible and it had spun a light cocoon between an elm leaf and the paper lining the floor of the box by 7 June. On 25 June, a single red parasitoid wasp emerged and was active in the box. The wasp remained alive in the box until natural death on 28 June. The cocoon of the moth was then opened and inside was found the single, white, ovoid cocoon of dense silk spun by the wasp larva beside the head capsule and dried skin of the host (Plate C).

The wasp was subsequently identified by Dr Mark Shaw, of the National Museums of Scotland, as a male *Homolobus annulicornis* (Nees) (Hymenoptera: Braconidae: Homolobinae). Dr Shaw reports that this wasp, which has been misidentified as *H. testaceator* in British literature, is widespread but rather rare in Britain. It has been recorded from the larvae of various noctuid moths including the Lead-coloured Drab *Orthosia populeti* (Fabr.), the Dingy Shears *Parastichtis ypsilon* (D. & S.) and the Double Square-spot *Xestia triangulum* (Hufn.), which are not particularly closely related taxonomically, nor in behaviour. *Homolobus annulicornis* is the second species of parasitic wasp recorded from larvae of the White-spotted Pinion during the present study, the first being *Meteorus gyrator* (Thunberg) (Hymenoptera: Braconidae: Meteorinae) (see Waring 2001).

Two White-spotted pinion larvae were found at Duck End Farm, Park Lane, Dry Drayton, Cambridgeshire (TL 383619) on 3 June 2002, during one hour of searching for spun leaves, by Ruth Edwards, the owner of the site, and by the author. We each found one spinning, the first after 23 minutes of search and the second within three metres of the first, five minutes later. Both larvae were in the final instar, about 25mm in length with reddish heads. Plate D shows Ruth with her right hand on the exact position in the foliage in which she found her spinning.

Both larvae were found in similar positions, at shoulder-height on the outer foliage of a shelter-belt of tall Small-leaved Elms. This is confirmation that breeding occurs



Plate B. *Cosmia diffinis* breeding site, Overhall Grove, Cambridgeshire, 26 May 2002. Arrow shows position of larval spinning.

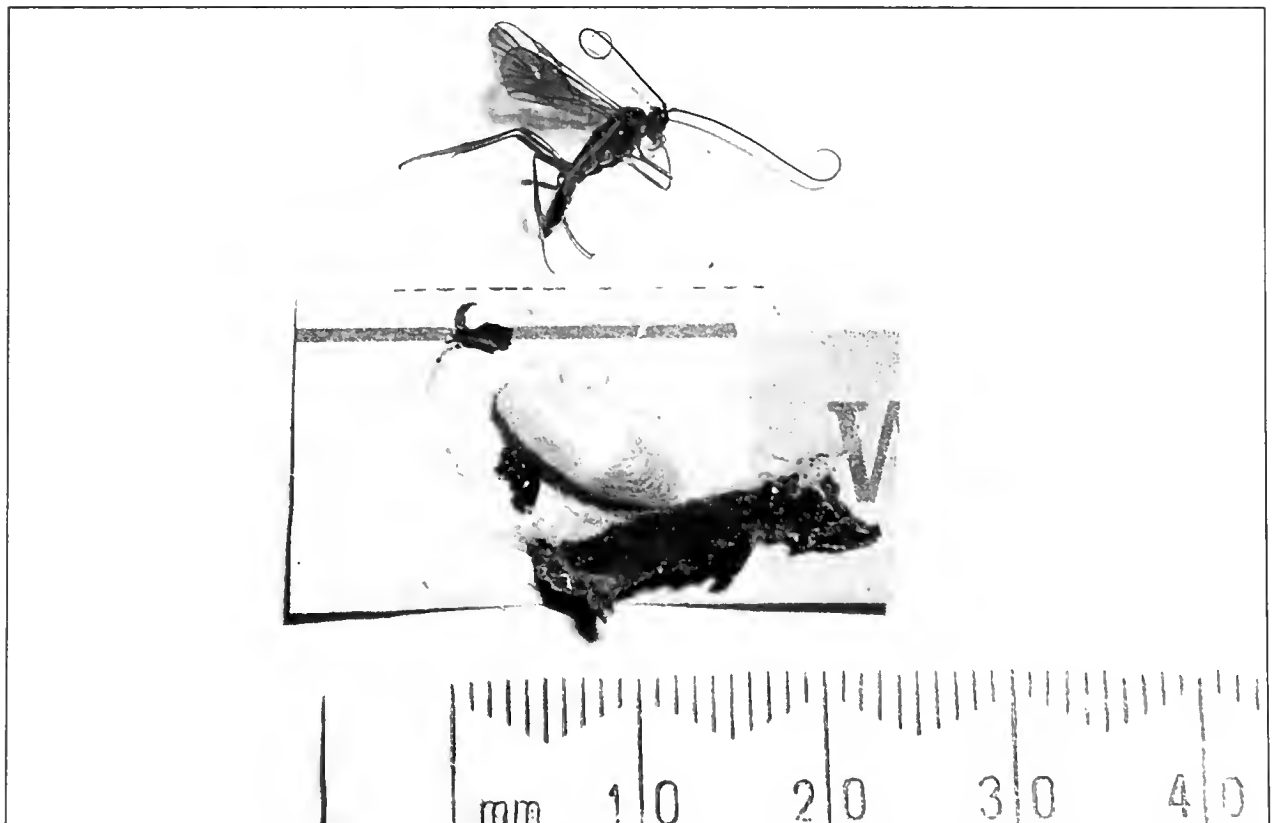


Plate C. *Homolobus annulicornis* with cocoon and remains of host *Cosmia diffinis* larva.



Plate D. *Cosmia diffinis* breeding site, Duck End Farm, Dry Drayton, Cambridgeshire, 3 June 2002. The position of the larval spinning is by Ruth Edwards' right hand.



Plate E. *Eumea linearicornis*. Two with puparia, and remains of host *C. diffinis* larva.

on the outside, as well as within, shelterbelts (as in Waring, *Ent. Rec.* **113**: 135-138) and deep in woodland (see Waring, *Ent. Rec.* **114**: 115-117). Both of these references include photographs of the habitat for comparison. One of the larvae collected at Duck End Farm in 2002 pupated successfully and produced a male White-spotted Pinion. The other produced two fly larvae which emerged from the moth caterpillar just before it was about to pupate, on 7 or 8 June 2002 (Plate E). The adult flies emerged from the puparia on 23 and 25 June and remained alive in the rearing box until natural death on 28 June. The box was kept in an unheated room throughout. The flies were identified by John Chainey of the Natural History Museum, London, as *Ennea linearicornis* (Zett.) (Tachinidae), the same species as previously identified by Nigel Wyatt, from a White-spotted Pinion larva collected at Boxworth, Cambridgeshire, 4km away, in May 2000 (Waring, *Ent. Rec.* **113**: 135-138). This fly is a widespread species in southern Britain north to the Midlands and Wales. It has also been recorded from the Lunar-spotted Pinion *Cosmia pyralina* (D. & S.) as well as a number of other noctuid moths and from some tortricoids and pyralids.

Of the seven larvae of the White-spotted Pinion found between 2000 and 2002, from three sites, four have proved to be parasitised and three species of parasites are involved.

The author wishes to thank all the above named for their help with these observations, which took place as part of the UK Biodiversity Action Plan project on this moth, administered by Butterfly Conservation as part of the *Action for Threatened Moths project*, part-funded by English Nature.— PAUL WARING, 1366 Lincoln Road, Werrington, Peterborough PE4 6LS.

On the doubtful Moray record of *Lepyrus capucinus* (Schaller) (Col.: Curculionidae)

Prof. M. G. Morris (2002. *True Weevils* 1: 72) mentions a putative record from Moray given by Hyman & Parsons (1992. *A review of the scarce and threatened Coleoptera of Great Britain Part 1*. UK Nature Conservation, number **3**. JNCC), of this species – one of our very rarest weevils. As the record was due to me, some explanation is called for.

Its basis is a letter from the late Philip Harwood in 1947, mentioning the locality as “Boat of Garten” (pine woods beside Loch Garten, Morayshire). I was unable to locate the insect in Harwood’s collection in later years; if not still there, it is probably in the Oxford University Museum General Collection of British Coleoptera. The Berkshire specimen was found “floating in an open tank” at Wellington College, near Bracknell, 31.iii.1897 (L. M. Bucknill, 1897, *Ent. mon. Mag.* **33**: 141).— A. A. ALLEN, 49 Montcalm Road, London SE7 8QG.

STURMIA BELLA (MEIGEN) (DIPT.: TACHINIDAE) AND THE STRAND THAT IS NOT SILK

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Abstract

Tests conducted on strands left hanging from Lepidoptera pupae from which larvae of the parasitoid tachinid fly *Sturmia bella* have egressed show that this substance is best regarded as mucous containing glycoproteins, and that it should not be referred to as silk.

Introduction

The tachinid fly *Sturmia bella* (Meigen), which is an internal parasitoid especially of vanessine nymphalid butterflies, is widespread and often common in continental Europe. Since it was first recorded as British (Ford *et al.*, 2000) it has been found in a wide span of counties in the southern half of England and has been reared several times (Rowell, 2001; Raper – Tachinid Recording Scheme website at <http://tachinidae.org.uk>). It parasitises the larval stage of its host, but the usually solitary parasitoid larva does not kill the host until the latter has pupated, whereupon the fully fed *S. bella* larva vacates the host pupa to pupariate elsewhere. Pupae of vanessines are usually formed hanging above ground, and as the *S. bella* larva drops from its host pupa it leaves a strand, apparently an “escape line”, attached to the host pupa (Rowell, 2001 and Plate F). It seems likely that the parasitoid larva lets itself down gently by this means, though we are not aware of precise observations having been made and nor is it clear whether the strand is of host or parasitoid origin. However, several people (*in litt.*) who have reared *S. bella* have remarked on it, sometimes referring to it as a silk-like thread or even as silk.

Silk is a fairly general term for particular forms of large structural proteins that include a number of chemically different types (fibroins, collagen-type and alpha-helical: Rudall & Kenchington, 1971). However, they all have in common that they are large molecules with molecular weights of ca. 50 kda but often polymerised further to 200-300kda (1 da is approximately the mass of a hydrogen atom) composed largely of repeated motifs of short side-chain amino acids, and are durable and very difficult to dissolve (as might be expected, given their biological functions). Indeed, dissolution of silks requires special chaotropic solvents (which prevent reaggregation of incompletely denatured proteins) such as calcium chloride in ethanol at low temperature (Ayub *et al.*, 1993), calcium nitrate in methanol (Mathur, 1997) or N-methyl morpholine N-oxide (Freddi *et al.*, 1999).

In order to clarify the nature of the material concerned, and to provide an appropriate descriptive term for it, we have conducted limited investigations on the strand from one of the parasitised pupae of *Aglais urticae* (L.) kindly provided by John Rowell (see Rowell, 2001 and Plate F).



Plate F. Artificially suspended *Aglais urticae* pupae, two of which have produced larvae of *Sturmia bella* leaving characteristic proteinaceous strands.

Results and discussion

In the present study samples of the strand dissolved completely in a 5% aqueous solution of sodium dodecyl sulphate (SDS) at 40°C overnight (ca 12 hours). This demonstrated clearly that the strand certainly does not contain silk. The strand stained permanently and intensely with Coomassie Blue R-250, demonstrating that it is proteinaceous, and absorption of the solution in 5% SDS onto Hybond P, followed by standard periodic acid-Schiff staining, gave a very weak positive reaction, suggesting that at least some glycoprotein was present, but perhaps as a low proportion of the total protein.

We conclude that the material is probably mostly composed of low molecular weight proteins containing some glycoprotein, and that high molecular weight proteins such as silks are certainly absent. As silk formation by Tachinidae has not (as far as we know) been found to occur elsewhere, and it would be wrong to furnish literature statements erroneously implying its presence, it is to be hoped that people will now refrain from referring to the structure associated with *S. bella* as “silk” (or even as a “thread”, as this might be taken to imply silk) and instead refer to it as a proteinaceous strand.

Acknowledgements

We are grateful to John Rowell for providing the material we studied, and also for permission to publish his photograph as Plate F.

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Five micro-moth species new to Glamorgan

During 2002, a number of moth species were recorded new to Glamorgan (VC 41). The author was responsible for the capture and identification of five of these. On 4 May, I netted a number of micro-moths flying in strong sunshine in an abandoned quarry fringed with oaks within Clyne Wood, between Swansea and Gower. Amongst them were several fresh, strikingly-marked examples of *Lobesia reliquana* (Hb.). A second tortricid species, *Ancylis uncella* (D. & S.), was disturbed in numbers from birch trees growing amongst heather on Kilvey Hill, on the eastern side of Swansea, a week later on 12 May. On 31 May, while awaiting the arrival of other members of the Glamorgan Moth Recording Group for a field event, VC 41 recorder Barry Stewart and myself swept several moths from rough grassland on Hirwaun Common, between Hirwaun and Treherbert in the north of the county. Among these were the distinctive yellow females of *Elachista subalbidella* Schlager, a species that will probably prove to be common and widespread in upland areas of the county. On 20 August, I visited Cwmllywd Woods, a nature reserve between Swansea and Gower, to assist my girlfriend in collecting moss samples for her degree dissertation project. Purely out of habit, I took a net with me and as we left the site at dusk, had the luck to net a moth that proved to be *Elachista bisulcella* (Duponchel). A week later, on 26 August at Afan Argoed Country Park north of Port Talbot, I swept a specimen of *Plaulernis fulviguttella* (Zeller) from an umbellifer flower-head. According to the burgeoning data-set held by Barry Stewart and the GMRG, none of these apparently widely-distributed species had previously been recorded from Glamorgan.— MARTIN J. WHITE, 58 Victoria Quay, Maritime Quarter, Swansea, SA1 3XG.

**The continuing spread of *Phyllonorycter platani* (Staudinger)
(Lep: Gracillariidae) — a first record for VC12**

Ever since Maitland Emmet discovered the first British example of this distinctive leaf-mining species in central London in October 1990 (*Ent. Rec.*, **103**: 1), it has continued to spread though the Home Counties and into the West Country and East Anglia.

The annual Microlepidoptera Reviews in this journal record the course of its invasion. It had been found in 1991 in the neighbouring vice-counties of Surrey (VC 17) and Berkshire (VC 22). In South Hampshire (VC 11) it was discovered in Southampton in 1998. It was only a matter of time before it was located in VC 12 and I am pleased to report its discovery here on 22 September 2002 at Farnborough (OS grid reference SU 866553), which I assume is the first record for this Vice-County. Parking under some plane trees at the local DIY superstore I happened to glance up and see examples of these large and distinctive mines.

I then searched the plane trees along the main high street in Fleet and was pleased to find further examples on 22 September. These had not been there the previous year.

I have since found further mines in plane trees around the centre of Farnborough and on a plane tree in a park in Fleet. The most unusual location for this miner was on an isolated tree in the middle of a spiral ramp leading to a multi-storey car park in Fleet. In fact car parks, such as this, may be a good starting point for locating this species. On 29 September, I was parked on level five in such a car park in the centre of Southampton and saw a plane tree outside – closer examination proved it to hold mines of *Phyllonorycter platani*! – ROB EDMUNDS, 32 Woodcote Green, Calthorpe Park, Fleet, Hampshire GU51 4EY (E-mail: r.edmunds@ntlworld.com).

Two new Irish moths

During a brief visit to stay with relatives in south Belfast, Co. Antrim (VC 39, O.S. grid reference J 334370), we were able to run our “Skinner” moth trap in their back garden on each of the three nights. Apart from the more expected species the first of these nights, 1 June 2002, produced an Azalea Leaf Miner *Caloptilia azaleella* (Brants). This was followed the next night by a male *Swammerdamia compunctella* (Herrich-Schäffer), confirmed by genital analysis (Dr John Langmaid). In each case the record constitutes the first for the species in Ireland (Ken Bond pers. comm.). – J. B. HIGGOTT and C. A. MACKIE, 42 Valleyview Drive, Rushmere St. Andrew, Suffolk IP4 5UW.

A WEEK'S MOTHING IN BULGARIA, WITH SIX SPECIES OF LEPIDOPTERA NEW TO THE BULGARIAN FAUNA

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Abstract

Moths (Lepidoptera) were surveyed at six sites in south-west Bulgaria during the period 22 – 27 May 2002. A total of 265 species was identified and a further six are recorded but as yet unnamed. Six of the total – *Protasis punctella* (Costa) (Oecophoridae), *Coleophora valesianella* Zeller (Coleophoridae), *Cneplasia atticolana* (H.-S.), *Sciota adelphella* (F. v. R.) and *Lymphia chalybella* (Eversmann) (both Pyralidae) and *Cnaemidophorus rhododactyla* (D.&S.) appear to be new to the Bulgarian fauna. One further species, the geometrid *Dyscia conspersaria* (D.&S.) may be new to the Bulgarian fauna if it is shown to be distinct from *Dyscia sicanaria* (Oberthür), which was also taken. Details of all species recorded are presented and an anecdotal account of the survey and associated activities is given.

Why Bulgaria?

Back in the mists of time, before Winston Churchill's "Iron Curtain" came crashing down, CWP had sent a copy of his London butterfly book (Plant, 1987) to Bulgarian entomologist Stanislav Abadjiev, in Sofia. Later, and with some occasional interchange in the intervening years, this was reciprocated with a copy of Stanislav's Bulgarian butterfly atlas (Abadjiev, 2001) being received by CWP. Then, towards the end of 2001, Dr Abadjiev found himself visiting London for a short while to carry out research on the collections at the Natural History Museum and, predictably, spent a weekend as a guest of CWP. The inevitable question – "why don't you come and visit Bulgaria?" was raised and, never being one to miss an opportunity, the invitation was accepted. After all, Torben Larsen had referred to the place as "... something of an entomological paradise" after his visit in 1976 (Larsen, 1992), whilst Barry Goater's account of two weeks mothing in Bulgaria with Stoyan Beshkov during mid-September 1995 (Goater, 1996 – to say nothing of the verbal report) was tantalizing to say the least, although it was not expected that there would be anywhere near as many moths in the spring as there was in the early autumn. How wrong we were!

Getting there

We knew from experience that Budapest is a mere 19 hours drive away from Bishops Stortford (assuming no more than 15 minutes delay at the Channel Tunnel). It is also motorway all the way, barring the three miles from CWP's house to the M.11 (and the occasional wrong turning that takes one into Frankfurt city centre during morning rush hour!). From Budapest, there is first motorway and then dual carriageway all the way to the Romanian border at Naglac. However, we also knew from experience that the roads in Romania were of a quality some way below motorway standard ... those in Bulgaria, we were promised, were even worse. Nevertheless, we calculated that

with three drivers we ought to be able to reach the Bulgarian capital Sofia after 36 hours of continuous driving, subject to any delays that might be experienced at the ferry across the Danube, which forms the border between Romania and Bulgaria at Calafat/Vidin.

This was not as bad as it at first sounds. We did go in a camper van, and so even with all the generators and traps at least one person was able to sleep whilst one drove and the third acted as navigator. Thus, we were theoretically able to drive there non-stop, pausing only for the odd meal and to carry out essential natural functions. There was a delay, a very long one, at the Calafat-Vidin ferry, and we did get somewhat lost as we tried to find our way off the orbital motorway and into the outskirts of Sofia, but when all this was taken into account the journey actually took just 39 hours of driving.

For those intending to follow in our footsteps, there are a few pointers to consider. First, try to get through the Rhine Valley area of Germany at a time the does not involve the morning or evening rush hour or your progress will be reduced from a possible 120mph to around 20mph. We were also careful, on the basis of experience, to ensure that the journey across Romania was entirely accomplished during the hours of darkness. There are no ring roads, and the route passes through some busy town centres. Road signs are poor, opportunities for turning around are few and nobody speaks English. Western tourists are a rarity, a target for thieves and hold curiosity value for others. Travel by night allows one to actually stop in the town centre, read the road sign, reverse at major junctions and take the correct turning! It also avoids the countless beggars that are a feature of this very poor country and the policemen (both genuine and bogus) who issue on-the-spot fines for alleged speeding – even if you weren't. Indeed, one of the most useful things we took with us was a radar detector – so we *knew* that we were not speeding. CWP will be pleased to give more detailed advice to anyone who intends to travel this route.

The moths

It had not been an intention to collect moths en route. However, midnight found us on the Hungarian – Romanian border and with the prospect of no overnight garages for the next 300 miles we decided to fill up the van and the Jerry cans in Hungary. However, our attention was soon distracted. Almost immediately, whilst CWP pumped the fuel DF boxed half a dozen species attracted to the forecourt lights. A huge, freshly emerged female Reed Leopard *Phragmataecia castanea* (Hb.), its abdomen distended with eggs, fluttered around the digital display on the petrol pump, a male Fox Moth *Macrothylacia rubi* investigated the lead-free petrol vapour at the pump nozzle whilst Water Ermines *Spilosoma urticae* (Esper) formed a reasonable proportion of the “splats” on the forecourt itself. Clearly it was going to be a good trip.

Our next moth stop was at the Bulgarian Customs and Immigration kiosk. There are some 2,860 species of Lepidoptera in Bulgaria (Hubenov, et al, 1998); trapped between the glass window of the kiosk and a paper notice taped to it was number one ... a dead, but good condition, *Prodotis stolidus*. We cannot profess to know exactly what it was that the Bulgarian Customs official said – but he *did* get the moth for us!

Our time proper in Bulgaria occupied six nights, during which we were guided, and accompanied, by Bulgaria's primary expert on butterflies, Stanislav Abadjiev and, for part of the time, by Bulgarian Noctuidae expert Stoyan Beshkov and his dog Lisa! Night one, 22 May 2002, saw us at the edge of a beech Forest on upland calcareous grassland near Studen Kladenets, in the Osogovo Mountains, ($42^{\circ}.13'.6''$ N; $22^{\circ}.39'.36''$ E), at around 1338 metres above sea level. We set up a vertical sheet at the edge of the woodland, and two skinner traps, one to each side at 100 metres distant. Almost immediately, the sheet started to attract a green moth that we took to be one of the European species of forester (*Adscita* sp.). Realising that our chances of performing an accurate field identification were slim, we boxed half a dozen for later examination. It was not until much later that it dawned upon us that these were not foresters at all, but were in fact a species of phycitine pyralid. The bright green colour caused much confusion (most books illustrate faded museum specimens) and it was eventually identified by CWP as *Lymphia chalybella*, using the genitalia drawings in Slamka (1997). The identity was confirmed for us by Mike Shaffer at the Natural History Museum and the species is new to the Bulgarian fauna.

The most numerous species, both in the traps and at the sheet was *Pachetra sagittigera*, the Feathered Ear, a species now almost certainly extinct in Britain and last positively identified here on the North Downs in 1963. It is interesting to discover just how many of Britain's extreme rarities are actually still very common in suitable habitat across much of eastern Europe in particular, where the habitat destruction so characteristic of "the west" has not yet really kicked in. The large female of *Minucia lunaris* (Lunar Double-stripe) also put in an appearance at the sheet, as did several examples of the tiger moth *Watsonarctia casta* (= *deserta*); this is not a common species in Bulgaria. Finally, an example of *Mythimna andereggii* ssp. *pseudocomma* – something of a look-alike for *Mythimna comma* but not quite right – put in an appearance.

Night two, on 23 May 2002, took us to what was, to the eye, the most interesting of all the sites that we visited; the moths were pretty good too, and the total of only 80 species noted reflects the early date of our visit. The village of Polska Skakavitsa is a totally isolated and somewhat dispersed settlement on the slopes of Mount Zemen at $42^{\circ}.24'.36''$ N; $22^{\circ}.40'.50''$ E, some 690 metres above sea level. Getting there was something of a challenge; fortunately, the camper van had evidently been a four-wheel drive in an earlier incarnation, though much of the time spent on site was spent wondering if we would ever get out again. Bee-eaters were the commonest bird on the way across the hillsides – or were there more Red-backed Shrikes? Zemen itself is a xerophilic, montane habitat and the vegetation is sparse and reminiscent of the garrigue. However, it is surrounded by broad-leaved, deciduous forests, which combine with the sparser areas to create a phenomenally varied biotope. We mounted a vertical sheet and ran four more lights up to 500 metres away – two standard aluminium Skinner traps and two wooden ALS Skinner-pattern traps; there was no discernible difference in the catches of the two types. Amongst the micros were two species – *Protasis punctella* and *Coleophora valesianella* – that are apparently new to the Bulgarian fauna. For this reason the identities were confirmed from slides of the

genitalia. This was the best site of the trip for plume moths (Pterophoridae) and the bag included *Stenoptilia zophodactylus*, *Capperia celeusi*, *Stangeia siceliota* as well as our own *Pterophorus pentadactyla*. We are indebted to Cees Gielis for most kindly naming the *Stenoptilia* and the *Capperia* from CWP's rather poor slides of the genitalia. Amongst the larger species there was also much interest. The lasiocampid *Phyllodesma ilicifolia* was fairly common as was the large *Saturnia pyri*, also known as the Southern Emperor. The Oak Hawk-moth *Marumba quercus* put in an appearance and this was the only site where we caught Pine Hawk *Hyloicus pinastri*. We later checked the genitalia of a male to make certain that it was not the morphologically identical *H. maurorum*, which replaces *pinastri* in much of southern Europe. Geometridae were numerous, and this was the only site where we found *Synopsia sociaria*, *Peribatodes umbraria*, the delicate green *Chlorissa viridata*, the wave *Scopula incanata* and *Scotopteryx vicinaria*, which looks a little like *S. bipunctaria*. A relative of our common Garden Carpet was *Xanthorhoe oxybiata* – though this is an altogether more attractive insect. I believe there has been a recent record of the notodontid *Harpyia milhauseri* in Britain; it is common in Eastern Europe and we caught several here. Noctuids included *Gonospileia triquetra*, *Cucullia tanaceti* and *Pseudoxestia apfelbecki* (not closely related to *Xestia* in spite of its generic name). A good series of both *Paradrina selini* and *P. clavipalpis* was collected; although differences are evident in a well-mounted series in a cabinet it is unwise to name either species over there by any means other than male genitalia.

Our third site, on the night of 24 May, was a damp grassland with plantations of poplar trees alongside the Skrino River at 42°.12'.18" N: 22°.5'5.56" E, approximately 430 metres above sea level. Here we were joined, at last, by Stoyan Beshkov and his dog Lisa – never a trip is made without her! After Lisa had given us a physical demonstration of the frailty of guy ropes and tent pegs, causing us to wonder if in fact the English method of a sheet on the ground might not after all be better than the vertically mounted European version, we settled down to catch moths. Two very freshly emerged *Athetis pallustris* were amongst the first to arrive, another species that seems to be in serious decline in Britain but which is doing quite nicely thank you elsewhere. Similar remarks apply to the Black-veined *Siona lineata*, a very common moth in calcareous grassland habitats in Hungary, parts of Romania and, now, here at Skrino; it is somewhat closer than a gnat's whisker to extinction in England. Without wishing in any way to appear critical of the dedicated and extremely thorough efforts of our friend Paul Waring, one is tempted to question the usefulness of pouring money into conservation of species that may simply be at the edge of their geographical range in Britain. Such dynamism in relation to the application and use of conservation status has been discussed by, for example, Kuchlein & Ellis (1997), who also give other references. The arrival of *Hadena luteago* was of especial interest. Recent taxonomic revision (Hacker et al, 2002) has shown that *H. luteago* does not occur in Britain, and that what we know colloquially as Barrett's Marbled Coronet is in fact subspecies *barrettii* (Doubleday) of *H. andalusica* (Stdgr.). The opportunity to examine the eastern race of *luteago* was, therefore, particularly welcomed. *Protodeltote pygarga*, *Copiplana olivina*,

Mythiina sicula and *Spilosoma urticae* were amongst other species recorded here but not seen at the other Bulgarian sites. The small green-coloured *Earias vernaia* is similar to our own *E. clorana*, the Cream-bordered Green Pea, but has vague brown stripes across the forewings; we caught three examples.

The much advertised Struma Valley (41°45'31" N; 23°09'29" E; 236 metres above sea level), within the larger entity of the Kresna Gorge, getting down towards the border with Macedonia, occupied our fourth night. The gorge is something to be seen, though in most places it is not really safe to stop and get the camera out. Inevitably, the picturesque, winding road through this internationally important limestone gorge is threatened by the desire of politicians to put a motorway through it – in a straight line; it is, they argue, the main route from Sofia to Greece. Struma is the moth “hot spot” of Bulgaria. There are more moths here than anywhere else in the country, with a list of 822 “macros” [yes, that is just the “macros”] (Beshkov, 2001) – which rather makes even the best of British sites pale into absolute and total insignificance. The list includes eight taxa that are endemic! The highest percentage of rare insect species in Bulgaria are found within the Neuroptera (27.4%) and the Trichoptera (18.0%) and most of these (20.3%) are found in the Kresna Gorge (Hubenov, et al, 1998).

We were not disappointed. The highlight must surely have been the dozens of the Madder Hawk-moth *Rethera komarovi*, which presented themselves throughout the evening at the sheet. This is a striking green and yellow beast with silver stripes, about the size of a large *Macroglossum stellatarum*, that has only fairly recently become established in Europe – originating in the Iran/Iraq and Asian Turkey region. It was accompanied by *Hyles vespertilio*, *H. euphorbiae*, *Sphinx ligustri*, *Laothoe populi*, *Smerinthus ocellata* and *Mimas tiliae*, giving a site total of seven hawk-moth species on the one night. Indeed, we didn't do too badly for sphingids overall, with a total of 11 species for the trip. The pyralid *Sciota adelphella* presented itself as a single, badly worn female. Fortunately, the female genitalia of this species are distinctive and so correct identification was possible; this is another species apparently new to the Bulgarian fauna. Other pyralids here included *Melissoblaptis zelleri*, *Bradyrrhoa gilveolella* and *Platytes cerussella*. The geometrid *Glossotrophia confinaria* took some tracking down as far as naming is concerned. Others were more readily recognised, and included *Protorhoe unicata* and *Catarhoe permixtaria*, amongst others. One member of the Notodontidae of especial note was *Rhegnatophila alpina* ssp. *osmana*, of which we caught two. *Acronicta orientalis* was a new noctuid for all of us and both *Pechipogo plumigeralis* and *Zanclognatha lunalis* came in numbers for comparison. *Clytie syriaca* – the eastern European counterpart of *C. illumaris*, if in fact one believes they are different species – were also available for inspection. Several *Emmelia trabealis*, now extinct in Britain, were attracted, as were two *Abrostola agnorista*, a male and a female, confirmed from the aedeagus of the male. These are perhaps more easily confused with *Abrostola triplasia* (L.) – what we refer to as the Dark Spectacle – than with the other two species in Europe. Two overwintered adults of the large grey noctuid *Lithophane merckii* were a pleasant addition to the list, though both were rather worn. The attractive *Hadena albimacula* was

common (another rarity in Britain). The Nolidae were represented by two species, *Meganola gigantula* and *M. albula*. The day-flying *Amata phegea* was frequent and larvae of *Simyra nervosa* were equally numerous. We also caught the geometrid *Dyscia conspersaria*, and this may be new to the Bulgarian fauna. Both this and *Dyscia sicanaria* (which we recorded as subspecies *osmanica* at Kozhuh Hill, below) are listed as separate species in the 1996 European Checklist (Karsholt & Razowski, 1993), but in the Geometridae volume of *Catalogus Faunae Bulgaricae* (Nestorova, 1998), which is not in any way a taxonomic review, the former is treated as a synonym of latter. Karsholt & Razowski (*op. cit.*) list only *sicanaria* for Bulgaria, so if *conspersaria* is indeed a validly separate species it may be new to this country.

Sadly, our time in Struma was somewhat marred by the theft of LG's bag from inside the tent, whilst he lay asleep next to it. A camera, a couple of hundred quid and several specimens of Syrphidae were amongst the lost items. There was also some ethyl acetate in a small whisky bottle; we regret to report that unkind thoughts involving the thief drinking from the bottle did indeed cross our minds! We wasted almost an entire day reporting the incident to the police, making statements and showing them the scene of the crime. However, we were assured that whoever it was would certainly be caught. This on the basis that £200 to a Bulgarian rural peasant is rather like winning the jackpot of the National Lottery to an Englishman and, in view of the fact that the populace is, essentially, less than educated in this rural area, he or she would probably start spending it later the same day!

Our penultimate session led us into new territory – away from the calcareous influence and into the volcanic geology at Kozhuh Hill, where we set up base camp in a disused marble quarry on top at 41°27'.36"N: 23°15'.38"N, 240 metres above sea level, on 26 May. *Brachodes appendiculata* was not only a new moth for us but also a new family; the Brachodidae share, in Europe, the superfamily Sesiioidea with the Sesiidae, neatly positioned between the Zygaenoidea and the Cossioidea – which technically makes them macros, I suppose.. Both the widespread and common *Dysspessa ulnula*, and the much rarer *D. salicicola* were taken at the sheet in low numbers and so we were able to compare the two. Most interesting of all was perhaps *Cilix asiatica*, a Turkish species that is a relative newcomer to Europe and is not included in the 1996 European Checklist (Karsholt & Razowski, *op. cit.*). Without the keen eye of Stoyan Beshkov this would doubtless have been overlooked; it has very much restricted brownish markings in the termen of the forewing upper side. Interesting geometrids included *Neognopharmia stevenaria*, *Nychiodes dalmatina* and *Dyscia sicanaria* ssp. *osmanica*; comments on the latter species were made under the discussion on the moths at Kresna. *Enpithecia spissilineata* proved that we really were doing things properly. I ask you! The pugs here in Blighty are bad enough without having to go off doing foreigners! At this point we ought to thank Barry Goater for recognizing that the specimen was probably this species, thus leading to CWP checking its genitalia for confirmation. Another interesting capture here was *Amata kruegeri* – to all intents and purposes identical to *A. phegea*. Although there are differences in the hindwing pattern it seems that these may not be constant and so genitalia of the male is the only reliable tool for correct separation. The third

European species, *A. ragazzii* (Turati) is not known outside Italy and so does not confuse the issue in Bulgaria. Finally, the arrival of *Noctua tertia* at the sheet was of interest. A momentary lapse led to a proclamation of “*janthe!*” but that species, of course, does not occur this far east. It is much larger than our *N. janthe*, and of course nothing like the much smaller and darker *N. janthina*.

For the final evening we had intended to set up lamps in the grassy meadows of the Rilska valley, above the famous Rilska Monastery in the village of Kirizova Polyana. Unfortunately, however, we were late arriving – for a variety of reasons that are really not worth going into. We arrived at the entrance to the grassy meadows at dusk, and drove along a sort of track to the furthest point from the village, primarily to avoid attracting the attention of the hundreds of tourists and religious pilgrims that visit the monastery on a daily basis. Van suitably parked on a level spot for the benefit of the kettle, LG and DF set about putting up a tent whilst CWP went to investigate a track that led into the trees. Not to put too fine a point on it, nature called. Standing minding his own business, against the corner of a disused cottage, in near total darkness under the trees, he heard a noise. He looked round. The noise suddenly materialised as two red glowing objects. Slowly, and still with only one usable hand to hold the torch, the red glows resolved into the eyes of a somewhat unhappy and rather large bull! Estimated distance to target ... two metres!!! Years of anti-panic training were instantly forgotten; the idea of *not* running suddenly seemed ludicrous! TWO METRES!!! He ran, closely pursued by the decidedly unhappy bull. For the first time since leaving behind compulsory athletics at school, some 35 years earlier, he hurdled the pine log that formed a barrier between the track and the safety of the field; 1.37 metres – probably a “personal best”. Gathering his “cool”, he walked casually up to the van and reported the incident. That was the point at which DF, a retired vet so he knows about these things, asked somewhat tentatively “is that the one just there?” and pointed to a large, dark object, with two red eyes and two rather large horns that was trotting directly at us, snorting angrily as it came. How it got over the barrier we do not know – it probably went through it! The rest we leave to the reader’s imagination, but we are just thankful that nobody had a camera handy to record the sight of four grown men cowering inside a camper van in the middle of nowhere!

Eventually, beastie wandered off, calling to his cows. We reached a fairly rapid decision that it was unwise to set up lights here and so, taking it in turns to act as lookout, we took down the tent and started to look for an alternative site. Driving on up the track, for several kilometres, eventually we reached a point where the road simply vanished. That is to say most of it appeared to be several hundred feet below us at the base of the cliff. We back-tracked slightly, reversing the van in the near total darkness along the narrow, partly absent mountain track, until we reached a point where we felt *relatively* safe to execute a 23-point turn. A single vertical sheet was set up in the middle of the track at 42°.09'.07" N: 23°.25'.17" E, at 1,592 metres above sea level (you could say that it was the highpoint of the trip), surrounded by mixed woodland. *Hypena obesalis* (Paignton Snout) was amongst the first moths in, but had to more or less fight its way through the hordes of *Eupithecia tantillaria* (Dwarf Pug) and *Chloroclysta miata* (Autumn Green Carpet). The scarce lymantriid *Parocneria*

terebinthi also showed up, as did examples of *Shargacucullia prenanthis* and *Mythimna andereggii* ssp. *pseudocomma*.

Three examples of what we at first took to be particularly well-marked examples of *Odoutopera bidentata* (Scalloped Hazel) continue to cause us minor problems. According to Stoyan, this species is very rare in Bulgaria (and absent from Greece). The common species is *O. graecarius*, and that is what he expected our examples to be. However, we remain not necessarily convinced of the taxonomic validity of the Balkan species – primarily because the type specimen in the Humboldt Museum (not seen by us) is a female and there are no descriptions of a male in the literature as far as we can tell. There are differences in the everted aedeagus between the two males in our sample and selected males of *O. bidentata* from Britain. However, there is a degree of variation in this feature amongst British examples and there is a need to establish whether the Bulgarian variation is sufficiently extreme for it to be a distinct species or if it is just part of an intra-specific cline across Europe. If any reader can spare a male of *O. bidentata* from Scotland, the north of England, Ireland or continental Europe CWP would be keen to borrow them for dissection as his own material is all from the south-east. Material from Greece is especially needed. We are unable to find any differences in genital structure between our Bulgarian female and British females.

We assumed that the trip home would be uneventful, yet it distinguished itself in two ways. One was the phenomenally good overnight session at Csákvár in western Hungary, though that will have to be a separate report. The other was the unexpected mobile phone text message received by CWP from his daughter in England whilst we were about half way across Romania. Memory fails, but it said something like “thief caught – please return to Struma to identify recovered items”. It seems that the police were right – twenty-four hours after nicking the bag the thief went on a spending spree and was duly “grassed up” by someone. After all, if you earn less than a pound a month and then suddenly start driving around in a flashy motor someone is bound to notice! The police had contacted Stoyan; Stoyan contacted Stanislav; CWP’s phone was in a poor reception area so Stanislav sent text to England and England sent text to Romania! Simple really! Anyway, full marks to a thoroughly efficient and surprisingly friendly Eastern European police force.

To date we have identified 265 species from Bulgaria. We have narrowed one more down to one of two species (*Lithostege griseata/fariuata*), but we are unable to find reliable characters to separate the two and are not aware of any published genitalia drawings. There are also just a few in the unidentified box – a female pug (*Eupithecia* sp.) from Studen Kladenets, a different pug from Mount Zemen, an *Idaea* from Kozhuh Hill, a *Scopula* from both Kozhuh and Kresna and a *Gnophos* from Zemen. These may take a while, but when they are named we will have recorded 271 species in the six nights at the end of May 2002. Without the micros (but with the pyralids) our list falls to 247 species and, for seasonal comparison, Barry Goater’s report of his two-week trip in September 1995 recorded 210 macro and pyrale species. Our full list of recorded species is presented in Table 1.

Further trips to record moths in Bulgaria are planned and CWP is always keen to hear from anyone who may care to join the team.

Acknowledgements

Stanislav Abadjiev's invitation to CWP to visit Bulgaria started the whole show on the road; without the incentive of "knowing somebody there" we might never have gone. We are extremely grateful to him, to his wife and to his daughter for their generous hospitality during our stay in their much under-rated country. Stanislav also took time off work to act as our guide and companion for the entire duration of our stay and for this we are especially grateful; as this was our first visit to Bulgaria we could not possibly have discovered such interesting places in the time available without his very considerable assistance. For much of the period of our stay we were also accompanied by Stoyan Beshkov (and Lisa the dog!), whose knowledge of Balkan Noctuidae, and where to find them, is second to none. Back in England, Martin Honey kindly allowed CWP access to the National Collection at the Natural History Museum (NHM) in London in order to identify difficult specimens. Barry Goater (Chandlers Ford), Norman Hall (Reading), Martin Honey (NHM), Mike Shaffer (NHM) and Gerry Tremewan (Truro) also gave valuable assistance with naming some difficult material. CWP also wishes to thank Peder Skou (Kopenhagen) for useful discussion on European *Odontopera* species and Stoyan Beshkov for the loan of specimens of *Odontopera graecarius*. Finally, Andrew Hardacre (Bishops Stortford) very kindly made digital images of unidentified moths so that they could be sent by e-mail to some of those mentioned above.

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Table 1. Moths (Lepidoptera) recorded in south-west Bulgaria, 22 May to 27 May 2002. For ease of interpretation, the serial numbers, sequence and nomenclature follow Karsholt & Razowski (1996); this differs in several respects from the British checklist normally used in this journal as well as from a number of more recent publications concerned with the European fauna. Sites are coded as follows:

- 1 = Osogovo Mountains, Studen Kladenets**, 42°.13'.6"N: 22°.39'.36"E, 1338 metres, 22.v.2002.
- 2 = Mount Zemen, Polska Skakavitsa village**, 42°.24'.36"N: 22°.40'.50"E; 690 metres, 23.v.2002.
- 3 = Skrino River:** riverside area, 42°.12'.18"N: 22°.55'.56"E; 430 metres, 24.v.2002.
- 4 = Struma Valley, Kresna Gorge**, 41°.45'.31"N: 23°.09'.29"E; 236 metres, 25.v.2002.
- 5 = The disused Marble Quarry at Kozuh Hill**, 41°.27'.36"N: 23°.15'.38"E; 240 metres, 26.v.2002.
- 6 = Rilska valley above Kirizova Polyana**, 42°.09'.07"N: 23°.25'.17"E; 1592 metres, 27.v.2002.

Species recorded	Site	Species recorded	Site
Gracillariidae		Epermeniidae	
1110: <i>Caloptilia alchimiella</i> (Scop.)	2	5307: <i>Epermenia pontificella</i> (Hb.)	2
Plutellidae		Pterophoridae	
1525: <i>Plutella xylostella</i> (L.)	1, 2	5379: <i>Platyptilia miantodactylus</i> (Zell.)	3
Ethmiidae		5426: <i>Stenoptilia zophodactylus</i> (Duponchel)	2
1655: <i>Ethmia bipunctella</i> (Fabr.)	2	5434: <i>Cnaemidophorus rhododactyla</i> (D.& S.)	5
Depressariidae		5460: <i>Capperia celeusi</i> (Frey)	2, 3
1754: <i>Agonopterix furvella</i> (Tr.)	3	5480: <i>Stangeia siceliota</i> (Zell.)	2
Oecophoridae		5485: <i>Pterophorus pentadactyla</i> (L.)	2
2378: <i>Protasis punctella</i> (Costa)	2	Pyralidae	
Coleophoridae		5574: <i>Melissoblaptes zelleri</i> Joannis	4
2644: <i>Coleophora valesianella</i> Zeller	2	5614: <i>Synaphe antennalis</i> (Fabr.)	2
Gelechiidae		5627: <i>Pyralis farinalis</i> (L.)	4
3261: <i>Isophrictis striatella</i> (D.& S.)	2	5684: <i>Pyla fusca</i> (Haw.)	2
3285: <i>Metzneria aprilella</i> (H.- S.)	2	5742: <i>Etiella zinckenella</i> (Tr.)	3, 4
Brachodidae		5652: <i>Hypsopygia costalis</i> (Fabr.)	4
4004: <i>Brachodes appendiculata</i> (Esper)	5	5673: <i>Trachonitis cristella</i> (D.& S.)	3
Cossidae		5690: <i>Penpeliella dilutella</i> (D. & S.)	2
4156: <i>Parahypopta caestrum</i> (Hb.)	4	5727: <i>Sciota adelphella</i> (F. v. R.)	4
4163: <i>Dyspessa salicicola</i> (Eversmann)	5	5767: <i>Pempelia palumbella</i> (D.& S.)	2
4166: <i>Dyspessa ulula</i> (Borkh.)	2, 5	5827: <i>Episclenia prodromella</i> (Hb.)	2
4176: <i>Zeuzera pyrina</i> (L.)	4	5846: <i>Lymphia chalybella</i> (Eversmann)	1
Tortricidae		5904: <i>Pterothrixidia rufella</i> (Dup.)	3
4268: <i>Agapeta hamana</i> (L.)	3	5910: <i>Bradyrrhoa gilveolella</i> (Tr.)	4
4279: <i>Eugnosta lathoniana</i> (Hb.)	4	5930: <i>Megasis rippertella</i> (Zell.)	2
: <i>Aphelia ferrugana</i> (D.& S.)	2	6027: <i>Ancylosis cinnanomella</i> (Dup.)	3
4475: <i>Cnephasia alticolana</i> (H.- S.)	1	6072: <i>Homoeosoma sinuella</i> (Fabr.)	3, 5
4584: <i>Syndemis musculana</i> (Hb.)	1	6165: <i>Scoparia subfusca</i> Haw.	3, 6
4624: <i>Clepsis pallidana</i> (Fabr.)	2	6172: <i>Scoparia pyralella</i> (D.& S.)	3
4776: <i>Oletreutes arcuella</i> (Cl.)	2	6174: <i>Scoparia ingrattella</i> (Zell.)	3, 6
5019: <i>Notocelia cynosbatella</i> (L.)	2, 3	6207: <i>Euchromius ocella</i> (Haw.)	2, 4
5173: <i>Pammene fasciana</i> (L.)	1	6340: <i>Xanthocrambus saxonellus</i> (Zinck.)	4, 5

Species recorded	Site	Species recorded	Site
6348: <i>Chrysocrambus craterella</i> (Scop.)	1	7537: <i>Heliomata glarearia</i> (D.& S.)	2, 5
6350: <i>Thisanotia chrysoneuchella</i> (Scop.)	1, 2	7547: <i>Chiasmia chatrata</i> (L.)	1, 2, 3
6376: <i>Platytes cerussella</i> (D.& S.)	2, 4	7570: <i>Teplurina murinaria</i> (D.& S.)	2, 3
6488: <i>Evergestis frumentalis</i> (L.) ssp. <i>asiaticalis</i> (Ragonot)	5	7581: <i>Neognopharmia stevenaria</i> (Boisd.)	5
6507: <i>Evergestis aenealis</i> (D.& S.)	4	7596: <i>Petroplora chlorosata</i> (Scop.)	1
6531: <i>Udea ferrugalis</i> (Hb.)	2	7607: <i>Plagodis dolabraria</i> (L.)	1
6567: <i>Loxostege virescalis</i> (Guenée)	5	7613: <i>Opisthograptis luteolata</i> (L.)	1
6568: <i>Loxostege delibatica</i> Sz.I. & U-M. (= <i>huebneri</i> Kocak)	3	7622: <i>Eilicrinia cordiaria</i> (Hb.)	3
6576: <i>Margarita sticticalis</i> (L.)	5	7624: <i>Eilicrinia trinotata</i> (Metzner)	3
6588: <i>Ecpyrrhorhoe rubiginalis</i> (Hb.)	5	7647: <i>Odontopera bidentata</i> (Cl.) [but see text]	?6
6595: <i>Pyrausta cingulata</i> (L.)	5	7648: <i>O. graecarius</i> A. Bang-Haas, 1910	?6
6599: <i>Pyrausta sanguinalis</i> (L.)	2, 3	7686: <i>Biston betularia</i> (L.)	6
6600: <i>Pyrausta castalis</i> (Tr.)	3	7720: <i>Nychiodes dalmatina</i> Wagner	5
6604: <i>Pyrausta aurata</i> (Scop.)	4	7733: <i>Synopsia sociaria</i> (D.& S.)	2
6605: <i>Pyrausta purpuralis</i> (L.)	5	7754: <i>Peribatodes rhomboidaria</i> (D.& S.)	3, 4
6624: <i>Sitochroa verticalis</i> (L.)	3	7761: <i>Peribatodes umbraria</i> (Hb.)	2
6649: <i>Ostrinia nubilalis</i> (Hb.)	5	7773: <i>Cleora cinctaria</i> (D.& S.)	1
6655: <i>Anania verbascalis</i> (D.& S.)	5	7794: <i>Ascotis selenaria</i> (D.& S.)	4
6661: <i>Paratalanta hyalinalis</i> (Hb.)	3	7822: <i>Bupalus piniaria</i> (L.)	3
6700: <i>Dolicharthria punctalis</i> (D.& S.)	3	7824: <i>Cabera pusaria</i> (L.)	6
Lasiocampidae		7826: <i>Cabera exanthemata</i> (Scop.)	3
6755: <i>Macrothylacia rubi</i> (L.)	1, 2, 4	7850: <i>Dichrognophos sartata</i> (Tr.)	4, 5
6771: <i>Phyllodesma ilicifolia</i> (L.)	2	7882: <i>Euchrognophos mucidaria</i> (Hb.)	4
6773: <i>Phyllodesma tremulifolia</i> (Hb.)	3	7916: <i>Siona lineata</i> (Scop.)	3
6780: <i>Odonestis pruni</i> (L.)	4	7926: <i>Semiaspilates ochrearia</i> (Rossi)	5
Saturniidae		7928: <i>Dyscia conspersaria</i> (D.& S.)	4
6793: <i>Saturnia pyri</i> (D.& S.)	2	7933: <i>Dyscia sicanaria</i> (Oberthür) ssp. <i>osmanica</i> Wagner	5
Sphingidae		7939: <i>Perconia strigillaria</i> (Hb.)	3, 4
6816: <i>Marumba quercus</i> (D.& S.)	2, 3, 5	7975: <i>Antonechloris smaragdaria</i> (Fabr.)	3, 4
6819: <i>Mimas tiliae</i> (L.)	2, 3, 4	7982: <i>Chlorissa viridata</i> (Hb.)	2
6822: <i>Smerinthus ocellata</i> (L.)	3, 4	7984: <i>Chlorissa etruscaria</i> (Zell.)	4
6824: <i>Laothoe populi</i> (L.)	3, 4	7987: <i>Microloxia herbaria</i> (Hb.)	5
6828: <i>Agrius convolvuli</i> (L.)	5	8000: <i>Hemistola chrysoprasaria</i> (Esper)	4
6832: <i>Sphinx ligustri</i> (L.)	4	8005: <i>Eucrostes idigenata</i> (Villers)	4, 5
6834: <i>Hyloicus pinastri</i> (L.)	2	8017: <i>Cyclophora pupillaria</i> (Hb.)	4, 5, 6
6851: <i>Rethera komarovi</i> (Christoph) ssp. <i>drilon</i> Rbl. & Zy.	4	8019: <i>Cyclophora porata</i> (L.)	4, 5
6853: <i>Hyles euphorbiae</i> (L.)	2, 3, 4, 5	8020: <i>Cyclophora quereimontaria</i> (Bastelberger)	3
6858: <i>Hyles vespertilio</i> (Esper)	4	8022: <i>Cyclophora punctaria</i> (L.)	5
6863: <i>Deilephila porcellus</i> (L.)	1, 2	8024: <i>Cyclophora linearia</i> (Hb.)	1, 2
Thyatiridae		8045: <i>Scopula ornata</i> (Scop.)	3
7485: <i>Tetlea ocularis</i> (L.)	3, 4	8051: <i>Scopula decorata</i> (D.& S.)	2
Drepanidae		8054: <i>Scopula rubiginata</i> (Hufn.)	2, 3, 4
7503: <i>Watsonalla binaria</i> (Hufn.)	4	8055: <i>Scopula ochraceata</i> (Stdgr.)	3
7505: <i>Watsonalla cultraria</i> (Fabr.)	1	8059: <i>Scopula marginepunctata</i> (Goeze)	2, 3, 4
7512: <i>Cilix glaucata</i> (Scop.)	2, 3	8060: <i>Scopula incanata</i> (L.)	2
—: <i>Cilix asiatica</i> Bang-Haas, 1907	5	8079: <i>Glossotrophia confinaria</i> (H.- S.)	4
Geometridae		8110: <i>Idaea filicata</i> (Hb.)	1, 2, 3, 4, 5
7527: <i>Lomaspilis marginata</i> (L.)	6	8180: <i>Idaea ostrinaria</i> (Hb.)	3, 4, 5
7530: <i>Ligdia adustata</i> (D.& S.)	2, 3	8167: <i>Idaea subsericeata</i> (Haw.)	2
7534: <i>Stegania dilectaria</i> (Hb.)	3	8186: <i>Idaea degeneraria</i> (Hb.)	2, 3, 4, 5
		8187: <i>Idaea straminata</i> (Borkh.)	2, 3

Species recorded	Site	Species recorded	Site
8222: <i>Lytliria cruentaria</i> (Hufn.) (= <i>rotaria</i>)	4	8758: <i>Stauropus fagi</i> (L.)	1, 4
8223: <i>Cataclysmes riguata</i> (Hb.)	1	8760: <i>Harpyia milhauseri</i> (Fabr.)	2
8233: <i>Scotopteryx vicinaria</i> (Dup.)	2	8762: <i>Spatalia argentina</i> (D.& S.)	2, 3, 5
8240: <i>Scotopteryx mucronata</i> (Scop.)	1	Noctuidae	
8241: <i>Scotopteryx luridata</i> (Hufn.)	1, 6	8777: <i>Acronicta psi</i> (L.)	2, 4, 5
8249: <i>Xanthorhoe designata</i> (Hufn.)	6	8778: <i>Acronicta aceris</i> (L.)	2, 3
8255: <i>Xanthorhoe montanata</i> (D.& S.)	1, 2	8784: <i>Acronicta euphorbiae</i> (D.& S.)	2, 4
8256: <i>Xanthorhoe fluctuata</i> (L.)	1, 2, 6	8786: <i>Acronicta orientalis</i> Mann	4
8258: <i>Xanthorhoe oxybiata</i> (Millière)	2	8787: <i>Acronicta rumicis</i> (L.)	2
8267: <i>Catarhoe permixtaria</i> (H.- S.)	4, 5	8789: <i>Craniophora ligustri</i> (D.& S.)	4
8269: <i>Catarhoe cuculata</i> (Hufn.)	1	8792: <i>Simyra nervosa</i> (D.& S.)	4
8275: <i>Epirrhoe alternata</i> (Müll.)	2, 3	8835: <i>Idia calvaria</i> (D.& S.)	2
8284: <i>Protorhoe unicata</i> (Guenée)	4	8853: <i>Pechipogo plumigeralis</i> (Hb.)	4
8287: <i>Costaconvexa polygrammata</i> (Borkh)	4, 5	8856: <i>Zanclognatha lunalis</i> (Scop.)	4
8289: <i>Camptogramma bilineata</i> (L.)	4	8861: <i>Hypenodes anatolica</i> Schwing.	4
8309: <i>Anticlea badiata</i> (D.& S.)	6	8897: <i>Minucia lunaris</i> (Bartel)	1
8316: <i>Lampropteryx suffumata</i> (D.& S.)	1	8900: <i>Clytie syriaca</i> (Bugnion)	4
8319: <i>Cosmorhoe ocellata</i> (L.)	2	8904: <i>Dysgonia algira</i> (L.)	4
8342: <i>Chloroclysta miata</i> (L.)	6	8909: <i>Prodotis stolidia</i> (Fabr.)	5
8362: <i>Thera juniperata</i> (L.)	2	8918: <i>Drasteria cailino</i> (Lefèbvre)	2
8400: <i>Horisme vitalbata</i> (D.& S.)	2, 3, 4	8934: <i>Lygephila cracca</i> (D.& S.)	2, 5
8401: <i>Horisme corticata</i> (Tr.)	3, 4	8956: <i>Catephia alchymista</i> (D.& S.)	4, 5
8402: <i>Horisme tersata</i> (D.& S.)	3	8959: <i>Aedia leucomelas</i> (L.)	5
8463: <i>Perizoma albulata</i> (D.& S.)	1, 6	8965: <i>Tyta luctuosa</i> (D.& S.)	5
8477: <i>Eupithecia haworthiata</i> Doubleday	3	8969: <i>Euclidia glyphica</i> (L.)	5
8483: <i>Eupithecia linariata</i> (D.& S.)	2	8973: <i>Gonospileia triquetra</i> (D.& S.)	2
8513: <i>Eupithecia breviculata</i> (Donzel)	3, 5	8979: <i>Zethes insularis</i> Rambur	4
8519: <i>Eupithecia intricata</i> (Zett.)	1	8984: <i>Scoliopteryx libatrix</i> (L.)	4
8564: <i>Eupithecia spissilineata</i> (Metzner)	5	8992: <i>Rhynchodontodes antiqualis</i> (Hb.)	2, 3, 4
8579: <i>Eupithecia dodoneata</i> (Guen.)	2	8996: <i>Hypena obesalis</i> (Tr.)	3, 6
8596: <i>Eupithecia tantillaria</i> Boisd.	1, 6	9023: <i>Eutelia adulatrix</i> (Hb.)	4, 5
8599: <i>Gymnoscelis rufifasciata</i> (Haw.)	4, 5	9045: <i>Diachrysis chrysitis</i> (L.)	2, 3
8603: <i>Rhinoprora rectangularata</i> (L.)	4	9056: <i>Autographa gamma</i> (L.)	2, 3
8604: <i>Rhinoprora chloerata</i> (Mabille)	2, 3	9081: <i>Trichoplusia ni</i> (Hb.)	5
8620: <i>Aplocera plagiata</i> (L.)	1, 6	9094: <i>Abrostola agnorista</i> (Dufay)	4
8638/9: <i>Lithostege griseata</i> (D.& S.)		9097: <i>Emmelia trabealis</i> (Scop.)	4
<i>lfarinata</i> (Hufn.)	3	9100: <i>Acontia lucida</i> (Hufn.)	4
8668: <i>Trichopteryx carpinata</i> (Borkh.)	6	9111: <i>Phyllophila oblitterata</i> (Rambur)	5
Notodontidae		9114: <i>Protodeltote pygarga</i> (Hufn.)	3
8698: <i>Clostera curtula</i> (L.)	2, 4, 5	9146: <i>Eublemma amoena</i> (Hb.)	
8708: <i>Furcula furcula</i> (Cl.)	1	(= <i>respersa</i> auctt.)	4
8710: <i>Furcula bifida</i> (Brahm)	3, 4	9147: <i>Eublemma purpurina</i> (D.& S.)	4, 5
8719: <i>Notodonta ziczac</i> (L.)	1, 6	9217: <i>Cucullia tanacetii</i> (D. & S.)	2
8721: <i>Drymonia dodonaea</i> (D.& S.)	1, 2	9230: <i>Shargacucullia thapsiphaga</i> (Tr.)	5
8724: <i>Drymonia querna</i> (D.& S.)	1	9234: <i>Shargacucullia prenanthis</i> (Boisd.)	6
8727: <i>Pheosia tremula</i> (Clerck)	3, 4	9240: <i>Calophasia lunula</i> (Hufn.)	2
8728: <i>Pheosia gnoma</i> (Fabr.)	6	9245: <i>Calophasia opalina</i> (Esper)	2, 3
8732: <i>Pterostoma palpina</i> (Clerck)	3, 6	9251: <i>Omphalophana antirrhinii</i> (Hb.)	2, 5
8738: <i>Ptilodon capucina</i> (L.)	1, 6	9275: <i>Copiphana olivina</i> (H.- S.)	3
8744: <i>Rhegmatoptila alpina</i> (Bellier)		9358: <i>Schinia scutosa</i> (D.& S.)	5
ssp. <i>osmana</i> Friedel	4	9364: <i>Heliothis virescens</i> (L.)	2, 4
8750: <i>Phalera bucephala</i> (L.)	3	9367: <i>Heliothis peltigera</i> (D.& S.)	5
8754: <i>Peridea anceps</i> (Goeze)	3	9370: <i>Heliothis armigera</i> (Hb.)	5

Species recorded	Site	Species recorded	Site
9391: <i>Apaustis rupicola</i> (D.& S.)	5	10054: <i>Egira conspicillaris</i> (L.)	1, 2, 6
9424: <i>Platyperigea kadenii</i> (Freyer)	4	10068: <i>Pachetra sagittigera</i> (Hufn.)	1, 2, 3, 6
9430: <i>Paradrina selini</i> (Boisd.)	2, 3	10086: <i>Ochropleura plecta</i> (L.)	2
9433: <i>Paradrina clavipalpis</i> (Scop.)	2, 3, 4	10096: <i>Noctua pronuba</i> L.	5
9436: <i>Paradrina flavirena</i> (Guenée)	4	10099: <i>Noctua comes</i> Hb.	5
9450: <i>Hoplodrina blanda</i> (D.& S.)	4, 5	10100: <i>Noctua fimbriata</i> (Schreb.)	5
9454: <i>Hoplodrina ambigua</i> (D.& S.)	2, 4, 5	10104: <i>Noctua tertia</i> Ment., Mob. & Fib.	5
9456: <i>Charanycha trigrammica</i>	2, 3, 4	10199: <i>Xestia c-nigrum</i> (L.)	2, 4
9467: <i>Pseudoxestia apfelbecki</i> (Rebel)	2, 4	10224: <i>Cerastis rubricosa</i> (D.& S.)	6
9476: <i>Athetis pallustris</i> (Hb.)	3	10238: <i>Peridroma saucia</i> (Hb.)	2
9481: <i>Dypterygia scabriuscula</i> (L.)	3, 4	10314: <i>Yigoga forcipula</i> (D.& S.)	5
9516: <i>Actinotia radiosa</i> (Esper)	5	10348: <i>Agrotis exclamationis</i> (L.)	1, 2, 3, 4, 5
9518: <i>Chloanthea lyperici</i> (D.& S.)	4, 5, 6	10360: <i>Agrotis cinerea</i> (D.& S.)	2, 3
9536: <i>Parastichtis suspecta</i> (Hb.)	5	Pantheidae	
9537: <i>Parastichtis ypsilon</i> (D.& S.)	4	10372: <i>Colocasia coryli</i> (L.)	1
9544: <i>Dicycla oo</i> (L.)	4, 5	Lymantriidae	
9547: <i>Cosmia confinis</i> H.- S.	5	10385: <i>Parocneria terebinthi</i> (Freyer)	6
9550: <i>Cosmia trapezina</i> (L.)	5	10387: <i>Calliteara pudibunda</i> (L.)	2
9600: <i>Conistra vaccinii</i> (L.)	6	10407: <i>Penthophera morio</i> (L.)	2
9666: <i>Lithophane merckii</i> (Rambur)	4	Nolidae	
9741: <i>Mniotype adusta</i> (Esper)	6	10424: <i>Meganola gigantula</i> (Stdgr.)	4
9748: <i>Apamea monoglypha</i> (Hufn.)	5	10425: <i>Meganola albula</i> (D.& S.)	4
9759: <i>Apamea furva</i> (D.& S.)	4	10429: <i>Nola confusalis</i> (H.- S.)	1
9782: <i>Oligia latruncula</i> (D.& S.)	3, 4	10437: <i>Nola chlaminalalis</i> (Hb.)	3
9895: <i>Discestra trifolii</i> (Hufn.)	2, 4, 5	10444: <i>Nycteola asiatica</i> (Krul.)	5
9912: <i>Lacanobia w-latinum</i> (Hufn.)	1, 2, 3	10456: <i>Earias clorana</i> (L.)	3, 4
9917: <i>Lacanobia oleracea</i> (L.)	3, 4	10459: <i>Earias vernana</i> (Fabr.)	3
9918: <i>Lacanobia thalassina</i> (Hufn.)	1	Arctiidae	
9928: <i>Hecatera bicolorata</i> (Hufn.)	3, 5	10490: <i>Eilema complana</i> (L.)	3
9930: <i>Hecatera cappa</i> (Hb.)	5	10493: <i>Eilema caniola</i> (Hb.)	2, 4, 5
9935: <i>Hadena luteago</i> (D.& S.)	3	10495: <i>Eilema pygmaeola</i> (Doubleday)	
9940: <i>Hadena confusa</i> (Hufn.)	3, 6	ssp. <i>pallifrons</i> (Zell.)	4
9944: <i>Hadena albimacula</i> (Borkh.)	4	10499: <i>Eilema sororcula</i> (Hufn.)	3, 4
9945: <i>Hadena magnolii</i> (Boisd.)	2, 3	10514: <i>Setina roscida</i> (D.& S.)	2
9955: <i>Hadena rivularis</i> (Fabr.)	3	10517: <i>Amata phegea</i> (L.)	4
9957: <i>Hadena perplexa</i> (D.& S.)	2, 4	10519: <i>Amata kriegeri</i> (Ragusa)	5
9962: <i>Hadena syriaca</i> (Osthelder)	4	10522: <i>Dysauxes famula</i> (Freyer)	4
9968: <i>Sideridis lampra</i> (Schawerda)	2	10548: <i>Watsonarctia casta</i> (Esper)	
10002: <i>Mythimna albipuncta</i> (D.& S.)	1, 2, 3, 4	= <i>deserta</i> Bartel	1
10003: <i>Mythimna vitellina</i> (Hb.)	2, 3, 4, 5	10550: <i>Phragmatobia fuliginosa</i> (L.)	5
10022: <i>Mythimna l-album</i> (L.)	4, 6	10566: <i>Spilosoma lutea</i> (Hufn.)	2
10027: <i>Mythimna andereggii</i> Boisd.		10567: <i>Spilosoma lubricipeda</i> (L.)	3, 4
ssp. <i>pseudocomma</i>	1, 6	10568: <i>Spilosoma urticae</i> (Esper)	3
10028: <i>Mythimna sicula</i> ssp. <i>sicula</i> (Tr.)	2	10600: <i>Arctia villica</i> (L.)	2, 3, 4
10029: <i>Mythimna sicula</i> ssp. <i>scirpi</i> (Duponchel)	3		

Hazards of butterfly collecting. Getting back was the real problem – Andaman Islands, 1988

I was in the lucky situation of getting to India some days early on a business trip with the aim of having a look at the very interesting endemic butterfly fauna of the Andaman Islands. It is quite possible that some readers might not even know where the Andamans are; well they are sort of in between India, Thailand, and Indonesia; the next group of islands, the Nicobars, make India a very close neighbour of Indonesia.

It used to be very difficult to get permission to visit the Andamans, and even in 1988 visiting the Nicobars was impossible, except on official business. But I had a nice few days of collecting around Port Blair, known for the famous Cellular Jail where the British Raj used to put political prisoners; several ministers in Nehru's first cabinet graduated from there.

I was sorry not to be able to visit the Nicobars. Though the two island groups are very close to each other, their fauna is very different. The Andaman affinities are with India and Thailand, those of the Nicobars are with Sundaland (Indonesia and Malaysia). I have related some of my experiences during this very interesting visit in this Journal (1989: **101**: 183-184; 1992: **104**: 31-32), but it was the job of getting back to the mainland that was the real issue.

I was going back to Bombay to brief with other members of my team and the executive committee and staff of the excellent Family Planning Association of India. But a huge cyclonic system was moving slowly across the Bay of Bengal. And the airport in Port Blair has one runway, barely sufficient for a Boeing 737, and ending with a large, almost vertical hill.

I was picked up by Indian Airlines at 07.00 and taken to the airport, a most unusual service as far as that airline at the time was concerned. So off to what was to become a routine. Approach check-in counter. Luggage labeled and sent to loading cart. Then: sorry, I cannot issue boarding pass before you have security clearance (India has a massive security paranoia). I go to security: Sorry, no clearance without boarding pass. Catch 22, but soon overcome by the boarding pass and security clearance being exchanged at neutral territory – I volunteered a round of soft drinks. And there are, after all, very few foreign visitors to the Andamans.

We went into the departure lounge, designed for the DC-3 rather than the Boeing 737. It was uncertain whether the flights from Calcutta or Madras would be able to land. At 10.00 the in-flight breakfasts were served – cold omelet is not actually that bad. At 12.00 an announcement: "Madras flight definitely stands cancelled". At 14.00: "Calcutta flight definitely stands cancelled". Security rushed out to cancel our permits to leave the Andamans, boarding passes were retrieved, luggage was unloaded, and by 17.00 we were back in our hotel. Dinner was delicious and paid for by Indian Airlines, rather strange considering that this is the only airline in the world where a flight could be "preponed", i.e., it left two hours earlier than indicated on your confirmed ticket, and on top of that they would insist you pay for a new ticket since you "missed" the flight.

The next morning, same thing. And the next. On the fourth day the security people gave us clearance before boarding pass was obtained; we had all got to know each other. But still no airplane.

On the fifth day a 737 did arrive. We piled into it – it was a Calcutta flight. The captain came across on the intercom. To make a safe take-off he would leave the luggage behind. There was a roar of protest. By now about half the flight were the accumulated tourists who had already missed their flight back to Europe or the USA; their expectations of getting luggage back that had been left in the Andamans were realistically low. A “people power” committee was formed and went to remonstrate with the captain. He took the point and decided to lighten the load by expelling local passengers: “Bannerji J., Chauderi, C., Singh, J. S., etc will please leave the aircraft and claim their baggage”.

Then: “Ladies and gentlemen. Our crew flying time has elapsed. We will fly tomorrow morning”. This message was deeply disbelieved by our “people power” team; they suspected that the crew would fly the plane back to Calcutta without us. So 25 Europeans and North Americans blocked the wheels of the aircraft till we saw the crew safely removed by an Indian Airlines van. And we went back to our hotel. Gandhi protesys in reverse.

The next morning we did leave. Things had become so friendly that I left without a formal security clearance (but then there were six cancelled ones in my passport). We arrived in Calcutta. Wisely, the ground staff had left; 50 or 60 people wanting bookings AND rebooking of international flights?

The cyclone had brought down all means of communication, and they were still down in Calcutta. I had missed my Bombay briefing. But my notes from a planning meeting three months ago suggested I ought to be in Lucknow tomorrow.

So I decided to go to Lucknow. At check-in I was given “chance-list 186”. I went looking for “higher-ups” and was eventually upgraded to “priority before chance-list”. In the event the Lucknow flight left with 18 passengers. There was a consensus that I must have been booked into the one luxury hotel in town, as indeed I was, and a colleague arrived the following day. All is well that ends well.– TORBEN B. LARSEN, Bangladesh, World Bank, 1818 H. Street N.W., Washhington D.C., 20433, USA.

***Dorycera graminum* (Fabricius) (Dipt.: Ulidiidae) in Kent – an update**

Dorycera graminum was recently the subject of a special study (Ismay, J. W., 2000. The status, distribution and biology of *Dorycera graminum* (Fabricius) (Diptera, Ulidiidae). *English Nature Research Reports* **395**: 1-19). As fieldwork by the author was undertaken in 1999 it is, perhaps, pertinent to place on record some further records which have come to my attention.

On 20.v.2000, further specimens were found widely along the Grain foreshore area of North Kent where it had been recorded previously by Donisthorpe in 1932, myself in 1993 (*Ent. Rec.* **106**: 138) and Ismay in 1999. The latter regarded this area to be the best site for the species amongst those investigated although its future is uncertain in view of substantial developments proposed for the Hoo Peninsula. I swept two

graminum from a hawthorn tree growing beside the B.260 road at LaneEnd, Darent on 18.vi.2000. On 9.vi.2001, the species was swept in abundance from the lower branches of Lombardy Poplar growing in the grounds and nearby grassland of Leigh Technology College, Dartford. Recently, among some insect photographs passed to me for identification by Mrs Pat Allen, was a further example photographed on 27.v.1999 in her garden at Lympne. Finally on 20.vi.2002 a single specimen was found squashed on one of the picnic seats at Grain.

A summary of the known Kent records is presented below.

1840 Harrietsham TQ85 (VC 15) J. F. Stephens; 19.vi.1896 Bearsted TQ75 (VC 15) E. E. Green; 1936 Wye & Crundale Downs TR0949 (VC 15) C. G. Lamb; 1961 Hook Farm, Bromley, TQ413676 (VC 16) P. J. Chandler; 1963 Oakley Farm Bromley TQ4166 (VC 16) P. J. Chandler; 11.vi.1904 Huntingfield TQ95 (not TR05 as stated by Ismay) (VC 15) A.J. Chitty; 8.vi.1909 Dartford TQ57 (VC 16) J. W. Yerbury; 13.vi.1909 Dartford TQ57 (VC 16) J.W. Yerbury; 14.vi.1912 Dartford TQ57 (VC 16) J. W. Yerbury; vii.1932 Port Victoria, Grain TQ87 (VC 16) H.St. John K. Donisthorpe; 30.vi.1941 Ashford TR0044 (VC 15) G. Waller; 1.vi.1942 Ashford TR0044 (VC 15) G. Waller; 6.vi.1946 Eltham TQ47 (VC 16) H.W. Andrews; 11.vi.1946 Eltham TQ47 (VC 16) H. W. Andrews; 30.v.1949 Boughton Aluph TR04 (VC 15) H.W. Miles; 4.vi.1956 Sittingbourne TQ96 (VC 15) J.C. Felton; 13.vi.1992 Kingsnorth TQ8173 (VC 16) L. Clemons; 6.vi.1993 Grain TQ8877 (VC 16) L. Clemons; 5.vii.1995 Northfleet TQ6173 (VC 16) C.W. Plant; 6.vi.1996 Hither Green TQ3974 (VC 16 not 17 as stated by Ismay) R. A. Jones; 7.vii.1996 Church Marshes, Milton TQ9165 (In the Appendix Ismay gave the grid reference as TQ913655, presumably because he had visited the site. However the grid reference given on page 13 was TQ913654) (VC 15) L. Clemons (Recorder not recorded by Ismay); 15.v.1999 Preston Court TR242605 (VC 15) L. Clemons; 14.vi.1999 Grain TQ883772 (VC 16) J.W. Ismay; 12.vi.1999 Horton Kirby TQ558684 (VC 16) L. Clemons; 20.v.2000 Grain TQ888771 (VC 16) L. Clemons; 20.v.2000 Grain TQ892763 (VC 16) L. Clemons; 18.vi.2000 Lane End, Darent TQ571711 (VC 16) L. Clemons; 27.v.1999 Walnut Tree Cottage, Lympne TR12253540 (VC 15) P. Allen; 9.vi.2001 Dartford; Leigh Technology College. TQ55157331 (VC 16) L. Clemons; 9.vi.2001 Dartford; scrub and grassland west of Leigh Technology College. TQ54937328 (VC 16) L. Clemons; 20.vi.2002 Grain TQ891767 (VC16) L. Clemons.–
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A record of the Buff Footman *Eilema depressa* Esper (Lep.: Arctiidae) from Killarney, Co. Kerry

John Lavery and I visited Derrycunihy Wood, Killarney, on 17.v.1999, to beat the oaks for Lepidoptera and Coleoptera and it was while engaged in this activity that a single larva of *Eilema depressa* (= *deplana* (Esper)), was dislodged from a lichen-covered oak bough. Possible identification was possible by reference to Porter's *Colour Identification of Caterpillars of the British Isles* (1997). Unfortunately, the larva did not survive more than a few days, even though frass was noted in the container in which it was retained.

This species' limited occurrence in Ireland may be gauged from the distribution cited by Heath et al. (1983, *Moths and Butterflies of Great Britain & Ireland*, 9) and by E. S. A. Baynes who, in his *Revised Catalogue of Irish Macrolepidoptera* (1964), stated that it is "... extremely rare and, so far, only recorded from the Killarney area of Co. Kerry". Records are apparently quite scarce and Baynes noted the following: "Donovan mentions a specimen taken by Allen and identified by Prout, and records a total of five ab. *ochreola* Hb. taken by himself, two of which were obtained on 27.vii.1936. The latest record is of nine moths taken at light in the Tore area of Killarney between 8 and 9.vii.1939 and eight more in 1944 (B. P. Beirne and A. A. Lisney). These insects were of the orange buff form, ab. *unicolour* Bankes." The late Raymond F. Haynes, who collected Lepidoptera extensively in the Killarney district for many years, left an unpublished manuscript *Lepidoptera of the Killarney District* which contains a wealth of information on the area, has repeated the above records but also noted "... my own specimens were bred from larvae which I beat from lichens growing on trees in the Muckcross Demesne near the Abbey ruins". However, no dates are given.

Quite recently, I came across a further reference to this species in an article by R. Fairclough (*Ent. Rec.*, 80), entitled "*Luperina uickerlii* in the Dingle Peninsula, August 1967". Fairclough stated that on 29 August 1967 "... we pitched our sheets in Tore Woods where a cold clear night did not give us much idea of the local Lepidoptera. We had seventeen species the only two of interest being one *Atelunia xeraupelina* Esp. and a number of large yellow *Eilema deplana* Esp".— MICHAEL O'SULLIVAN, 20 St James Gardens, Killorglin, Co. Kerry, Ireland.

Stomorhina lunata (Fabr.) (Dipt.: Calliphoridae) in north-west Kent

The locust parasitoid *Stomorhina lunata* is regarded as an occasional vagrant into north-west Europe. Rognes (1991, Blowflies (Diptera, Calliphoridae) of Fennoscandia and Denmark. *Fauna Entomologica Scandinavica* 24), summarised its distribution as "widely distributed in southern Palaearctic (also northern parts of France, and occasionally Great Britain, but not breeding there) and all of Afrotropical Region; in Oriental Region only northern parts; in the Nearctic common on the island of Bermuda, but not elsewhere". He stated that in Fennoscandia the only known record was of a single male captured on a flower-head of *Tagetes* in the Helsinki Botanical garden on 29.ix.1844.

The species was apparently first recorded in Britain at Christchurch on 3.viii.1896 by R. C. Bradley (Wainwright, C. J. 1949, *J. Soc. Br. Entomology* 3: 97-98), and Jenkinson (1901, *Ent. Mon. Mag.* 37: 299-300) stated "I have secured five specimens this year. I took one female at Hindon, near Salisbury, on August 30th. Males occurred at Lyndhurst, June 26th; Paul, July 26th (Miss Allard); Cambridge, September 15th; Cambridge, September 25th (Miss Haynes). Nearly all were on flowers of Compositae; they sit with the wings overlapping, and so have a pointed look behind. It is an odd looking insect". As Miss Allard was Jenkinson's housekeeper it is assumed that the July 26th specimen was taken in his garden at

10 Brookside, Cambridge and the September 25th specimen *per* Miss Haynes from the Cambridge Botanical Garden (Wainwright, C. J. 1928. The British Tachinidae (Diptera) *Trans. ent. Soc. Lond.* **76**: 139-254).

d'Assis-Fonseca (1947. *Ent. Rec.* **59**: 137) recorded the species as abundant in his garden at Westerleigh, Cote Drive, Westbury-on-Trym between 20 and 26 September of that year. In total, 19 males and 12 females were taken from a clump of Golden Rod *Solidago canadensis*. He also stated "It is of interest to note that the species may be a regular visitor to this part of the country as I took a single male in Blaize Woods, near Bristol, on 8th July 1945, and a single female at Edington, near Bridgwater, on 21st June 1947". Also in 1947, C. N. Colyer (*Ent. Rec.* **59**: 155) referred to his capture of a male "on a dahlia" in a park at Cockfosters, Hertfordshire on 19 October 1947.

In 1949, the ailing C. J. Wainwright (*op.cit.*) stated that he had personally taken *lunata* that year from Mudeford, near Christchurch, and published these additional records – 1934 Bembridge, Isle of Wight, H. W. Andrews; 3 August 1944, Southwell on Portland Bill, C. J. Wainwright and late 1949, Coombe Dingle, near Bristol E. E. Lowe.

Nothing was said by J.P. Dear (1981. Blowfly recording scheme – an interim report. *Ent. Mon. Mag.* **117**: 75-76) of further occurrences of *Stomorhina lunata* in Britain and hence this observation may be of some interest.

On 1.ix.2001, I was demonstrating insects to the then eight years old enthusiast Thomas Venner at Swanscombe NNR (VC 16). At one spot (O.S. Grid reference TQ 594742) a small patch of Golden Rod *Solidago canadensis* was encountered and here a number of showy insects, including *Cerceris rybyensis* (L.) (Hym.: Sphecidae), *Helophilus pendulus* (L.), *Sphaerophoria scripta* (L.) and *Syrirta pipiens* (L.) (Dipt.: Syrphidae) and *Tachina fera* (L.) (Dipt.: Tachinidae), were found feeding on the flowers. Whilst going for a *Conops*, which proved to be *quadrifasciatus* De Geer (Conopidae), I thought that I had accidentally sucked a specimen of *Musca autumnalis* De Geer into the pooter and no more thought was given. When the contents of the pooter were examined under the microscope the next day I found that this specimen had a pronounced epistoma, ruling out *M. autumnalis* and that there was a row of hypopleural bristles, ruling out the Muscidae. It did not take long before its identity was determined to be *Stomorhina lunata*. To quote Jenkinson, it is, indeed, "an odd looking insect" and another which the dry, un-illustrated, descriptions in the literature cannot prepare one for. – LAURENCE CLEMONS, 14 St. John's Avenue, Sittingbourne, Kent ME10 4NE.

The Dusky Hook-tip *Drepana curvatula* (Borkh.) (Lep.: Drepanidae) new to the Isle of Wight

On 8 August 2002, Dave Wooldridge caught an example of the Dusky Hook-tip *Drepana curvatula* in his trap at The Causeway, Freshwater. When he returned from fetching a box it had gone, but he was positive of its identification. Two other examples of this species were taken in Kent two weeks previously, suggesting strongly that all of these records of this rare species relate to primary immigrants. Less than twenty have been recorded in the British Isles. – SAM KNILL-JONES, Roundstone, 2 School Green Road, Freshwater, Isle of Wight PO40 9AL.

Dryophthorus corticalis (Payk.) (Col.: Curculionidae) found continuously at Windsor

Prof. M. G. Morris (2002. *True Weevils* 1: 33) states that the above species, known here only from the Windsor Forest area, was lost sight of between 1936 and 1980. However, in the course of many visits during that period, I met with it from time to time but, believing it to be sufficiently known from the area, did not trouble to publish the occurrences.

Its association with the ant *Lasius brunneus* (Latr.) was supposed by Donisthorpe – who added it to our list – to be a definite host-guest relationship. However, my own experience suggests the association is simply a consequence of the sharing of the same habitat by the two insects.— A. A. ALLEN, 49 Montcalm Road, London SE7 8QG.

The generic names of the British Hydradephaga (Coleoptera) explained

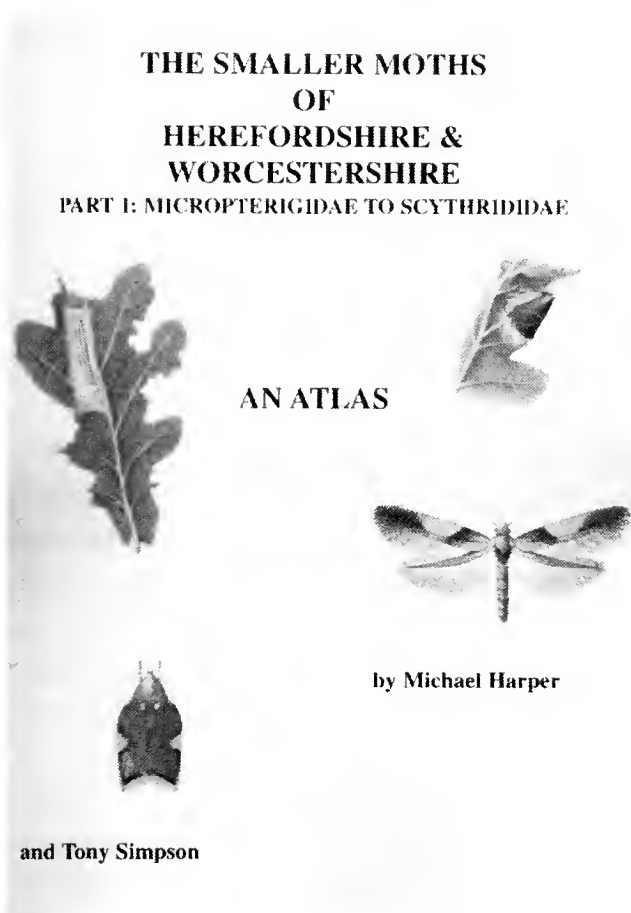
For the origins of *Agabus* and *Acilius* I am wholly indebted to Mr David Atty.

<i>Brychius</i>	“from the depths of the sea” – an unfortunate name for a running-water insect.
<i>Haliplus</i>	a sailor or seaman.
<i>Peltodytes</i>	a shield-bearing diver.
<i>Hygrobia</i>	living in moisture (syn. <i>pelobius</i> = living in mud.).
<i>Noterus</i>	wet, damp.
<i>Laccophilus</i>	lover of water-hollows as ponds, tanks; cf. <i>Laccobius</i> (Hydrophilidae).
<i>Hydrovatus</i>	oval inhabitant of water. (A Greek-Latin hybrid).
<i>Hyphidrus</i>	(living) under water.
<i>Hydroglyptus</i>	best translated “sculptured water-beetle”.
<i>Bidessus</i>	should refer to some paired feature, but what?
<i>Hygrotus</i>	represents Greek <i>hygrotes</i> “wetness, moisture”.
<i>Coelambus</i>	with hollowed edges or rims (epipleurae of elytra).
<i>Hydroporus</i>	passing through or travelling in water.
<i>Stictonectes</i>	spotted swimmer.
<i>Graptodytes</i>	inscribed diver (from its markings).
<i>Porhydrus</i>	same as <i>Hydroporus</i> with the two elements awkwardly transposed.
<i>Deronectes</i>	literally “neck swimmer” (whatever Sharp meant by that).
<i>Potamonectes</i>	river swimmer.
<i>Stictotarsus</i>	with spotted tarsi.
<i>Oreodytes</i>	mountain diver.
<i>Scarodytes</i>	leaping, skipping diver* (All who have taken small Dytiseids by hand will be well aware of this tendency).
<i>Laccornis</i>	pond or lake bird.
<i>Copelatus</i>	oar-driven (an apt name for a Dytiseid).
<i>Platambus</i>	with broad rims (i.e., elytral epipleurae).
<i>Agabus</i>	name of a prophet of Judea mentioned in the Bible (Acts 11, 28 and 21, 10).
<i>Ilybius</i>	living in mud (like <i>Pelobius</i> . • not an apt name).
<i>Rhantus</i>	sprinkled, bedewed, splashed.
<i>Colymbetes</i>	diver or plunger.
<i>Hydaticus</i>	connected with water.
<i>Graphoderus</i>	“with neck written on”, from the pronotal markings.
<i>Acilius</i>	name of a Roman Tribune; also of an historian.
<i>Dytiscus</i>	little diver.
<i>Gyrinus</i>	from their gyrations on the surface of water.
<i>Orectochilus</i>	with jutting lip, i.e., the labrum.

– A. A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

BOOK REVIEWS

The smaller moths of Herefordshire and Worcestershire. Part 1: Micropterigidae to Scythrididae by Michael Harper and Tony Simpson. viii + 196pp, plus 5 pages of colour plates. A4, wire-bound between acetate covers. ISBN 0-9519749-2-0. Butterfly Conservation (West Midlands Branch), 2003. £12 (£9.50 to members of Butterfly Conservation, Herefordshire Nature Trust or Worcestershire Wildlife Trust), plus £2.50 UK postage and packing, from Butterfly Conservation (West Midlands Branch), 65 Wentworth Road, Birmingham B17 9SS.



The work on Larger moths and butterflies in the same two county areas, and written by the same two authors, was published in 2001 and reviewed in this journal in May of that year (*Ent. Rec.* **114**: 143 – 144). Most of the praise that was heaped upon that work can be repeated here, for its companion, with equal justification. The work on larger moths showed three maps for each species – depicting records received for the date bands pre-1914, 1914 to 1969 and 1970 onwards. In the micro work now under review, the maps are reduced to two (pre-1970 and 1970 onwards) with the specific aim of creating more space for additional text. Even so, the intention to produce a single volume covering the micros was not achieved and the families from Tortricidae to Pterophoridae will be included in a third volume. This is not a criticism – indeed, it must have been enormously pleasing to the authors to discover that they had so much data that a second micro volume would be necessary.

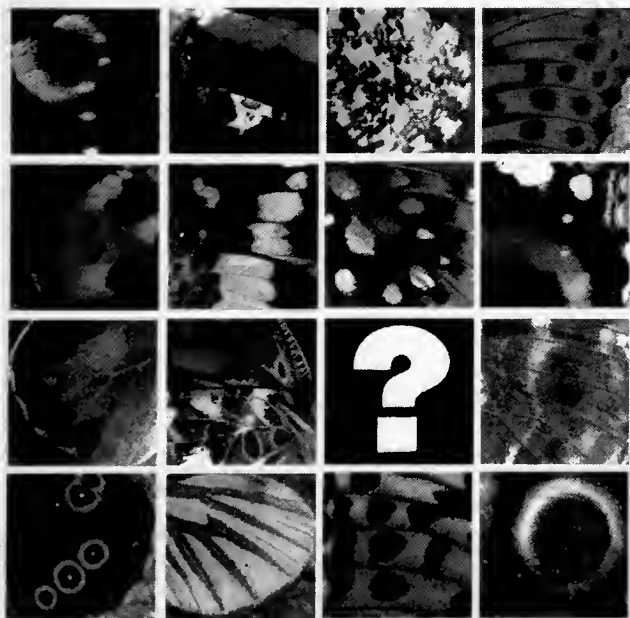
Of course, the coverage is inevitably uneven across the species list. Thus, the oecophorid *Carcina quercana* is indicated as currently present in almost every ten-kilometre square of the two counties (and is clearly likely to be recorded in the blank squares if looked for) whilst some of the Coleophoridae, by way of example, that probably ought to be all over the area are shown from rather fewer squares. In spite of this it is clear that there are rather fewer poorly-recorded species than might be expected from casual recording and the huge field recording effort that has been input by the authors is evident. This means that even some of the maps with the fewest dots on them can be interpreted confidently as “complete” and as a result can be used to identify those species that are potentially under threat; this in turn will hopefully lead to identification by the wildlife trusts of key habitat types for preservation and, if required, management.

I have only limited criticism of the work. Although numbers of recorded species are given for each family at the start of each family section, I am not able to spot an overall total, so making gross comparison with other counties laborious. Perhaps this will appear in summary form in volume 3? Neither the *Entomologist's Record* nor any other journal likely to be keen and willing to publish, free of charge, the observations of amateur entomologists is listed in the useful

addresses section – surely a missed opportunity to encourage amateurs to contribute. The few colour plates at the start are excellent, but may have limited value other than to perhaps make the book sell better; one wonders how many *Micropterix* species will be reported as *M. tunbergella* by well-meaning amateurs simply because that is the only *Micropterix* illustrated? These people want to contribute – why make a problem for yourself in now having to reject their records? Perhaps I am being unkind? For a long time, the “micros” have remained the province of “the specialist”, “the expert” or “professionals” and how pleasing it is to see this artificial group popularised at last. Many of these smaller moths are actually larger than some of the “larger” moths. Many are very easy to identify, some a darn sight easier than a few of the macros (pugs spring to immediately mind!) and many can be identified readily in the field, as adults, by those who choose not to form scientific collections (though these people do need to be aware of the limitations and recognise which groups require critical examination). A great many more can be identified from their outward signs, such as leaf mines. This present title represents an important contribution to knowledge, understanding, popularization and, consequently, conservation. I look forward eagerly to micros part 2 (tortricoids, pyrales and plumes) which is due in January 2004. I hope other county recorders will follow this important lead.

The butterflies of Colchester and north-east Essex by **Ted Benton, Joe Firmin and Ian Rose**. vi + 120 pp., 148 x 210 mm., paperback. ISBN 0-9516312-1-7. Colchester Natural History Society, 2002. £9.99 plus £1.50 UK postage and packing, available from the society at 41 Oaks Drive, Colchester CO3 3PS.

THE BUTTERFLIES OF COLCHESTER AND NORTH EAST ESSEX



Published by the Colchester Natural History Society

This pocket-sized book provides us with a thorough and fascinating summary of available information on butterflies in the north-east corner of Essex, in south-eastern Britain, and is dedicated to the memory of Donald Blaxill and Geoffrey Pyman, who were stalwarts in the study of butterflies in the county and of their conservation. Whilst Colchester is not the richest part of either Britain or Essex for butterflies, it has a long history of study and some famous names amongst entomology, such as John Ray (of Ray Society fame) and the Harwoods, are associated with the region. It is evident from the book, however, that the region was once blessed with rather more butterflies than it is today and the reasons for this are explored – no surprise that the reduction and degradation of habitat is the culprit and not the butterfly collectors.

The book is primarily written for residents of, and visitors to, north-east Essex and serves both as an identification guide (by virtue of the 72 glossy, colour photographs taken by Ted Benton and Ian Rose) and as a summary of available information. Indeed, the whole subject of butterflies is covered along with such topics as where to go in the region to find the various species. The target audience will surely be well pleased with the end result.

There are a few minor criticisms. Though there is a Contents page, there is no Index, so that the beginner needs to leaf through the entire book in order to find the species in which he or she is interested. The paper has either been cropped too close to the text on the spine edge or else the printed text extends too far in this direction. As a result that the book springs closed and cannot be easily opened out and read in one hand unless it is "snapped" open breaking the spine. This is perhaps a consequence of the increasingly popular tendency to provide printers with "camera-ready copy" – something I would caution against in most instances. However, in spite of these criticisms this work is a splendid example of what can be achieved by a relatively small and voluntary society with the right motivation.

SUBSCRIBER NOTICE

Request for specimens of Scalloped Hazel Moth *Odontopera bidentata* (Cl.) (Geometridae)

I am researching the relationship between the Scalloped Hazel *Odontopera bidentata* (Cl.) and the related Balkan species *Odontopera graecarius* (Bang-Haas). *O. graecarius* replaces *O. bidentata* in Greece and is the prevalent species in Bulgaria, where *O. bidentata* is apparently rare. In Britain, we have only *O. bidentata* and adults are on the wing now. The two can be separated by small differences in the ornamentation of the male aedeagus, but I have discovered that there is also a variation in this same feature amongst British examples of *O. bidentata*. The validity of *O. graecarius* has thus been called into question; the type specimen, which is in the Humboldt Museum in Berlin, is a female and no description of the male appears to have been published in the literature. It is possible that British *bidentata* and Greek *graecarius* represent two geographical extremes within a single species. To investigate this possibility, I need to dissect British and European *bidentata* to see if there is variation with latitude and to see if any examples are identical to *graecarius*. I therefore welcome *O. bidentata* males from Scotland (especially Hebrides and Orkney), Ireland, Wales, England north of the Midlands and the West Country. I have plenty of material from the south-east already. If anyone has material from anywhere in Europe this would also be enormously useful. I especially welcome any specimen in which the discal spot on the hind wing is confluent with the dark cross-line (in "normal" specimens this spot is basal to the line). The condition of the specimen is irrelevant and moths do not need to be set, though unpinned material should be packed so that scales do not rub off in transit. This is an excellent opportunity to get rid of those really badly set specimens that embarrass you each time you open the drawer! As long as it has an abdomen it is useful to this study. All material will be returned unless otherwise directed, but genitalia will be returned on separate glass microscope slides. Please ensure that there is locality data with the specimens and a date (even if only a year). Remember also to include your return address. All persons, museums or other institutions donating or loaning material will be fully acknowledged in any publication arising from this study.– COLIN W. PLANT, 14 West Road, Bishops Stortford, Hertfordshire CM23 3QP.

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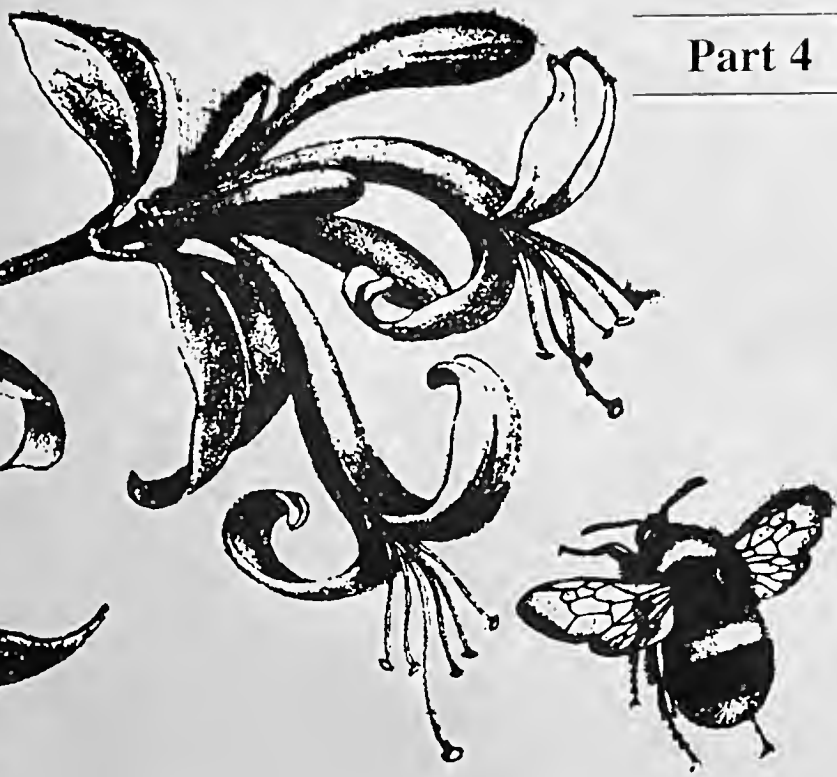
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**THE ENGRAILED, *ECTROPIS BISTORTATA* (GOEZE)
(LEP.: GEOMETRIDAE), HAS BECOME PARTIALLY
DOUBLE-BROODED IN NORTH-EAST SCOTLAND**

¹ROBERT M. PALMER AND ²PHILIP J. L. GOULD

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Abstract

Records from a light trap in north-east Scotland suggest that *Ectropis bistortata* (Goeze) produced two generations of adults in the years 1999, 2000 and 2002. This interesting information supports the identification, which is disputed by some, of this northern *Ectropis* species as *bistortata* (Goeze).

Introduction

Many species which are double-brooded in the south are single-brooded in the north of Scotland. In a few cases voltinism is one character used to differentiate pairs of species. For example *Diarsia rubi* (Viewig), the Small Square-spot, is double-brooded in the south, whilst *D. florida* (Schmidt), the Fen Square-spot, is single-brooded. In parts of England where both species occur, the single brooded *D. florida* flies between the two broods of *D. rubi* and flies later at night (Skinner, 1984) (thus maintaining genetic separation). In northern Scotland, the identity of the single-brooded *Diarsia* is not known with certainty and its identity is disputed. It has a prolonged flight time, from mid-June to early September, but is not clearly bivoltine. Many years ago the late Teddy Pelham-Clinton told RMP that in his opinion, if the species is single-brooded it must be called *D. florida*. Some Scottish lepidopterists adhere to this view, others call it *D. rubi*.

Ectropis bistortata (Goeze), the Engrailed, and *E. crepuscularia* (D. & S.), the Small Engrailed, are similar in that the Engrailed is double-brooded in the south whilst the Small Engrailed is single-brooded. However, Skinner (1984) follows previous authors, and the widely held current view, in stating that the single-brooded species in northern Britain is *E. bistortata*. This seems to be undisputed, which is strange in view of the difference of opinion over the *Diarsia* spp. The situation is different on Continental Europe where *E. bistortata* is not considered to be a separate species, a view briefly adopted in the British literature (Bradley, 1998) but subsequently reversed (Bradley, 2000). The data presented below suggest that if indeed there are two species, then the view that the Scottish species is *E. bistortata* is probably correct.

The Engrailed moth is local in Kincardineshire and Aberdeenshire, but can be common where it occurs. Casual trapping since 1968 has shown that the moth is found quite frequently in areas of deciduous woodland on middle Deeside (from Crathes and Banchory to Ballater). It occurs more sparingly nearer the coast in the Dyce and Bucksburn area. Until 1998 the flight time was from late March to mid June. From limited experience of the larvae, the foodplants here are oak and birch.

On Donside the species is common around Kemnay and Monymusk. Since 1994 Jon and Marion Bailey have operated a Rothamsted light trap (Woiwod & Harrington, 1994) near Monymusk, in one of the best and oldest oak woods in north-east Scotland (where old oak woods are a rare commodity). This has enabled the flight periods of the Engrailed to be studied in detail over a nine year period (Table 1).

Year	First brood total	Dates of first and last record	Second brood total	Dates of first and last record
1994	49	11 Apr - 1 June	0	–
1995	79	30 Mar - 17 June	0	–
1996	57	9 Apr - 29 May	0	–
1997	48	18 Mar - 2 May	0	–
1998	13	17 Feb - 19 May	0	–
1999	31	4 Apr - 28 May	1	22 Sep
2000	48	6 Mar - 20 May	2	2 Aug - 15 Aug
2001	119	1 Apr - 26 June	0	–
2002	107	27 Mar - 10 June	5	24 Aug - 9 Sep

Table 1. Dates and numbers of *Ectropis bistortata* in RIS trap near Monymusk, 1994 - 2002.

Some interesting facts are apparent. Numbers of the moth per annum range from 13 to 119, and it has been particularly common in the last two seasons. The flight period until 1998 was from late March until early June; with one very early appearance on 17 February 1998 and one late straggler on 17 June 1995. There were no records after this date. First evidence of a second generation occurred in 1999 when one moth was caught on 22 September. Since then a small second brood has occurred in 2000 and in 2002. If British lepidopterists are correct in assuming that we have two species of *Ectropis*, the data presented here suggest that the Scottish population is indeed *E. bistortata*.

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**MICRODON MYRMICAE SCHÖNROGGE ET AL 2002
(DIPT.: MICRODONTIDAE): PRESENCE IN IRELAND CONFIRMED**

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Abstract

Collection of mature larvae and puparia of *Microdon myrmicae* Schönrogge et al, 2002 (Dipt.: Microdontidae) from a Co. Offaly locality confirms the presence of this species in Ireland.

Introduction

The cryptic hoverfly species *Microdon myrmicae* was described recently (Schönrogge et al, 2002a, 2002b), from various localities in England. It can only at present be determined from examination of features of the larvae or puparia (Schönrogge et al, 2002a; Speight, 2002a). Speight (2002b) recorded the species from Ireland, on the basis of the ecology of certain sites from which adult material of “*Microdon mutabilis*” had been collected, but pointed out that only when developmental stages of *M. myrmicae* had been found in Ireland could the presence of the species be confirmed there. Developmental stages of this *Microdon* are most conveniently available in the spring, when the mature larvae ascend to just beneath the surface of the nest of the host ant, and there form their puparia. A visit to one of the Irish localities mentioned in Speight (2002b), expressly to search for puparia of *M. myrmicae*, has proved successful, confirming the presence of this species in Ireland.

A raised bog locality for *M. myrmicae* in Ireland

In a nest of *Myrmica scabrinodis* on All Saints Bog (Co. Offaly), 19 freshly-formed puparia and six larvae of *M. myrmicae* were found (together with remains of five empty puparia in poor condition – presumably from a previous year) on 24 April, 2003. A single fresh puparium of the fly was found in another nest of *M. scabrinodis* at the same location. The record of *Microdon mntabilis* (L.) from All Saints Bog (Speight, 1990) should now be regarded as a mis-determination. Until and unless any developmental stages of *M. mntabilis* sensu Schönrogge et al (2002a) are found at the site - an occurrence which would seem highly unlikely – all adults of the *M. mntabilis* aggregate found at All Saints Bog can be presumed to refer to *M. myrmicae*.

All Saints Bog (Ir grid N0010; UTM NU3) is an unusual site, where a number of insects exhibiting relict distribution patterns in Ireland have been found. These include the grasshopper *Stethophyma grossum*, which has a few isolated populations in the Irish Midlands (Foss and Speight, 1989) but is otherwise known only in the south-west; the ladybird *Hippodamia 13-punctata* and the elaterid *Athous subfuscus* (see Speight, 1990 and 1989, respectively). For the latter two species All Saints Bog represents the only known Irish locality. It is essentially an ancient fen now largely evolved into a raised bog, but study of the peat profile has

revealed that the extensive *Betula* woodland sprawling across much of the central area of the bog has been in situ for hundreds of years, and is not a product of recent invasion triggered by partial drainage, as in many other localities. Indigenous bog woodland is rare in Ireland.

According to Schönrogge et al (2002a) *M. myrmicae* is found in England in nests of *M. scabrinodis* in tussocks of grasses. On All Saints Bog the *M. myrmicae* puparia found were in ants' nests in large tussocks of moss, in the one instance a *Sphagnum* hummock with *Vaccinium oxycoccus* twined through its crown, in the other a tussock of *Pleurozium*. Moss tussock nests of both *Lasius niger* and *Myrmica ruginodis* were also searched for *M. myrmicae* at All Saints, but the fly was found only with *Myrmica scabrinodis*. *M. scabrinodis* is extremely abundant on All Saints Bog, developing very large and populous nests, at least within and around the edges of the birch woods. Approximately ten of these nests were investigated for *M. myrmicae*, which was found in two of them. It was noticeable that the nests with *M. myrmicae* were outside the canopy of the woodland and in direct sunlight, in open but sheltered situations.

Lasius niger is frequent in and around the birch woods on this bog. It uses both moss tussocks and rotted, fallen birch branches etc as nesting sites there. It might be expected that, in these circumstances, *Microdon analis* would occur in *Lasius niger* nests in rotten wood on this site. However, that does not seem to be the case. The only adults of *Microdon* found on All Saints Bog belong to the *M. mutabilis* aggregate and no larvae of *M. analis* have been found in *Lasius* nests there. In Ireland, *M. analis* appears to be confined to a few localities in the south-west (Speight, 2000).

What is *Microdon mutabilis* (L.) sensu auctt?

While there can be little doubt that *M. myrmicae* represents a discrete taxon, validly segregated from the *M. mutabilis* of previous authors by Schönrogge et al (2002a), there is no such clarity in respect of the status of the latter taxon. Schönrogge et al (l.c.) confine use of the name *mutabilis* (L.) to the *Microdon* using *Formica lemni* as larval host in well drained grassland but, as recognised by previous authors, *M. mutabilis* occurs with a wider range of ants than just *F. lemni* and *M. scabrinodis*, and in a range of habitat situations wider than that embraced by *M. myrmicae* and *M. mutabilis* sensu Schönrogge et al (2002a) put together. For instance, *M. rhenanus* Andries, synonymised with *M. mutabilis* by Doczkal and Schmid (1999), was described from the larva and supposedly found (though not exclusively) with the ant now known as *Formica cunicularia*. The larval mouthparts of the type material of *M. rhenanus*, clearly figured by Doczkal and Schmid (1999), show a remarkable resemblance to the larval mouthparts of *M. myrmicae* as figured by Speight (2002a), and demonstrate that *M. rhenanus* is most unlikely to be the *M. mutabilis* of Schönrogge et al (2002a). However, re-examination of the type material of *M. rhenanus*, kindly carried out by Ulrich Schmid, demonstrates (Ulrich Schmid, pers.comm.) that the anterior spiracular processes of the puparium of *M. rhenanus* are not longer than wide, as in *M. myrmicae*. Unless the form of either the larval

mouthparts or the puparial anterior respiratory processes is more variable than at present recognised it would seem that *M. rhenanus* is neither *M. mutabilis* sensu Schönrogge et al nor *M. myrmicae*. At localities where *Microdon* is known to occur its puparia are by no means difficult to find in nests of the host ant species. Searching for them would seem to have suddenly become more interesting!

Acknowledgements

I'm most grateful to Ulrich Schmid for information about the type material of *Microdon rhenanus* and to Neil Lockhart for determination of the moss *Pleurozium*.

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Epichoristodes acerbella Walker (Lep.: Tortricidae) not new to Britain in the wild

Steven Nash and Martin Corley (*antea*: 119), in recording the above tortricid as new to Britain in the wild, have overlooked the actual first record which was given by me in this journal in 1980 (*Ent. Rec.* **92**: 33). As reported there, the moth was found at a wall-lamp in a by-road in this district, but no other has occurred since. It seems likely that the species is now fully naturalized with us, but remains a rarity.—
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SUBSCRIBER NOTICE

Possible collecting of the Fiery Clearwing *Pyropteron chrysidiformis* (Esper)

Over the last three years we have received reports that potential host plants of the Fiery Clearwing *Pyropteron chrysidiformis* have apparently been dug up and removed on at least one of the few sites where the moth exists. This appears to have happened again in 2003. The Fiery Clearwing was added to Schedule 5 of the Countryside and Wildlife Act, 1981 in 1998 and, as a consequence, it is illegal to kill, injure or take the Fiery Clearwing moth in any of its life stages or to damage, destroy or obstruct access to any structure or place while it is being occupied by Fiery Clearwing in any of its life stages, without a licence. The site involved is part of a Site of Special Scientific Interest (SSSI) for which the moth is one of the features of interest. It is an offence for any person to recklessly destroy or damage the special interest of an SSSI or disturb any of the fauna making up the special interest, with a maximum penalty for conviction in a Magistrates Court of £20,000.

Obviously there are several possible explanations for this apparent removal of host plants, just one of these being collecting. However, in view of last year's high profile incident relating to the collecting of burnets in Scotland (see *Atropos*, No. 17: 68) we feel it is appropriate to raise this issue here. It is also worth highlighting that it is illegal to dig up a plant without the landowner's permission and, on SSSIs and National Nature Reserves, the permission of the relevant statutory nature conservation agency.

We do not wish to discourage responsible study of this, or other species of moths on Schedule 5 of the Wildlife and Countryside Act, but this activity does require a licence. An application for a licence can be made to the relevant statutory agency e.g., English Nature, Licensing Service, Northminster House, Peterborough PE1 1UA (www.english-nature.org.uk) or, in the case of the New Forest Burnet, Scottish Natural Heritage, Licensing Service, 2 Anderson Place, Edinburgh EH6 5NP (www.snh.org.uk). In Wales, the appropriate body is the Countryside Council for Wales (www.ccw.gov.uk). If you are working on a Site of Special Scientific Interest you should seek consent from the relevant nature conservation agency (English Nature, Scottish Natural Heritage or the Countryside Council for Wales).— MARK PARSONS, Head of Moth Conservation, Butterfly Conservation, Manor Yard, East Lulworth, Wareham, Dorset BH20 5QP, BRIAN BANKS, Conservation Officer, English Nature, The Countryside Management Centre, Coldharbour Farm, Wye, Ashford, Kent TN25 5DB and DAVID SHEPPARD, Invertebrate Ecologist, English Nature, Northminster House, Peterborough PE1 1UA.

**LITHOPHANE CONSOCIA (BORKHAUSEN, 1792) (LEP.: NOCTUIDAE):
SOFTLY'S SHOULDER-KNOT – A NOCTUID MOTH NEW TO BRITAIN**¹M. R. HONEY AND ²C. W. PLANT¹*Department of Entomology, The Natural History Museum, Cromwell Road, London SW7 5BD.*²*14 West Road, Bishops Stortford, Hertfordshire CM23 3QP.***Abstract**

The moth *Lithophane consocia* (Borkhausen) (Noctuidae) is recorded for the first time from the British Isles at Hampstead, London. The vernacular name Softly's Shoulder-knot is suggested for common usage. Details of the record are given along with a description of the adult moth and hints for identifying the species. The adult moth is illustrated in colour and the genitalia of both sexes are figured. Earlier records of *Lithophane furcifera* (Hufn.) away from the former area of residency in South Wales should be re-examined.

Introduction

An example of a *Lithophane* Hb. species was taken by Raymond Softly at an actinic light on his third floor balcony in Hampstead, North London, on 20 September 2001. The insect was tentatively identified by Ray as *Lithophane furcifera* (Hufn.) – the Conformist – and a photographic slide of the live moth was exhibited as such at the Annual Exhibition of the British Entomological and Natural History Society without receipt of any adverse comment from the many entomologists present. Subsequently, Ray's photograph of the live moth was published during 2002 (*Atropos* 16, figure 16) and captioned as this species.

A visit to The Natural History Museum in April 2003 enabled Michael Fibiger, author and originator of the series *Noctuidae Europaeae*, to read some back issues of *Atropos*. His comment upon seeing plate 4, figure 16 of volume 16 was "I have discovered a mistake". In his opinion, the habitus did not conform to that species, but rather to *Lithophane consocia*, a close relative that had not previously been reported from Britain. Comparison of the *Atropos* figure by MRH with the illustrations given in Ronkay et al. (2001), convinced him that this identification was probably correct. The moth was also mentioned by Waring (2002), who noted that it was the pale, immigrant form of *L. furcifera* and not like examples of the resident form or, indeed, *L. lambda* (Fabr.). Interestingly, Ray Softly records the fact that on the night the moth was captured there had been a light north wind (Beaufort Force 1-2). This would fit in well with the European distribution of *consocia*, it being a more north-eastern species than *furcifera*.

The moth, which is a female, was preserved in Raymond Softly's freezer and was eventually given to CWP, who set it and in whose collection it now resides. A careful re-examination by CWP alongside the excellent colour plates in *Noctuidae Europaeae* (Ronkay et al., *op. cit.*) confirmed MRH's suspicions. The moth is undoubtedly the first confirmed British example of *Lithophane consocia*. A digital image of the moth was made and this was e-mailed to MRH, Michael Fibiger and Barry Goater; the latter two both confirmed that the moth is indeed *consocia*.

However, in order to confirm absolutely the identification, a slide was made of the genitalia (slide number CP/410/03 in CWP's collection). Though the differences between *L. consocia* and *L. furcifera* are slight in the female, those differences can be seen and confirm the identification. A discussion of the genitalia is given below.

Earlier records

We consider it to be highly desirable that voucher specimens of some of the earlier records of the Conformist *L. furcifera* should be found and re-examined. Whilst subspecies *suffusa* Tutt was undoubtedly resident in Wales and western England a century ago, records made away from these foci probably referred to the immigrant typical form *furcifera*, and it is possible that some of these might in fact be *L. consocia*. We are aware of the following records:

Halifax, Yorkshire circa 1870

One from Westmorland – no date

Brighton, 13 September 1898

Two near Lancaster, on 22 September 1902

Margate, East Kent, 12 October 1904

East Anglia, in October 1904

East Sussex, 18 September 1932 by Pearman (this is presumably the Vert Wood record given by Bretherton in Heath and Emmet, 1983?).

Ham Street Woods 28 September 1935 on the wrong side of a sugared tree

East Kent, 12 September 1936 by Embry (given in South, 1939), presumably the same as Dungeness, 12 September 1936, on a post (Bretherton in Heath and Emmet, 1983).

Dungeness 4 April 1946 flying near Sallow

We have not yet seen any of the above specimens with the exception of the Embry specimen in 1936, which is now in the R.C.K. collection at The Natural History Museum (via the Youden collection) and it appears to be correctly identified as *L. furcifera*. The specimen was cited by South in an Appendix (1939: 365) as East Kent, September 12, 1936 (Embry) but as Dungeness by both Chalmers Hunt (1966: 277) and Bretherton (1983: 71). The specimen, however, is labelled Lydd. If any reader is aware of the existence of any of the above specimens the authors would be pleased to hear from them.

European distribution

The species has a mainly northern distribution in Europe, having been recorded from France, Switzerland, northern Italy, Austria, Germany, Holland, Denmark, Sweden, Finland, Estonia, Latvia, Poland, Czech Republic, Slovakia, Hungary, Romania and European Russia.

Description of the adult moth

Good colour illustrations are available in Ronkay et al. (2001) and in Skou (1991). The moth is a generally darker grey than the otherwise rather similar *Lithophane furcifera*, with which it shares several elements of its wing markings. The following description by CWP is based on the Hampstead female, Plates H and I.

Head:

Vertex with white and grey banded scales, which are produced upwards to form a double crest. Frons with black scales forming a narrow horizontal band, originating at the upper edge of the eye and easily visible. Labial palpi with basal segments bearing long scales, banded pale brown and white, on the ventral, inner and dorsal surfaces, those on the ventral surface including many that are at least as long as the second segment of the palpus. Terminal segment with these scales much shorter and more or less adpressed and directed distad. Outer face of all segments of labial palpi with a line of black scales. Antenna with basal four segments white scaled, the next two with some white scales and the remainder entirely grey scaled.

Thorax:

Dominated on the dorsal surface by narrow brown scales tipped with blackish grey and a lesser number of grey scales tipped with white, the central area raised into a narrow crest which is defined in front by a thin white transverse line of scales, itself bordered in front by a thin black line. Sides of thorax with most scales grey tipped with white and scarcely any brown scales; a longitudinal thin black line of scales along the side of the thorax above the wing base, easily visible from the side. Tegulae white scaled, with a very few rufous scales admixed in the posterior third.

Abdomen:

Grey with admixture of whitish, notably on the first two segments.

Legs:

Predominantly grey-scaled, with some white scales and a few brown ones. Hind tibia with a longitudinal streak of black scales on the outer (antero-ventral) face and with two unequal ventral spurs at the distal end, each white with a black central band. Ventral surface of all segments of hind tarsus with four rows of orange spines evident, though the rows become confused in places and are hard to discern.

Wings:

Wingspan 44 mm (range in Europe 43-48mm). Forewing upper-side overall a blackish grey, darker and less bluish-grey than the immigrant race of *L. furcifera*. Some veins defined by scattered black scales. Basal one-tenth of the wing in the anterior half white, bounded posteriorly by a well-defined, short black basal streak, so that to the unaided eye the moth has distinctive white "shoulders". Wing terminology now used follows Heath (1976). Basal spot white. Sub-basal fascia obscure. Ante-median fascia taking the form of a thin looped line of black scales, inwardly edged with greyish white scales. Median fascia grey, more or less obscure.

Post-median fascia a thin black line, running from the costa posteriorly to join the disto-dorsal corner of the reniform stigma then re-emerging from the rear edge of the reniform stigma and continuing to the dorsum. Sub-terminal fascia whitish, interrupted and inwardly edged with rufous-orange scales. A small and indistinct patch of black scales in the tornal area. Cilia grey with white tips, a short upper row overlapping a longer lower row so that there appears to be a broad grey basal band.

Orbicular and reniform stigmata large, separated from each other by a distance equivalent to about half the length of the orbicular stigma. Orbicular stigma large and very weakly outlined in whitish, this line scarcely visible (but obvious and well defined in some European specimens so perhaps worn in this example). Fill colour a paler grey than the ground colour, and this pale grey extending anteriorly to become confluent with the costa. Reniform stigma large and squarish with rufous-orange scales clearly filling the dorso-proximal corner and extending at lesser density to fill most of the proximal half of the stigma. The extent of orange fill seems to vary in European specimens, but it always seems to leave the antero-distal corner grey. Claviform stigma the same pale grey as the orbicular stigma, very narrowly, but clearly defined by a black outline. A short, narrow, black streak originating from the apex of the claviform stigma and terminating at the post-median fascia.

Hind wing upper-side more or less pale whitish grey, with a grey suffusion in the outer area not affecting the cilia, which are distinctly paler, brownish white, with pale brownish scales evident along the veins (note that the left hind wing is slightly greasy in the Hampstead specimen in Plate H). Discal spot vague, suffused. Post-median fascia scarcely visible. The pale brownish white basal area is concolourous with the scales on the basal two segments of the abdomen.

Underside pale brownish grey, the hind wings paler than the forewings. The costal area of all four wings more heavily scaled, the scales broader and vaguely pinkish. Reniform stigma of forewing evident as a diffuse group of dark grey scales. Hind wing with obvious discal spot and post-median fascia, the latter wider and stronger at the costal end, thinning and not reaching the dorsum.

Recognition and similar species

Based on this specimen and on the photographs and text in Ronkay et al. (2001), the white, interrupted sub-terminal line (vaguely lined inside with rufous-orange) should serve to separate this species from *L. furcifera*, which has a characteristic reddish sub-terminal line. Also the general appearance of *L. consocia* is more contrasting with darker speckling than that of *L. furcifera*, which has a lighter, "cleaner" blue-grey ground colour. The build is also slightly different; *L. consocia* has shorter, broader wings than *L. furcifera* (most evident in set specimens). *Lithophane lamda* has an absent or indistinct claviform stigma and darker hind wings. Ronkay et al (*op. cit.*) state that *L. lamda* never orange-reddish scales in the reniform stigma, but their illustrations on Plate 10 (Figures 24 and 26) seem to contradict this statement.

Genitalia

We are indebted to László Ronkay for permission to use the male and female genitalia photographs reproduced in Plate G. These first appeared in Ronkay et al. (2001) from which the following text is also taken.

The male genitalia differ from those of *L. furcifera* in that the fultura inferior has a narrower basal plate, the extensions of the costal plate are longer, pointed, wedge-shaped or digitiform, the harpe is short, but longer than in *L. furcifera*, and the subterminal diverticula are considerably larger.

In the female the ostium bursa is somewhat broader and shorter than in *L. furcifera*, and the sclerotisation of the ductus bursae is less intense, whilst the sclerotised posterior plate is more ring-like.

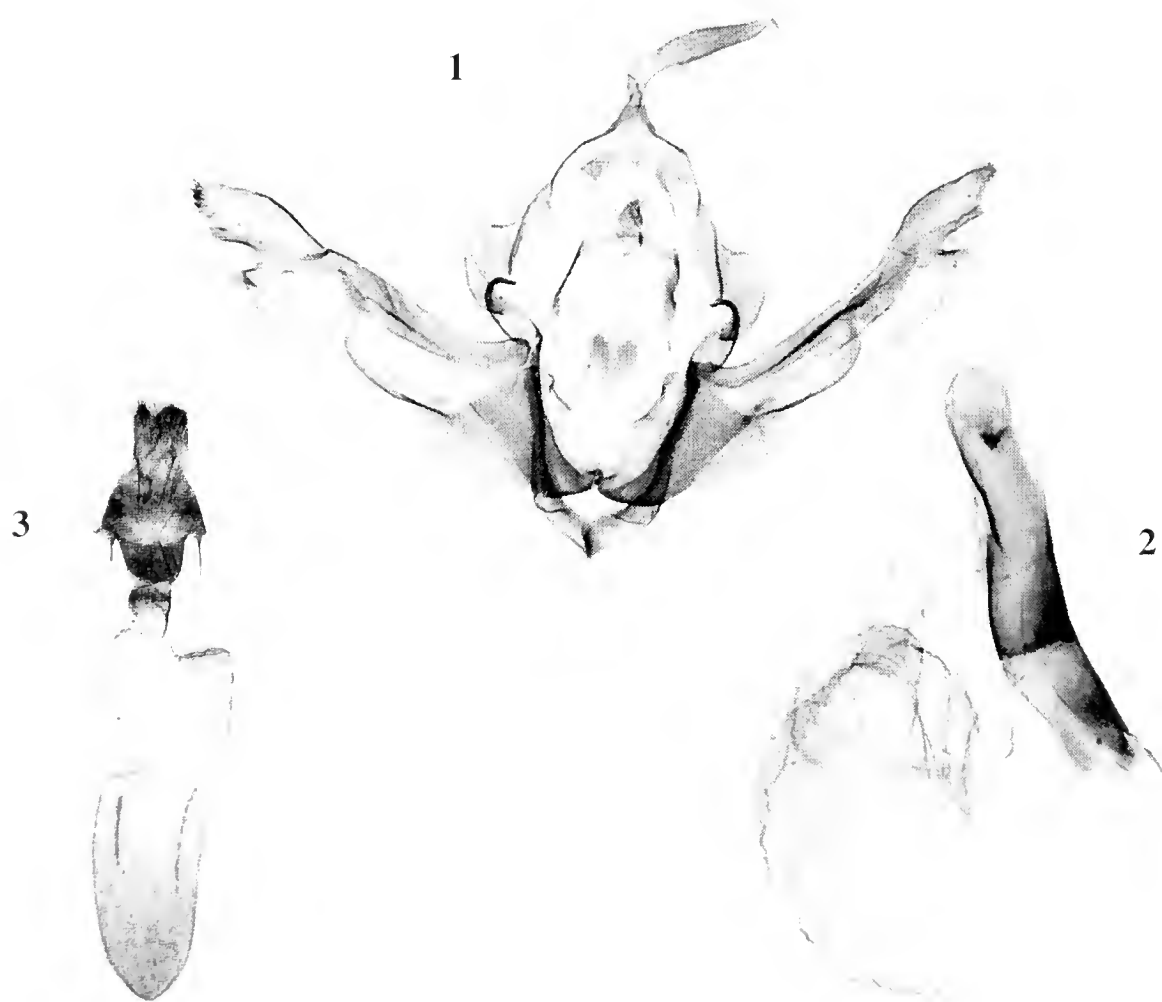


Plate G. Genitalia of *Lithophane consocia*.

1. Male genitalia; 2. Aedeagus with everted vesica; 3. Female genitalia.

Photographs © László Ronkay and Entomological Press. Reproduced with permission.

Ecology

All the available literature sources give the main larval foodplants as species of *Alnus* – *A. incana* and *A. glutinosa*, but larvae have also been recorded on *Betula* species and on hazel *Corylus avellana*. The adult moths emerge at the beginning of

September and are on the wing until the end of November, after overwintering the flight period resumes in March and lasts until May.

Vernacular name

We congratulate our friend Raymond Softly for his stalwart efforts with an actinic light trap on his third floor balcony in north London. That trap produced a new micro to Britain during 1982 in the form of *Argyresthia trifasciata* Stdgr. (Yponomeutidae) (*vide* Emmet, 1982); now it has produced a macro. We would like to suggest that Softly's Shoulder-knot might be an appropriate vernacular name.

In their taxonomic revision of the European Noctuidae, Ronkay et al. (2002) position *Lithophane consocia* after *L. furcifera* (Hufn.) and before *L. lamda* (Fabr.) In the latest British checklist (Bradley, 2000) *L. consocia* should, therefore, be given the sequence number 2238a.

Acknowledgements

We are most grateful to Michael Fibiger whose unrivalled experience and attention to detail led to the initial suggestion that the Hampstead specimen may have been incorrectly identified. We are also grateful to Michael and to Barry Goater who confirmed the identification from the digital image sent via e-mail. For that digital image we are grateful to Herts Moth Group member Andrew Hardacre, who also took the images in Plate H & I. For the genitalia photographs, reproduced from *Noctuidae Europaeae*, we are indebted to László Ronkay (Hungarian Natural History Museum, Budapest), and for permission to use them we again thank Michael Fibiger. Finally, we should record the fact that had it not been for the keen eyes of Raymond Softly, and his wisdom in retaining the moth for examination, this species would not now be on the British list.

Dr John Langmaid most kindly acted as the independent referee of this paper and, since one of the authors of this paper is also the editor of the journal in which it appears, we have accepted all of his recommendations and comments without question or dissent.

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Plate H. *Lithophane consocia* (Borkh.), Hampstead, Middlesex, 20.ix.2001. Upperside.
The colour of the insect's left wing is distorted by "grease" on the specimen.



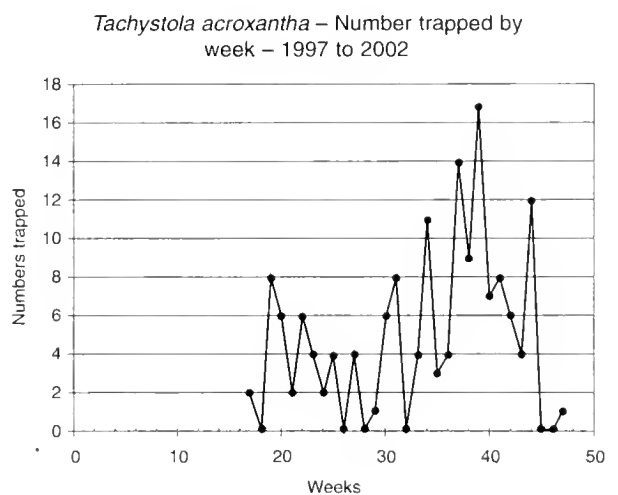
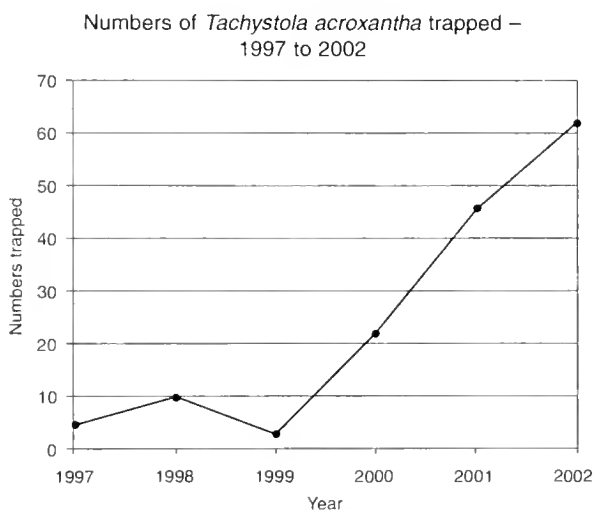
Plate I. *Lithophane consocia* (Borkh.), Hampstead, Middlesex, 20.ix.2001. Underside.

The flight period of *Tachystola acroxantha* (Meyrick) (Lep: Oecophoridae)

Since discovering *Tachystola acroxantha* in my garden in 1997 (Ent. Rec. **110**: 83) I have continued to trap this oecophorid regularly each year. Initially, my trap was a Heath trap – but in 2001 I built a skinner type trap with a 15W actinic light and the numbers of *T. acroxantha* trapped have increased as shown by the graph below.

In examining these data it is clear that my findings are in agreement with the newly published Volume 4 of *The Moths and Butterflies of Great Britain and Ireland* (Harley Books), where it is stated that moths have been found from late April to November. My earliest date is 23 April (in 2002), with a latest date of 24 November (in 2001).

Plotting the numbers caught each week of the year using my accumulated data is interesting, as it seems to show two peaks for this moth – with a small peak at week 19 and a larger peak at week 39. Although the distribution seems to be bimodal I think that more data needs to be accumulated before one can conclude whether this moth occurs in two generations or is continuously brooded. More moths are trapped towards the autumn and the highest total in one night was seven on 29 October 2002.



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**EUPITHECIA MASSILIATA DARDOIN & MILLIÈRE
(LEP.: GEOMETRIDAE) – A PUG MOTH NEW TO
THE BRITISH FAUNA FROM EPPING FOREST**

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Abstract

The occurrence of *Eupithecia massiliata* Dardoin & Milière (Geometridae) in Britain is reported for the first time. The record is discussed and pointers are given for recognition of the species. The vernacular name of Epping Pug is proposed.

Introduction

In April 2002, Mr Tim Green informed me of two unusual pugs, both apparently of the same species, which he had trapped at his business premise, which borders the eastern part of Epping Forest, Essex. Mr Green was kind enough to send me both digital images of the living moths and subsequently the specimens for further examination. The pair consist of a male and female and are both small, at 18mm wingspan for the female and 19mm for the male. The forewing colour is essentially a mid brownish-grey with conspicuous black or dark grey cross lines, consisting of small wedges and streaks, making the wings appear darker than they actually are. There is a pale subterminal line, which ends with a pair of pale spots in the tornus, the upper being large and fairly prominent. The discal spot is black and elongated, but obscured by a dark crossline, which runs through it. Each forewing appears rather short and ample, with a rounded tip and arched costa.

At Epping two other *Eupithecia* species fly at this time of year – the Brindled Pug *E. abbreviata* and early examples of the Oak-tree Pug *E. dodoneata*. I dissected the genitalia of both specimens and found a number of differences from the two above species (Plate J). Various people were subsequently contacted for opinions. One suggestion was that the female could be unmated and the genitalia not fully formed, and so the pair could possibly be a strange variety of *E. abbreviata* (Epping does produce some oddities, such as the *columbina* aberration of *Nola confusalis* H.-S.). However, this did not feel a particularly comfortable explanation. Here the matter rested until the publication of volume 4 of *The Geometrid moths of Europe* (Mironov, 2003), when it became clear that the genitalia resembled those of the Mediterranean species *E. massiliata*. I contacted Colin Plant for his opinion, and he kindly forwarded a series of digital images of the adult insect, and of the genitalia, to Peder Skou (Apollo Books, Copenhagen) and Axel Hausmann (General Editor of the series *The Geometrid Moths of Europe*), who both felt that the identification as *E. massiliata* was probably correct. Because, however, of the less than expected occurrence of that species in Britain, the images were forwarded to Dr. Vladimir Mironov – the authority on the genus *Eupithecia* – at the Insect Systematics Laboratory, St. Petersburg; he almost immediately confirmed, via e-mail to Colin Plant, that the tentative identification was indeed correct.

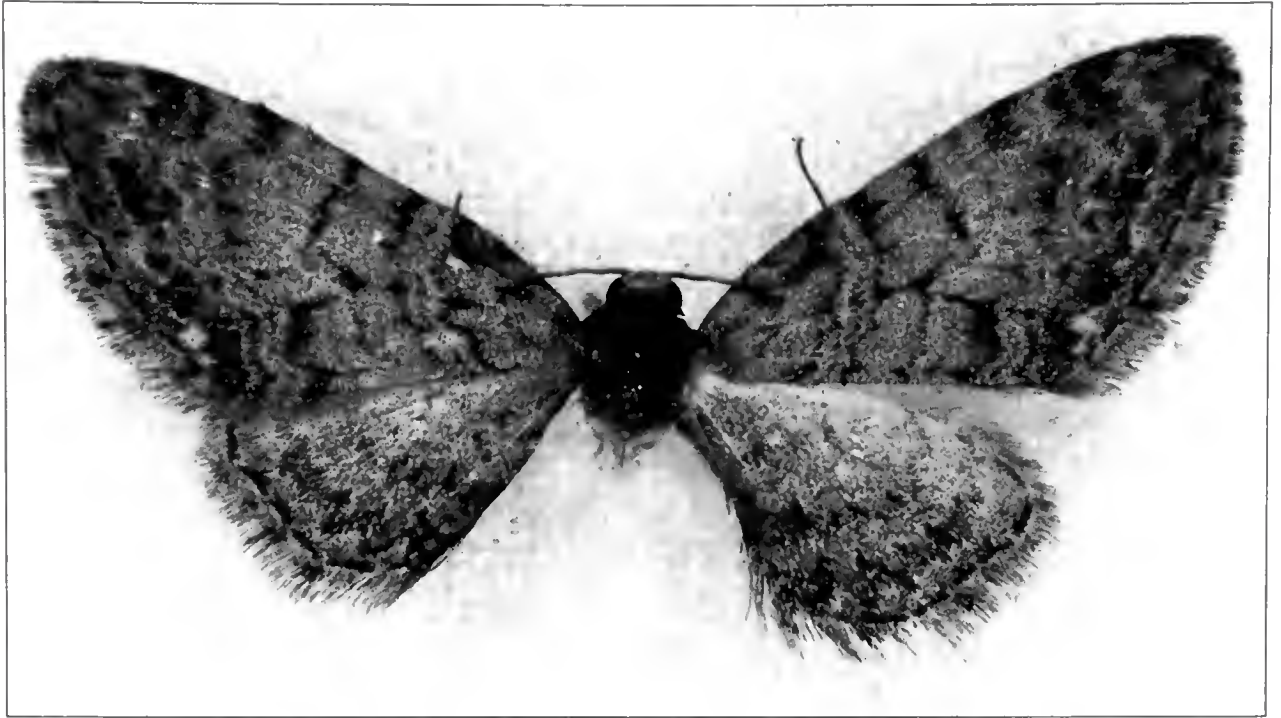


Plate J. *Epithecya massiliata* Dardoin & Millière. ♀. Epping Forest, Essex, 2.iv.2002. Upperside.



Plate K. *Epithecya massiliata*, Genitalia of ♂, with aedeagus in situ. Epping Forest, Essex, 13.iv.2002.

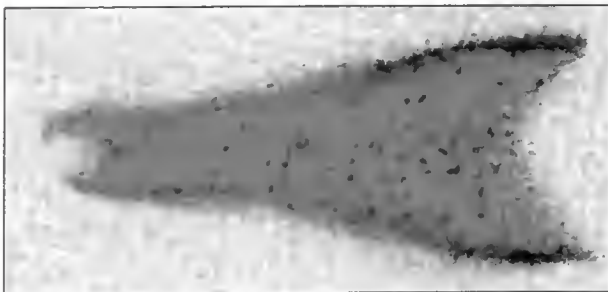


Plate L. *Epithecya massiliata*. Sclerotised portion of eighth sternite of ♂ in Plate K (the "anal plate").



Plate M. *Epithecya massiliata*, Genitalia of the ♀ in Plate J. Epping Forest, Essex, 2.iv.2002.

Identification

The female adult is illustrated in Plate J. Given the flight time, the only species likely to be confused with *E. massiliata* would be small, dark examples of *E. abbreviata*. The forewings of *E. abbreviata* are longer and the costa straighter, giving the insect at rest a distinctive angular outline. The ground colour is a warm brown, overlaid by extensive dark grey patches forming clouds rather than the well-defined crosslines in *E. massiliata*. Two or three dark streaks distad of the discal spot are usually an obvious feature in *E. abbreviata*; in *E. massiliata* these are represented by three shallow wedges. Finally the discal spot in *E. abbreviata* is longer and narrower, and not partially obscured by a crossline.

Male genitalia: Plate K & L. A prominent feature of the male genitalia is an extension to the sacculus, blunter than in *E. abbreviata* and not present at all in *E. dodoneata*. The sclerotised, ventral plate on the eighth sternite (the “anal plate”) is narrower than in *E. abbreviata* and *E. dodoneata* and bears at its tip two pincer-like claws. This should serve to distinguish the males from all other British pugs of the same sex.

Female genitalia: Plate M. This bears no resemblance to either *E. abbreviata* or *E. dodoneata*. The *bursa copulatrix* is very small, singularly folded or twisted, containing a number of noticeable spines along one side. There is a membranous pouch, or diverticulum and the *ductus bursa* is extremely short. There are minor differences between the female genitalia illustrated by Mironov (2003) and the Epping Forest female (a digital image of the genitalia of which has been examined by Mironov). Dr Mironov has informed me, via Colin Plant, that he may have cut short the diverticulum in preparing the illustrated slide. Accordingly, he has kindly allowed us to reproduce his own genitalia drawings here to avoid all possible confusion.

Ecology

Eupithecia massiliata is a species of the western Mediterranean region and adjacent Atlantic areas, affecting Portugal and the seaboard areas of southern and eastern Spain, of southern France east to, but not entering, Italy, and of north African from Tunisia westwards. The larvae feed on flowers and leaves of various species of oak, *Quercus coccifera*, *Q. suber* (Cork Oak) and *Q. ilex* (Mironov, 2003). Cork could presumably be used as a pupation site and so provide a method of transportation into this country.

British status

The female was found on the side of a mercury vapour trap on 2 April 2002. The male was boxed on 13 April 2002 inside an outbuilding, on the wall of a cold store used to house worms of various types. These worms are originally imported from the USA, Canada and Hungary, which are areas of the world not affected by this species and so are most unlikely to be the source. However, Mr Green also occasionally imports cork from Portugal, an area where the moth does in fact occur; this cork is not fumigated

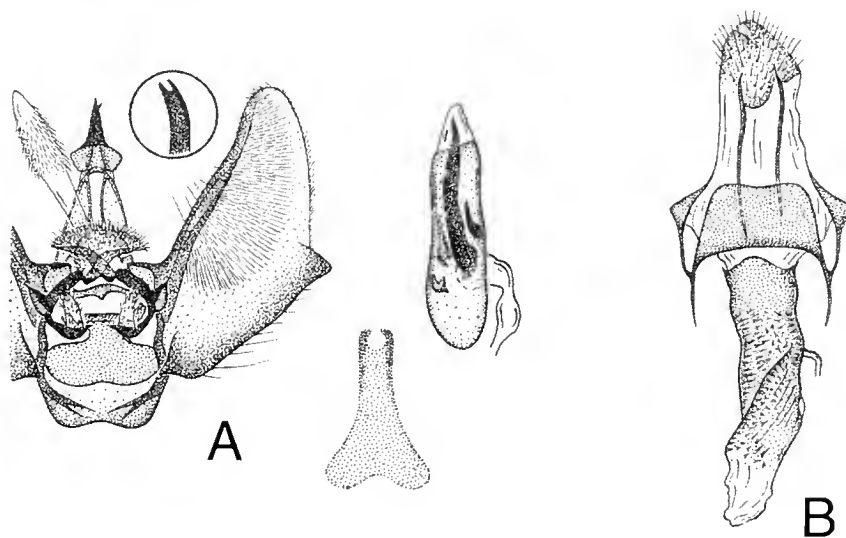


Fig. 1. Genitalia of *Eupithecia massiliata*. A: male, B: female. Both drawings were executed by Dr. V. Mironov. Copyright ©Apollo Books, and reproduced with permission.

before it reaches our shores and frequently hosts ants and other insects. It seems likely, therefore, that the origin of the Epping pair is Portugal and their presence in Britain is purely one of a fortuitous nature. The female was trapped in the open, and the male is likely to have flown into the outbuilding from outside, attracted perhaps by its lights. Whether the species could colonise Britain remains to be seen; a survey in April 2003 and constant monitoring by Mr Green during the flight period has revealed no further specimens.

That having been said, two other species – *E. phoeniceata* and *E. ultimaria* – both of which have a Mediterranean distribution, have recently appeared in Britain under their own steam; the possibility that the Epping Forest moths are of natural occurrence is remote but should not be completely ignored. *Quercus ilex*, at least, grows in Epping Forest, whilst both *Quercus coccifera* and *Q. suber* exist in the wider landscape as planted specimen trees.

Eupithecia massiliata should follow *E. dodoneata* in the British Checklist and can be given the log-book number of 1853a. I suggest that the vernacular name *Epping Pug* be applied to this species.

Acknowledgements

I am especially grateful to Dr Vladimir Mironov for confirming the identification of this species from electronic images sent by Colin Plant and also for his permission to reproduce, here, his own excellent male and female genitalia drawings. I am most grateful to Colin Plant (Bishops Stortford), Peder Skou (Apollo Books, Copenhagen) and Axel Hausmann (Zoologische Staatssammlung, Munich) for facilitating the confirmation of my tentative identification by Dr. Mironov.

Reference

Mironov, V., 2003. *The Geometrid moths of Europe*. 4. Larentiinae II (Perizomini and Eupitheciini). Apollo Books, Stenstrup.

Little-known entomological literature – 9

In 1980, R. B. Freeman published his *British natural history books 1495-1900; a handlist*. Since then I, and others, have come across many books which, for one reason or another, had escaped his notice, quite a few of which have been entirely or substantially of entomological content. It is perhaps not surprising that a title such as *A sister's stories* should have been omitted as the title gives no intimation of the theme of the contents, which in this case (see below) is entirely entomological and it is only by examining the book that one can tell. Searching the older catalogues in the major libraries is not only no easy task, as I well know, but will only turn up natural history items with obvious titles to the subject matter and even then it is easy to overlook some. It is the assiduous visiting and browsing the shelves of bookshops, and pouring over dealers' catalogues that turns up the gems.

The list below is not comprehensive by any means; as it is only of books omitted by Freeman, which over the years have come into my library. It does not, therefore, include any mention of later or earlier editions of the work. It does include some that he may have deliberately excluded according to his criteria for inclusion. There are, however, inconsistencies about some of his choices. Those he excluded are, amongst others, stated to be any "of direct practical application to man's life". A browse through some such titles reveals that while they do indeed include, say, "pest control" they also include, which may be the major content, "natural history" often detailing life-histories and foodplants. One such, for instance is George Newport's account of *Athalia centifoliae* (see below). Be that as it may, I feel that readers would like some of them at least, recorded here.

In the list below, while following the convention of quoting the size of the book in the old imperial form (e.g. 8vo.) I have added the actual size in millimetres as this is far more accurate for in various catalogues and descriptions I have seen the same book being described as sm. 8vo.; 16mo., and 12mo. the actual size being 135 × 105mm. While many of the books below are first editions this is not always clear, nor have I tracked down the date of publication of some undated (nd) items, but give an approximate date from other evidence. Where the title leaves the theme of the contents unclear I have briefly given my honest opinion of them; for others the contents are obvious.

ADAMSON, C. H. E., *Catalogue of butterflies collected in Burmah by Major C. H. E. Adamson, Madras Staff Corps*. Newcastle-upon-Tyne. Printed by John Bell and Co. 1889. 8vo. [220 × 140] pp 43.

A. LADY, *Caroline and her mother: or, familiar conversations for children*. Principally upon entomological subjects. London. J. Hatchard and Son 1827. sm. 8vo. [180 × 110] pp 245. A typical "conversational" type moralistic novel about a good little girl converting a selfish one to her god-fearing ways with the habits, behaviour and differences between them of various insects being brought into the narrative.

A. L. O. E. (MRS TUCKER), *Fairy frisket; or peeps at insect life*. London. Thomas Nelson & Sons 1893 8vo. [180 × 125] pp 198, Illustrated. +10 pp adverts. A series of fairy tales involving children and insects of various sorts. Could the butterflies and moths being assembled at "Violet Dell" presage the use of UV light?

- A.L.O.E. (MRS TUCKER), *Wings & stings: a tale for the young*. London. Thomas Nelson & Sons 1870 sm. 8vo. [170 × 118] pp 108 + 4 pp adverts. 6 Engraved Plates. A tale about children and their inter-actions with animals, mainly honeybees. Moralistic about being kind to all animals.
- ANON [SELINA MARTIN], *A sister's stories*. Kirkby Lonsdale. Arthur Foster & L. B. Seely & Sons. 1833 sm. 8vo. [111 × 177] pp 207, 29 Engraved Plates, not numbered. This is an elementary treatise on insects with some brief descriptions and habits told in a question and answer style and interspersed, as usual for the period, with poetry. The Plates are all of insects.
- ANON., *The butterfly birthday book*. London. Marcus Ward nd (1886) sq. 16mo. [110 × 85]. Five days per page on the left with poetic excerpts while the right has the vacant space to write in birthday dates. The whole exquisitely illustrated with colourful butterflies and honeysuckle; the endpapers with gold butterflies on a blue background.
- ANON., *An exchange list of British Lepidoptera*. London. Abraham Kingdom & Co. nd (1880's?) sm. 8vo. [180 × 125] pp 14.
- ANON., *The four little wise ones*. London. James Nisbet & Co. 1853 sq. sm. 8vo. [150 × 120] pp 427, 4 Plates. This is a children's book written by a Lady and deals with the ant, the locust, the spider and the coney in an informative, but largely anecdotal way, quoting from other authors, including Charles Darwin.
- ANON., *Who were the first weavers*. London, T. Nelson & Sons 1876 16mo. [160 × 100] pp 72. cold Frontispiece. Illustrations, Describes the first weavers who were, of course, spiders and silkworms.
- ANON., *Who was the first paper maker?* London, T. Nelson & Sons 1881 16mo. [160 × 100] pp 72. 1 cold frontispiece. Illustrations. Describes the lifehistory and habits of the first paper makers, otherwise wasps.
- ANON., *Tiny workers; or, man's little rivals in the animal world*. London. Thomas Nelson and Sons. nd (1880's) 12mo [155 × 105] pp 137 + 6 pp adverts. 11 Plates, mainly of insects. Describes various insects that make nests, wasps, termites; that spin, spiders; weave, such as caterpillar spinning its cocoon; masquerade as something else, mantids.
- ANON., *Our ponds and our fields and what may be seen there*. London. Frederick Warne & Sons nd (1850?) 12mo. [155 × 111] pp 140, illustrated, cold. frontispiece. Mother takes her children rambling and on the way they ask about the mainly insect life they come across and she explains their life-history and habits.
- BADCOCK, JOSES, *Poems, by Joses Badcock*. Vol I Annats, or, first fruits of reflection. London, James Paul nd (184??) 8vo. [212 × 132] pp xvi + [1] + 212. Poems on various natural history disciplines. pages 85-118 are on entomology. ("Twas early in the rural month of May / I viewed the fly that scarcely lives a day / so near the margin of a rippling stream / a ray of light elanced its transient beam / brought into animation seemed to fly / as if twas revelling in extacy / now as the eve emerged her glimmering ray / and your ephemera roved out to play.")
- BARRETT, CHARLES G., *Labelling list of British Macrolepidoptera as arranged in "Lepidoptera of the British isles."* London. Lovell Reeve & Co. Ltd. 1900 8vo.[215 × 140] pp 16 single-sided.
- BATES. H. W. & CLARKE, REV H., *Descriptions of new species of Phytophaga, being the appendix to the catalogue of Phytophaga by the Rev. Hauley Clarke*. Williams and Norgate 1865. 8vo. [225 × 140] pp 88.

- BIRKS, J., *British Lepidoptera, omitting Tineae except Epigraphiidae and Psychidae*. York. J. Birks 1863 8vo. [220 × 140]. single double-sided folded sheet pp 4 Clearly intended as an “exchange” list.
- BUTLER, E. A., *Silkworms* (Young collector series) London. George Allen & Unwin Ltd. 1929 (1887) 8vo. [180 × 125] pp 100, 36 Figs. Deals mainly with the history, anatomy, rearing and diseases of *Bombyx mori*, with a few notes on other silkworm species.
- CLARKE, REV HAMLET, *A catalogue of the Phytophaga. [Coleoptera, Pseudotetramera]. Part I*. London. Williams and Norgate 1866. 8vo. [225 × 140] pp 50.
- CROTCH, G. B., *List of all the Coleoptera described A.D. 1756-1821 referred to their modern genera*. Cambridge (no publisher or printer stated) 1871 8vo. [220 × 140] pp 24.
- CROWTHER, HENRY, *Label list of British Lepidoptera* Truro. Lake & Lake nd (1880's) 8vo. [210 × 135] pp (10); iv-xviii. 1 plate. Pages iv-xviii printed one side only of paper. Deals only with the butterflies.
- DAWSON, J. F. & CLARK, HAMLET, *A rearrangement of the nomenclature and synonymy of those species of British Coleoptera which are comprised under the sections Geodephaga, Hydradephaga and part of Phyllydrida*. London. Printed by Taylor & Francis 1856 8vo. [215 × 135] pp 12 single-sided.
- DOUGLAS, J. W. & SCOTT, JOHN, *A list of British Hemiptera, (Heteroptera) with allied species found in northern and central Europe which may be expected to occur in Britain*. London. Printed by E. Newman 1862. 8vo. [210 × 135] pp 16 single-sided.
- G. L. M., *Spider spinnings or, adventures in insect-land. A tale for the young*. London. George Routledge & Sons nd (188?) 16mo. [100 × 160] pp 178, 2 Plates + 2 pp adverts. A curious mix of natural history, mainly entomological, but also including witnessing ferreting for rabbits, as told by a spider describing his adventures.
- HUMPHREYS, JENNET, *Insect ways on summer days: in garden, forest, field, and stream*. London. Blackie & Son, Ltd. 1887 8vo. [185 × 125] pp 192, frontispiece & illustrations, + 32 pp adverts. A book for children describing various life-histories and habits of a number of insects interspersed with a little poetry.
- JOHNS, BENNET GEORGE, *Among the butterflies. A book for young collectors*. London, Isbister & Co. 1891 8vo. [185 × 125] pp 198 + 2 pp advert frontispiece + 12 Plates. An elementary account and descriptions of our butterflies. The figures on the Plates uncoloured and of poor quality.
- KOLLAR, VINCENT, (translated by J. & M. LOUDON). *A treatise on insects injurious to gardeners, foresters, & farmer. With notes by J. O. Westwood*. London. William Smith 1840 16mo [175 × 115] pp 377, illustrated + 2 pp adverts.
- LEMON, F. C., *The butterflies of Switzerland* (Translated from Prof. Frey's *Die Lepidopteren der Schweiz*). Plymouth, James H Keys 1896 (Privately printed) imp. 8vo. [240 × 156] pp 44.
- LOVELL, KATE R., *Nature's wonder-workers: being some short life-histories in the insect world*. London: Cassell & Co. Ltd. 1890 8vo. [185 × 125]. pp viii; 9-285, 18pp adverts. Text illustrations, some full page. The text explains the life-history of many Orders of insects, their usefulness, habits, the friendly and beautiful, the nasty and annoying and their interactions with each other. Delightfully illustrated with typical Victorian engravings. How would anyone today come across Surrey lanes “quite illuminated with myriads of tiny sparks emitted by insects” (i.e. glow-worms). Sad this, but thankfully we do not also see cattle and horses panicked by myriads of bot- or gad-flies!

- MAJOR, JOSHUA, *A treatise on the insects most prevalent on fruit trees and garden produce*. London. Longman, Rees, Orme, Brown, and Green 1829. 8vo. [215 × 135] pp 302 Gives an account of pest insects, as far as was known two hundred years ago and primitive and sometimes amusing (to us today that is) methods of combating them.
- NEWPORT, GEORGE, *Observations on the anatomy, habits and economy of Athalia centifoliae, the sawfly of the turnip*. London. Printed for the Entomological Society 1838. 8vo. [215 × 140] pp 32 1 Plate. The Prize-winning essay of the Society for 1837.
- ORMEROD, ELEANOR A., *Guide to methods of insect life; and prevention & remedy of insect ravage*. London. Simpkin Marshall & Co. 1884 8vo. [189 × 120] pp 168, illustrated. Describes the various insects and some of their habits that in the 19th century were considered pests. These include Deaths-head and Eyed Hawk-moths, Buff-tip and Lobster moth, Musk and Sexton beetles.
- ORMEROD, ELEANOR A., *A textbook of agricultural entomology*. London: Simkin Marshal, Hamilton, Kent & Co. 1892. 8vo. [180 × 120] pp viii, 168, Illustrated. Describes the life-histories and habits and damage caused by many actual and potential pest species.
- PARRY, MAJOR F. J. SYDNEY, *Catalogus Coleopterorum Lucanoidum*. London. E W Janson. editio tertia 1875 8vo. [220 × 140] pp 29.
- SAUNDERS, EDWARD, *Species of the genus Buprestis of Linneus described previous to 1830*. London. John van Voorst. 1870 8vo. [220 × 140] pp37.
- SHARP, W. E., *The classification of Coleoptera: historically considered*. Neither publisher or printer stated (Privately printed?). nd (189?) 8vo. [200 × 130] pp 21.
- SIMPSON, EDWARD, *Insect lives as told by themselves*. London. RTS nd (189?) 8vo. [185 × 125] pp 128 with 123 illustrations, some full page. Fairly extensive account of the life histories of various insects such as wasps, Goat Moth, Earwig, Ladybirds, Water boatmen, Gnats, Stylops.
- SOMERVILLE, WILLIAM, *Farm and garden insects*. London, Macmillan & Co. 1897 sm. 8vo. pp 126, 46 Figs
- WALKER, FRANCIS, *A list of the Hymenoptera collected by J K Lord Esq. in Egypt, in the neighbourhood of the red sea and in Arabia with descriptions of the new species*. London. E W Jansen 1871 8vo. [210 × 135] pp 59.
- WALKER, FRANCIS., *Catalogue of Hemiptera Heteroptera in the British Museum – Supplement*. London. E W Jansen 1873 8vo. [210 × 135] pp 63.
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- WALKER, FRANCIS, *Notes on Diptera and list of species. First series*. London. E W Jansen 1874 8vo. [210 × 135] pp 37.
- WATERHOUSE, G. R., *A list of the British species of Aleocharidae [London. Van Voorst 1857]*. 8vo. [220 × 140] pp 6, printed one side of paper only.
- BRIAN O. C. GARDINER, 2 Highfield Avenue, Cambridge CB4 2AL.

Hazards of butterfly collecting. ‘Hoo, hoo, hoo, hoo ... and you too!’ – Bangladesh, March 2002

We moved – sorry relocated – to Dhaka, Bangladesh a year ago, and though my priority is continuing work on the butterflies of West Africa, it seemed that something should also be done about those in Bangladesh. Virtually nothing is known about the butterflies of Bangladesh since, during colonial times, this was simply part of Indian Bengal. There is not even the glimmerings of a poor checklist.

The bulk of Bangladesh is a densely populated floodplain where elevations of more than 50 metres almost attain the status of mountains. During the height of the monsoon, some 80% of the country is under water. To the east are the Bengal plains and Calcutta; to the north are the Khasi and Jaintea Hills (with Cherrapunji, the world’s wettest place); to the east are the hills of Tripura; and to the south are the Sundarban mangroves. The Khasi Hills and Tripura were extensively collected a hundred years ago, but only in areas not currently within Bangladesh. The Sundarban forests are not very diverse and have few butterflies, though one or two seem to be special to the mangroves.

South of the main parts of Bangladesh are the Chittagong Hill Tracts, which are ecologically, geographically, topographically (many hills are 1,000 metres plus), ethnically, and politically anomalous, and are effectively only part of Bangladesh due to colonial pen-strokes. This area IS rich in butterflies and quite a few records found their way into the books on Indian butterflies that were published 100 years ago or more. But no more than just to whet the appetite and to show a certain Burma affinity, rather than one with Assam. The political conditions and the security situation in the area are not good, and even if you manage all the difficult paperwork, moving to the interesting places with intact forest is difficult. The last Dane to go there went just a year ago. He happened to share my first name, Torben. He was promptly kidnapped and only released three months later!

We did not have our own car for some time so the first local butterfly activities were collecting in and around Dhaka City itself; garden suburbs, parks, the golf course, old university campuses, the Botanical Gardens, cemeteries, and so on. So far the list comes to some 70 species and it will grow slowly. This is a bit less than for New Delhi which has about 90; the main reason is that Delhi has a lot of dry zone species such as *Colotis* for whom Dhaka is much too humid.

When back in Dhaka in February after a long stint abroad I decided to have a look at some forests in the Sylhet Division, in the northeast of the country, on which I had received very different feedback: “Oh, it’s nothing but a commercial plantation gone a little wild”. “It’s tiny – won’t find much there”. “In the absence of anything better to do, might be worth a visit”. “Considering that it was a monoculture plantation just 80 years ago, it is pretty good”. This seemed enough to go on, and it was clear that the area was one that had originally been tropical semi-deciduous, rather than the few “sal” forests around Dhaka which were mostly composed of the single tree, *Shorea robusta*. So off we went, spending the night in the delightful guest house at Srimangal run by DFID, the British aid programme (permanent electricity, air-conditioning, good food, fine service, swimming pool all on a well-forested hill).

The next morning we were in the Lowacherra Forest by 08.00, it being just two kilometres from the guest house. It looked like it was at the better end of the scale of expectations, and this was brought home by a sudden cacophony of: 'Hoo, hoo, hoo, hoo' from the forest canopy. The vocalisation was not exactly what I knew from Thailand, Malaysia, and Sumatra, but it was quite clear that we had met a troupe of gibbons, in this case the Hoolock *Hylobates hoolock*. Five minutes later we had a fine view of a Hoolock family feeding on a nearly naked fig at the top of the canopy, thin creatures with long limbs looking as if they might have been fashioned from pipe-cleaners. For someone having spent much of past ten years in West Africa, seeing gibbons like this was truly amazing, since they would long since have been shot dead. But here, neither the Muslim Bangla nor the animist Khasi tribals eat monkeys, so they are safe.

If there are gibbons, there must be butterflies, and indeed there were. We collected some 160 species on the first trip and another 50 on two subsequent visits. They range from huge birdwings like *Troides helena* to the amazing Clipper *Parthenos sylvia*, the Green Oakblue *Arhopala eumolpus*, which is so pretty in fresh specimens that you want to cry, to four species of Jezebel, *Delias*, and lots of interesting skippers. I also netted my first Popinjay *Stibochiona nicea*, which I had wanted to catch since I was a kid in India; it sent me straight to the Oxford dictionary – do you know what it means?

We now have about 230 Bangladesh butterflies of our own, as well as definite older records of another 80 (mainly from Chittagong). There are some 140 that must be (or at least must have been) in the country judging by distribution, ecology, and biogeography. So it looks as if 500 species is quite possible, and this despite the fact that there are no high mountains. I'll make a report by the time we leave Dhaka (sorry relocate) with comparisons with Indian lists from Assam and Tripura from the 1890s. So watch this space.

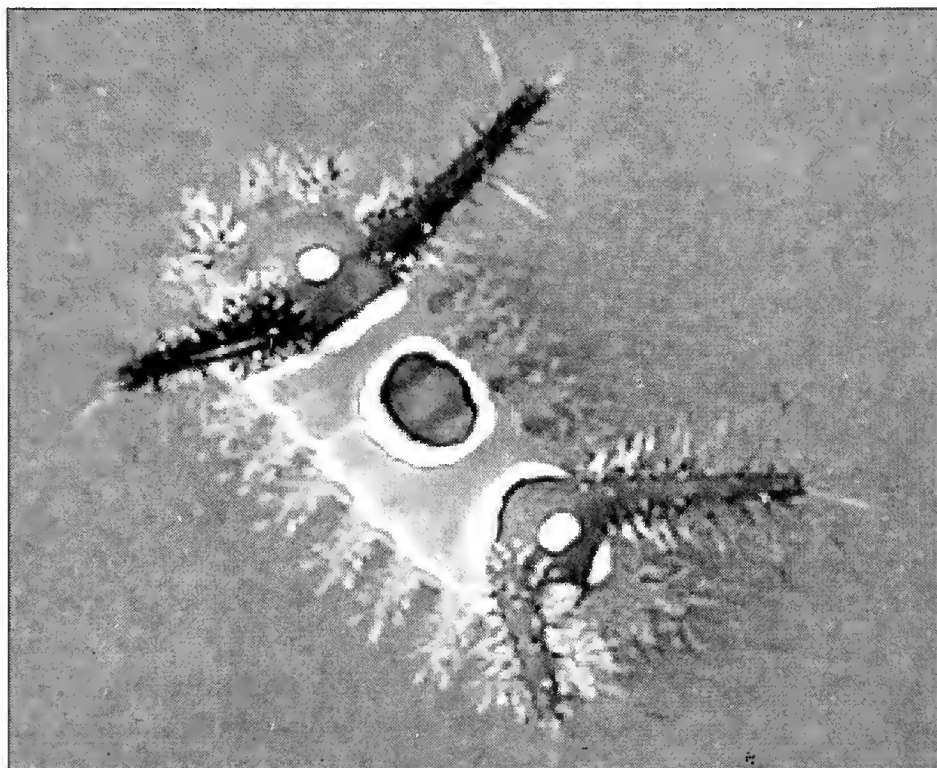
I also now have that wonderful instrument of mental health, an easily accessible ABD (Anything But Dhaka), much nicer, easier, and cheaper than shopping trips to Thailand which is the usual alternative and goes to show how dire the situation is judged to be. So: "Hoo, hoo, hoo – see you next month!" – TORBEN B. LARSEN, Bangladesh, World Bank, 1818 H. Street N. W., Washington D. C., 20433, USA.

Dotted Chestnut *Conistra rubiginea* (D.& S.) (Lep.: Noctuidae) in Warwickshire

The recent well-documented expansion in the range of this species (e.g., *Ent. Rec.* **114**: 130; **114**: 180; **114**: 209-210), suggests that it is worth noting that a gravid female was taken at mv light in my garden at Charlecote, Warwickshire, on 28 March 2003. This is the first report from VC 38 since the moth was taken at Rugby on 6 October 1886 and is further evidence of a general expansion of the species from its "base" in central southern England.— DAVID C. G. BROWN, Jackson's Lawn, Charlecote, near Warwick CV35 9EW.

Saddleback Moth caterpillar *Sibine ?stimulea* (Clemens) (Lep.: Limacodidae): – a possible new record for the UK discovered in Somerset

On 29 January 2003, Bristol Museum & Art Gallery received an enquiry from someone working in a garden centre in Somerset (Vice-County 6, OS grid reference ST 35) requesting help in identifying a caterpillar which had “bitten” her. A digital image of larva in question was then received and after briefly consulting members of the Bristol & District Moth Group, who could not name it, the image was sent on to Warren Spencer, Head of Invertebrates, Bristol Zoological Gardens. He identified it as a Saddleback Moth caterpillar – *Sibine ?stimulea*.



If the identification is correct, this species is well known in America as a pest of many plant species and notorious for its urticating hairs which can produce a reaction similar to a bee sting. Assistance in searching the web for further identification clues by members of the Somerset Moth Group has suggested that there are other very similar species in the Americas and that identification can only be ascertained for certain by examination of the adult moth.

One larva has been preserved as a voucher within the Bristol Museum & Art Gallery natural history collections and the remaining eight live caterpillars are being reared at Bristol Zoo. The larvae were feeding on Areca Palm in the garden centre but have readily adapted to a new diet of bramble in captivity. The source of the palms has been traced to a nursery in Holland so far. I am not aware of any previous existing British records of this genus.

My thanks to Warren Spencer and to David Carter of the Natural History Museum for their help thus far.– SAMANTHA TREBILCOCK, Biology Section, Bristol Museum & Art Gallery, Queens Rd, Bristol, BS8 1RL (E-mail: sam_trebilcock@bristol-city.gov.uk).

Meadow Brown *Maniola jurtina* (L.) (Lep.: Nymphalidae): and early and a late record in Staffordshire

On 10 May 2002, my friend R. H. Heath observed a male Meadow Brown on the wing in a meadow at Blythe Bridge, Staffordshire – a most early date for this species. Then, at the other end of the year, a very worn male came to feed on my yellow-flowering buddleia at Meir, on 22 September 2002. The latter was a warm sunny day, and there were a few Red Admirals *Vanessa atalanta* also present. The last time that I saw Meadow Brown on the wing at such a late date was in the year of the very hot summer – 1976 – when I noted one in late September on Barlaston Rough Close, also in Staffordshire. – JAN KORYSZKO, 3 Dudley Place, Meir, Stoke-on-Trent, Staffordshire ST3 7AY.

***Acleris hyemana* (Haw.) (Lep.: Tortricidae): the first confirmed record in Buckinghamshire (VC 24)**

Taken at light on the night of 27.ii.2003 in my garden in Fenny Stratford, Milton Keynes, was a single *Acleris* sp. which, at first glance, I could not identify. Having at my disposal a copy of *Die Tortriciden Mitteleuropas* (Razowski, 2001), I attempted an initial identification, but it soon became obvious my limited experience hampered any exact determination.

I posted an image of the specimen to the UKMoths Yahoo! eGroup forum at <http://groups.yahoo.com/group/ukmoths>, asking for more experienced lepidopterists to assist with identification. Amongst the replies I received was one from John Langmaid, asking if I lived near any “heathy” area, as his tentative identification was *Acleris hyemana* (Haw.) I replied that indeed I did, living only a couple of miles away from the edge of the Greensand Ridge around the Brickhill area. I subsequently retained the specimen, at the request of Martin Albertini, the Buckinghamshire County Moth recorder, as it could be a new vice-county record. Martin also asked me to take it to the Hertfordshire Moth Group Annual Indoor Meeting, which he was attending. A number of eminent people in attendance looked over the specimen, however, as reasonably expected, no one would commit to a positive determination without further reference. I informed John of the situation with the specimen, and we arranged for me to visit him soon after. John referenced his specimens and very quickly determined *A. hyemana*, a new VC24 record, to my obvious relief after travelling to the south coast from Milton Keynes, a round trip of about 220 miles!

It is interesting to note that *A. hyemana* is not recorded in the neighbouring counties of Bedfordshire, Hertfordshire, Middlesex and Northamptonshire. On further investigation, only one record is known in Oxfordshire and a single recent reliable record in Berkshire (although other historical records are noted), courtesy of Martin Corley and Martin Harvey, the respective county moth recorders. Martin Corley informs me that “The only Oxfordshire record known to me is that in a manuscript list of Lepidoptera by W. Holland and A. H. Hamm, compiled around m

1905 for a proposed Victoria County History (which did not appear until many years afterwards). This was simply given as 'Binfield'. This locality is in Berkshire, east of Reading. I doubt if they got this wrong: the record probably refers to Binfield Heath, which is just north of Reading. It is not clear who found it, although it might have been Holland or Hamm themselves, nor is there any date. I would guess that it was collected by Holland (a remarkably talented and dedicated lepidopterist) before 1893 when he moved to Oxford."

Martin Harvey notes that, "David White recorded it on 8.ii.2002 from Wildmoor Heath, a Berks, Bucks and Oxon Wildlife Trust nature reserve near Bracknell, VC22, a single adult found by day among heather.

Brian Baker (1994. *The Butterflies And Moths Of Berkshire*. Hedera Press), lists several other records, all from the central/west Berkshire heaths (all VC22): Wokingham, Mortimer, Burghfield, Padworth and Newbury from the Victoria County History (published 1906), and then from Aldermaston in 1978, 1985 and 1986. Brian did not include Holland's 'Binfield' record – Binfield is in VC22 and modern Berkshire, but as Martin (Corley) says this may well refer to Binfield Heath, which is in VC23 and modern Oxfordshire"

My sincere thanks go to Martin Corley and Martin Harvey for their accounts of local records in Oxfordshire and Berkshire, and to John Langmaid for inviting me to visit him at home to determine the record.– L. J. HILL, 75 Eaton Avenue, Bletchley, Milton Keynes MK2 2HN.

Non-coastal *Tetramorium caespitum* (L.) in Scotland

Tetramorium caespitum (L.) Hym: Formicidae has recently been recorded on or near the coast in three east coast localities in Scotland: North Berwick Law, East Lothian in 1997, Arthur's Seat, Edinburgh in 1998 (*Edinburgh Biodiversity Action Plan, 2000*) and St Abb's Head (Collingwood & Hughes pers. obs. 1988). There are also pre-1961 records from Bass Rock, East Lothian (1913) and for the islands of Ailsa Craig, Arran and Canna on the west coast of Scotland (*Edinburgh Biodiversity Action Plan, 2000*; Barrett, 1979: *Provisional Atlas of the Insects of the British Isles: Part 5 Hymenoptera: Formicidae* ITE, Monks Wood.)

On 30 May 2002, a small colony of *T. caespitum* was discovered on the south facing slopes of Moncreiffe Hill Wood (O.S. grid reference NO 152192), a Woodland Trust Scotland owned and managed property on the outskirts of Perth, Perth and Kinross. This record is notable as the first inland record for *T. caespitum* in Scotland. The site is 45 miles from the east coast and more than 15 miles from open estuary in the Firth of Tay. Moncreiffe Hill is an igneous escarpment, largely composed of andesite lava, containing many rocky outcrops with patches of neutral to basic, thin, stony soils. This habitat is physically similar to the other localities for *T. caespitum* in Scotland which at this northern limit in the UK, appears to demand relatively warm, well drained ground on which to found colonies.

Moncreiffe Hill also has numerous colonies of *Lasius flavus* (Fabr.), with some mounds positioned under ash woodland planted in 1955. It is possible that on south facing slopes with high levels of isolation, *L. flavus* can be a persistent component of open woodland. Longer-term observations will be required to support this hypothesis.— JONATHAN HUGHES, Woodland Trust Scotland, 6 (4F3) Buccleuch Terrace, Edinburgh EH8 9ND. (E-mail: jonathanhughes@woodland-trust.org.uk).

The generic names of the British Hydradephaga (Coleoptera) explained

For the origins of *Agabus* and *Acilius* I am wholly indebted to Mr David Atty.

<i>Brychius</i>	“from the depths of the sea” – an unfortunate name for a running-water insect.
<i>Haliplus</i>	a sailor or seaman.
<i>Peltodytes</i>	a shield-bearing diver.
<i>Hygrobia</i>	living in moisture (syn. <i>pelobius</i> = living in mud.).
<i>Noterus</i>	wet, damp.
<i>Laccophilus</i>	lover of water-hollows as ponds, tanks; cf. <i>Laccobius</i> (Hydrophilidae).
<i>Hydrovatus</i>	oval inhabitant of water. (A Greek-Latin hybrid).
<i>Hyphydrus</i>	(living) under water.
<i>Hydroglyphus</i>	best translated “sculptured water-beetle”.
<i>Bidessus</i>	should refer to some paired feature, but what?
<i>Hygrotes</i>	represents Greek <i>hygrotes</i> “wetness, moisture”.
<i>Coelambus</i>	with hollowed edges or rims (epipleurae of elytra).
<i>Hydroporus</i>	passing through or travelling in water.
<i>Stictonectes</i>	spotted swimmer.
<i>Graptodytes</i>	inscribed diver (from its markings).
<i>Porhydrus</i>	same as <i>Hydroporus</i> with the two elements awkwardly transposed.
<i>Deronectes</i>	literally “neck swimmer” (whatever Sharp meant by that).
<i>Potamonectes</i>	river swimmer.
<i>Stictotarsus</i>	with spotted tarsi.
<i>Oreodytes</i>	mountain diver.
<i>Scarodytes</i>	leaping, skipping diver (all who have taken small Dytiscids by hand will be well aware of this tendency).
<i>Laccornis</i>	pond or lake bird.
<i>Copelatus</i>	oar-driven (an apt name for a Dytiscid).
<i>Platambus</i>	with broad rims (i.e., elytral epipleurae).
<i>Agabus</i>	name of a prophet of Judea mentioned in the Bible (Acts 11, 28 and 21, 10).
<i>Ilybius</i>	living in mud (like <i>Pelobius</i> , not an apt name).
<i>Rhantus</i>	sprinkled, bedewed, splashed.
<i>Colymbetes</i>	diver or plunger.
<i>Hydaticus</i>	connected with water.
<i>Graphoderus</i>	“with neck written on”. from the pronotal markings.
<i>Acilius</i>	name of a Roman Tribune; also of an historian.
<i>Dytiscus</i>	little diver.
<i>Gyrinus</i>	from their gyrations on the surface of water.
<i>Orectochilus</i>	with jutting lip, i.e., the labrum.

**A RECORD OF *ULOMA CULINARIS* (LINNAEUS)
(COL.: TENEBRIONIDAE) FROM THE BRITISH ISLES,
WITH A DISCUSSION OF ITS EUROPEAN BIOLOGY**

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Abstract

A second British record of the saproxylic darkling beetle *Utloma culinaris* (L.) is reported, from the Forest of Dean, Gloucestershire. Its status and possible origins in Britain are discussed and a summary of published information on the biology, behaviour and distribution of the species in continental Europe is provided.

Introduction

Utloma culinaris (L.) (Tenebrionidae: Ulominae) was brought forward as British by Hodge (1985) based on a series of specimens, now in the Booth Museum, Brighton, taken at 'Bushey Hall' in 1950 by G. B. Alexander. Two of these specimens, on a single card, were kindly presented by P. J. Hodge and G. Legg to the British Isles collection of the Natural History Museum, London (BMNH). These bear the following data (four labels): 'Bushey Hall, 20/7/[19]50' 'From G. Legg, Booth Museum, Brighton. i/1982' 'Utloma culinaris (L.) M.J.D. Brendell det. 1982', 'BMNH(E) 2001-237, P J Hodge'. Other specimens from this series, still in Brighton, carry the additional data "in rotten wood" (Hodge & Jones, 1995). The locality appears to refer to Bushey Hall in Hertfordshire (TQ19, VC20), a large house later converted into a hydropathic spa (Bartholemew, 1904) close to the town of Bushey near Watford. This locality is alternatively spelt 'Bushy' (e.g. in Hodge *loc.cit.*, Hodge & Jones *loc.cit.*) but on the label on the BMNH specimen it is spelt 'Bushey'.

Hodge urges caution in regarding the species as British, very reasonably due to the scant material. Hodge and Jones (*loc.cit.*) echo this caution ('*status requires confirmation*'). Alexander (2002) describes it as '*extinct or vagrant?*'. Apart from the three references above, all referring to the same specimens, the species is not mentioned in the British literature. No other specimens are known from Britain. It is absent from all 18th, 19th and 20th century collections, and all collections of imported and vagrant coleoptera held at the BMNH, London and the Hope Entomological Collections, Oxford.

In September 2002, the collection of the late D. M. Womersley, of Manchester, was presented to the Natural History Museum, London, by his daughter Sue. When unpacking this interesting collection of 835 British Coleoptera, Darren J. Mann and myself were astonished to find a further two English examples of *Utloma culinaris* standing among undetermined material collected in the 1970s. The specimens, 1 ♂, 1 ♀, have the following data: ♂; "674, Tbe6, Aylford [sic], Forest of Dean, 30/5/73", ♀; "675, Tbe6, Ayleford, F. of Dean, 30/5/73", hand-written on a card label under the specimen using ballpoint pen. '674' and '675' are apparently registration numbers; unfortunately the collector's notebooks have not been found. The meaning of 'Tbe6'

is also unknown, though it may refer to a 'tube number 6' in which the specimens from the day's collecting were stored prior to setting. The labels are apparently temporary, hand-written in ballpoint on low quality card, which is characteristic of all Womersley's unnamed material; his named material is remounted and neatly re-labelled on card, using permanent ink, with determination labels attached, and stood above the name in his storeboxes. His collection is entirely of British origin, so confusion with continental material prior to labelling can effectively be ruled out. The data on the *Uloma* specimens is interpreted as referring to the village of Ayleford, Forest of Dean, West Gloucestershire (SO6608, VC34). These examples double the number of known British records of the species. The specimens now stand in the British Isles Collection, The Natural History Museum (BMNH), London.

Biology and European Distribution

The genus *Uloma* is large, with more than 100 described species worldwide. Of these, two reach northern Europe, the other being *U. rufa* (Pill. et Mitt.). *U. culinaris* is widespread across the Western Palearctic, including Iran, Sweden, Daghestan, the Caucasus, France, Italy, Germany, Corsica and Sicily (data from the collections of The Natural History Museum, London). A brief scan of the literature adds Greece (Scupola, 1998), Latvia (Telnov, 1997), Slovakia (Jaszay, 2001), European Russia (Nikitsky *et al.*, 1996) and the Ukraine (Nadvornaya & Nadvornyy, 1991), and it has recently been discovered new for Norway (Ottesen & Hansen, 1984). In spite of its specific name, '*culinaris*' (of kitchens), there appears to be no record of it occurring in synanthropic situations (although many of its relatives do). It is a species of woodland. Nikitsky *et al* (*loc.cit.*) give an account of its biology in the Moscow district, Russia, translated as follows:- "[*in moist brownish or brownish-white rotten wood of fallen trunks or boles, usually of pine, more rarely birch, usually lying in the open. Adults usually active May/June-August. Life cycle at least 2 years, overwintering as adult or larva. Pupates in wood*]". A detailed study of its biology in the Ukraine was made by Nadvornaya & Nadvornyy (*loc. cit.*). They examined over 600 dead trunks in mixed and broadleaved forests, and noted that the beetle was generally found in wood of birch *Betula*, lime *Tilia*, maple *Acer*, poplar *Populus* and 'false acacia', that it was rare in oak *Quercus*, and that it was 'not found' in hornbeam *Carpinus* and 'forest pear' (? *Pyrus* sp.). They do not appear to have investigated coniferous wood, although both Kaszab (1969) and Nikitsky *et al.* (*loc. cit.*) note an association with conifers. It seems likely that the wood utilised reflects availability rather than strong taxonomic preferences, especially as wood in later stages of decay is believed to be quite similar in nature irrespective of species. Nadvornaya & Nadvornyy (*loc. cit.*) observe that adult *Uloma* first colonise trunks that have been dead five to six years, where "*the bark is coming off, the phloem and cambium have decomposed, and the sapwood and heartwood are starting to decompose*". Wetter trunks are favoured for colonisation, and the beetles are absent in standing trunks, or occur only in the moister basal 30-50cm. They also occupy subterranean root systems, to

a depth of 50cm below ground. Nadvornaya & Nadvornyy (*loc. cit.*) found that the incidence of *Uloma* in the Ukraine varies from 2%-23% of trunks examined, based on region.

Nadvornaya & Nadvornyy (*loc. cit.*) observe that adults are strongly lucifugous, but fly well at night; flight was observed (in the lab.) between 22.00hrs-04.00hrs. During the day, beetles that have not found suitable habitat shelter under bark. Adults live up to two years. Larvae occupy the same trunks as adults, and development takes 10-11 months, mature larvae reaching 18mm. Larvae migrate up and down seasonal moisture and temperature gradients within the trunk, occurring in the warm upper area in spring, in the moist lower area in summer, and overwintering in the centre. Because adults are long-lived, and have a low rate of reproduction, adults and larvae of various sizes are present continuously. Larvae and adults apparently feed on fungal mycelia within the decaying wood.

British Status

At present *Uloma culinaris* is known from only two series of British specimens, both taken in forested areas of central England in the second half of the 20th century. Although Britain falls within the likely geographical range of the beetle, it seems unlikely that such an unmistakable species, more than 10mm long, could have been overlooked by British coleopterists for so long. The possibility that specimens are descended from vagrants or imports should be considered. In the early 20th Century large quantities of wood, especially coniferous softwoods, were imported from continental Europe into Britain, especially for use as pit props in mining areas. Hallett (1923) records the collection of numerous non-British beetles in pine 'pit wood' imported from France to Cardiff, and discusses the importation of such wood to other 'colliery districts' including the Forest of Dean, which was a major mining area. Much of this wood would have still have had the bark attached, and some was apparently too far decayed to be used for propping shafts, and was thus sold off for firewood (Hallett, *loc. cit.*). Such wood has been implicated in the introduction to the British Isles of a number of Coleoptera of central European origin, including *Corticeus fraxini* (Kugel.) (Tenebrionidae) and *Aulouium ruficorne* (Oliv.) (Colydiidae), both of which were first recorded in pine wood in the Forest of Dean (Beare & Donisthorpe, 1922), and in both cases their introduction with pit props has subsequently been suggested (Hallett, *loc. cit.*, Marshall, 1978). As well as France, pit wood was imported from Germany and Poland (P.M. Hammond pers. comm.), from the Baltic States (Balfour-Browne et al, 1954) and doubtless from elsewhere. Later in the 20th Century, home-grown softwoods replaced imported wood, partly as a result of disruption of supply during the two world wars (J. Cooter pers. comm.). However, it remains quite possible that English examples of *Uloma* are descended from populations imported to colliery districts with continental softwood timber.

Whether *Uloma culinaris* still persists in the Forest of Dean or elsewhere in Britain requires confirmation. Of the two other beetles mentioned above, one,

Corticeus fraxini has become widespread, but the other, *Aulonium ruficorne* appears to have much declined or disappeared. *Uloma* is a difficult species to find over much of its range, and the combination of elusive habits, rarity and its presence in comparatively under-worked parts of the country may have contributed to a lack of records. Nadvornaya & Nadvornyy's (*loc.cit.*) observation that, in some regions of the Ukraine, it occurred in only 2% of tree trunks examined, and its recent addition to the Norway list (Ottesen & Hansen *loc.cit.*), especially considering that it has long been known from Sweden (BMNH Collection), also suggests a species that is not likely to be encountered casually. Furthermore, the breaking up of moist, white-rotten trunks is not an especially productive collecting technique, usually revealing only lucanid larvae, Scaphidiinae and, in winter, hibernating Carabidae and Silphidae; many collectors abandon this destructive, laborious and unproductive method of searching early on in their careers. Flight interception trapping may catch night-flying adults, but the beetles may not frequently leave the substrate in which they are breeding, possibly only to disperse to new habitat when a log becomes unsuitable. The record from Bushey Hall is perhaps even more surprising, though there are pockets of old woodland in the area that may repay renewed investigation.

Identification

Uloma culinaris (Plate N) is unmistakable in the context of the British Fauna, (although it is close to several non-British species, notably the palaeartic *U. rufa*). The beetles are 10-11.5mm, strongly cylindrical, shining ferruginous brown. Hodge and Jones (*l.c.*) compare *U. culinaris* to a large, pale-coloured *Alphitobius*, and indeed it will key to *Alphitobius* in the key to genera in Brendell (1975). The following couplets replace couplet 19 (p.12) of Brendell (*loc. cit.*).

Supplement to the Generic key to British Tenebrionidae

- 19** Pronotum transverse, about one and a half times as wide as long and measuring more than 2mm across **19a**
- Pronotum sub-quadrate to slightly transverse and measuring distinctly less than 2mm across(leading to *Tribolium* Macl. and *Gnatocerus* Thunb.).
- 19a** 9-12mm. Shining ferruginous orange-brown ***Uloma* Latreille**
- 4.5-6.75mm. Shining piceous brown to black ***Alphitobius* Stephens**

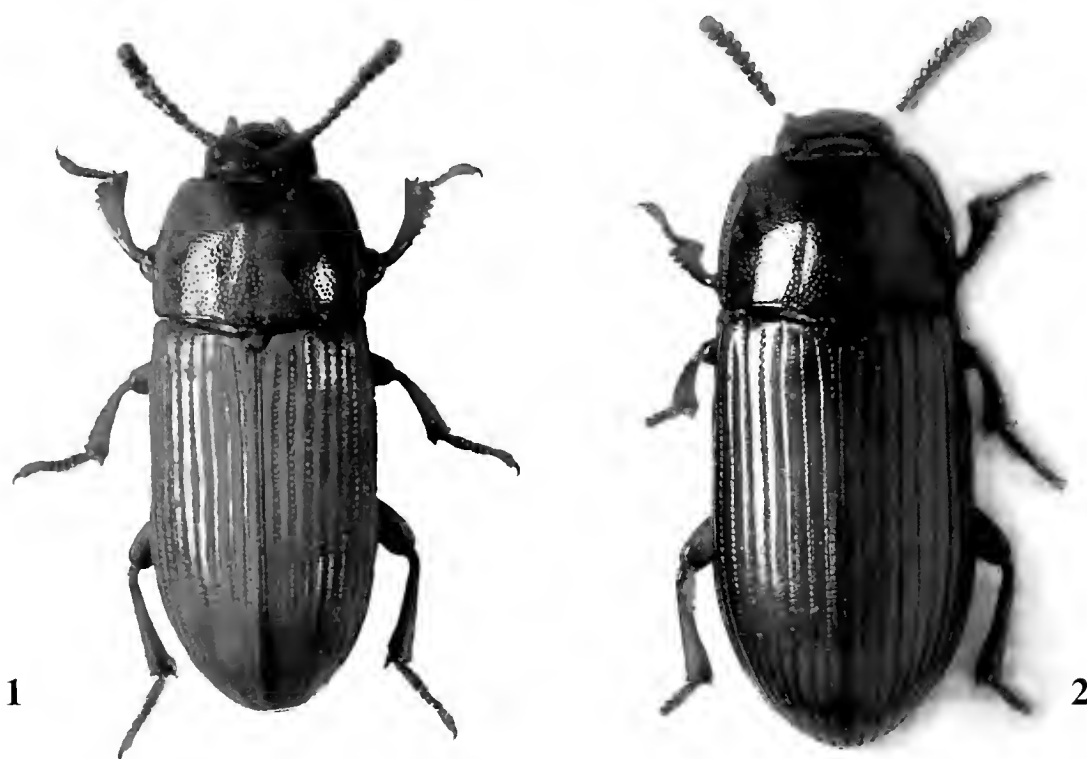


Plate N. Adults of *Uloma culinaris* (L.) (Tenebrionidae) from the UK. **1**, ♂, Bushey Hall, 20.vii.1950, G. B. Alexander. **2**, ♀, Ayleford, Forest of Dean, 30.v.1973, D. M. Womersley. Actual lengths 10mm (♂) & 10.8mm (♀). Specimens from British Isles Collection (BMNH/NHM). Photos by Harry Taylor (NHM Photo Unit).

Acknowledgements

Grateful thanks are especially due to Sue Womersley, for presenting her father's interesting collection of British Coleoptera to the National Collection (BMNH). Also to my colleague P. Brown for delivering the collection from Manchester. Thanks to R. G. Booth for his exceptional help with old literature, and to J. Cooter, D. J. Mann, P. M. Hammond, M. J. D. Brendell, P. J. Hodge and especially H. Mendel for helpful discussions, to F. Krell and S. V. Nikolaeva for translation of German and Russian texts, and to Harry Taylor for his excellent photographs.

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***Yponomeuta rorrella* (Hb.) (Lep.: Yponomeutidae) and *Syncopacma larseniella* (Gozmany) (Lep.: Gelechiidae) recorded new to Monmouthshire**

On 15 July 2002, to assist with a survey being undertaken there, a number of moth recorders visited Hendre Woods, an ancient woodland site to the west of Monmouth. After an enjoyable evening of moth-trapping, I returned home with two moths that required further investigation. With the assistance of the long-awaited *Moths and Butterflies of Great Britain and Ireland* volume 4 (part 2) one was easily identified as *Syncopacma larseniella*, and the other proved to be *Yponomeuta rorrella*. The latter specimen was passed on to David Slade at the National Museum of Wales to corroborate this identification. These species are not listed in G. A. Neil Horton's 1994 checklist for Vice County 35 (*Monmouthshire Lepidoptera*. Comma International Biological Systems). Martin Anthony, the current county recorder, has confirmed that he has no previous records of them, so these are presumably new for Monmouthshire.— MARTIN J. WHITE, 58 Victoria Quay, Maritime Quarter, Swansea, SA1 3XG.

***EARIAS VITTELLA* (FABRICIUS) (LEP.: NOCTUIDAE)
THE FIRST OCCURRENCE OF WILD-CAUGHT MOTHS IN EUROPE**

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Abstract

The first capture of wild adults of *Earias vittella* (Fabricius) (Lep.: Noctuidae) in Britain and Spain are reported. The occurrence is discussed.

Introduction

On the evening of 16 June 2003, a single example of *Earias vittella* was attracted to m.v. light at Durlston Country Park, Dorset. Immigrant moth activity was very high at the time. On 15 June, the pyrale *Euchrouiis ocella* (Haw.) and the Striped Hawkmoth *Hyles livornica* (Esp.) were both taken at sites on the Dorset coast. A species of macro moth not seen in Britain since 1853 was taken in south-east Kent, on 17 June and is being published by another party (Keith Redshaw, pers. comm.), whilst four Eastern Bordered Straw *Heliothis nubigera* (H.- S.) recorded on the south coast during the month equaled all previous known British records! This appears to be not only the first occurrence of a wild-caught moth in Britain, but also the first confirmed record in Europe (Michael Fibiger, pers. comm. via Colin Plant).

Description

Earias vittella is one of the most striking and easily recognisable species in the genus, although some variation can occur. There is a form where the green areas are replaced with light brown (Goater, 1994). The ground colour can vary; Martin Honey (Natural History Museum, London) has very kindly examined the material in that institution and reports that in some it is pinkish, as appears to be the case in the Dorset specimen, but in others it is buff or even greenish. In a few examples the central green band is reduced from the fringe to the lower centre of the wing (more extreme than in the Dorset example). The male is illustrated in Bretherton *et al.*, 1983, but both the description and illustration refer only to the yellow form.

The description that follows is based on the Swanage specimen (Plate O), which is a female. Wingspan 22 mm. Head and antennae white, collar and patagium white, rest of thorax green with longitudinal white median stripe. Metathorax with a prominent, green tuft. Legs white. Forewings long and narrow, cream with green longitudinal median wedge, narrow at base, broader towards the termen which is fairly straight; dorsum with small green elongate blotch near base; costa straight, except for weak curve at the base and near the apex, tinged pink; cilia white, tinged green. Hindwings white, darker towards termen; cilia white. Abdomen white.

Discussion

Earias vittella is a serious pest of cotton (*Gossypium*) and other malvaceous species such as *Hibiscus*. Large infestations can destroy a whole crop. It has been recorded previously from Britain as larvae intercepted at Heathrow airport, Middlesex between February and June 1976, on Okra pods (*Abelmoschus*



Plate J. *Earias vittella* (Fabricius) (Lep: Noctuidae) Female, 16.vi.2003, Durlston Country Park, Dorset (VC 9). Photograph: ©Steven Nash, 2003

esculentus) imported from India (Seymour, 1978). It is an Old World tropical species (László Ronkay pers. comm., via Colin Plant), widespread and common throughout the Middle East, and from India to Australia. Countries represented by specimens in the Natural History Museum, London, or by literature references include (alphabetically) Afghanistan, Andamans, Brunei, Burma, Cambodia, Caroline Islands, Celebes,

China, Fiji, India, Indonesia, Java, Laos, Loyalty Island, Malaysia, Mariana Islands, New Guinea, New Hebrides, Northern Australia, Pakistan, Papua, Philippines, Sarawak, Saudi Arabia, Seychelles, Singapore, Sri Lanka, Solomon Islands, Taiwan, Tenimber Island, Thailand, Tonga, Vietnam and West Irian, The only African country for which there seems to be a record is the Sudan (Capizzi, 1987; specimens in the Natural History Museum, London). None of these countries seem likely as a point of origin for the Dorset specimen. Shortly before going to press, I was informed by Jon Clifton that a specimen of *E. vittella* had been taken by him in Spain, but not identified until a photograph of the Swanage specimen was published on the *Immigration of Lepidoptera* web site (migrantmoth.com). He had collected that moth near Estapona, Málaga, Spain between 20 and 28 September 2001, and this would appear to be the earliest known European record. The possibility that the species is established in southern Spain, and that this was the source of the British example, should not be overlooked. Certainly an origination in southern Spain fits well with the general pattern of immigrant activity at the time and with the species composition of the immigrants involved.

Acknowledgements

I am most grateful to Martin Honey for confirming the identity of the Swanage moth, to Martin Corley and Colin Plant for assistance in preparing this manuscript and to Jon Clifton for allowing me to publish his record.

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THE EMPEROR SWALLOWTAILS (*PAPILIO HESPERUS* WESTWOOD AND *P. HORRIBILIS* BUTLER) IN WEST AFRICA (LEP.: PAPILIONIDAE)

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Abstract

Papilio hesperus Westwood, 1843, *P. horribilis* Butler, 1874, and *P. pelodorus* Butler, 1895 (Lepidoptera, Papilionidae) are shown to be three wholly allopatric species. It would be possible to treat them as subspecies of a single butterfly, but it is probably best and simplest to maintain them as three distinct geographical and ecological vicariants.

Introduction

The Emperor Swallowtails (*Papilio hesperus* Westwood, 1843, *P. horribilis* Butler, 1874, and *P. pelodorus* Butler, 1895) are among the largest and most dramatic butterflies in Africa. They are extremely powerful fliers that generally stay high in the canopy, from which they sometimes swoop down to feed from flowers or to visit damp patches. One favoured plant is the *Mussaenda* with its large white calyx lobes ("pseudopetals"), which quite dwarf the small yellow flowers. These calyx lobes, probably strongly ultraviolet, are spotted from the canopy by the butterflies which swoop down at great speed like a diving hawk, the wings held immobile at 30 degree angle; I keep wondering about the lack of an audible whoosh! I have seen the same single flower visited by three males in the course of half an hour. In Kakum National Park in Ghana they regularly performed a display flight, taking place just above a depression in the canopy, with two or three males frequently coming to blows and with all other butterflies immediately being chased off. Males would usually only manage to scare off other Emperor Swallowtails for a short while. This would last for more than an hour between 10.00 and 12.00. The power and elegance, even exuberance, of the butterflies was irresistible and much appreciated even by visitors to the park with no particular interest in butterflies.

The ranges of the three species are usually given as:

P. hesperus – Ivory Coast, to Nigeria, Equatorial Guinea, Angola, Democratic Republic of Congo, Sudan, Central African Republic, Uganda, Tanzania, Zambia.

P. horribilis – Sierra Leone, to Ivory Coast, Ghana, and sometimes Nigeria.

P. pelodorus - Tanzania, Malawi, Zambia, Mozambique.

This is the information included also in the new CD-ROM of the butterflies and skippers of Afrotropical Region (Williams 2002) as it has, roughly, been done for more than a century.

The implication of this information is that the three species have a slight degree of overlap: *P. hesperus* and *P. horribilis* overlap in Côte d'Ivoire and Ghana, while *P. hesperus* and *P. pelodorus* do so in Zambia. In fact, there is no overlap but full geographical and/or ecological segregation. However, the story behind how *P. hesperus* supposedly became sympatric in Ghana and Côte d'Ivoire, west of the Dahomey Gap, is interesting.

The range of *Papilio horribilis*

The actual range of *P. horribilis* (type locality Ghana, Cape Coast, Fantee) extends further west than conventionally assumed. There are recent records from Guinea's Fouta Djallon in the African Butterfly Research Institute, Nairobi, and it was reported from near Conakry by Prangley *et al.* (1994). There are also definite records from Liberia (Fox *et al.* 1965). It thus covers the entire rainforest zone west of the Dahomey Gap except for those of the Volta Region in Ghana. It is widely distributed and not uncommon, though sometimes missing from forests where one would expect it. A few old records from Nigeria are due to confusion with aberrations of *P. hesperus*, especially f. *calabaricus* Distant.

The range of *Papilio hesperus*

This species was described from the "Gold Coast" – present-day Ghana. The description and the type make it quite clear that the type is what is commonly known today as *P. hesperus*. Ecologically there is little reason why it should not be in Ghana. The problem is that no-one else seemed to find it. Its presence was re-recorded in the Nimba Mountains of northwestern Côte d'Ivoire by Condamin & Roy (1963), and then again by no-one else. The Nimba record seemed especially convincing as it included genitalia drawings which correctly showed the type of slight differences between the two species that is often a sign of distinct species in the Papilionidae.

When I was unable to trace any specimens of *P. hesperus* from Ghana or Côte d'Ivoire, and failed to find it myself, I decided to look more closely into the matter. As mentioned the holotype was clearly *P. hesperus* as understood today, and it was labelled "Gold Coast" and "type" in the manner of Westwood. The description was also clear and the colour painting could well be that of the holotype. In short, no evidence of anything untoward. But ... in the very same paper and on the very same plate was described another swallowtail, *Papilio charopus* Westwood, 1843, also from the "Gold Coast", with similar labels. But this definitely cannot be so, and has long been discounted as a case of *patria false*. This is a sub-montane butterfly which in our area is limited to the mountains of the Nigeria/Cameroon border, not occurring below 1,300 m or so – and the highest point in Ghana is only just over 1,000 m. *P. hesperus* is occasionally met with together with *P. charopus* between 1,300 and 1,500 m in Nigeria/Cameroon. It would beggar belief that the two were not caught together, and that must have been in Cameroon (suitable areas of eastern Nigeria were not accessible at the time). What of the Côte d'Ivoire record with its authentic looking genitalia drawings? Close reading of the text makes it clear that the actual specimen from Nimba was not available to Condamin & Roy when the manuscript went to press: the *P. hesperus* genitalia came from elsewhere. So the specimen must have been an aberration. The main immediate difference between the two is that *P. horribilis* has four large submarginal spots on the hindwing and *P. hesperus* only three. *P. hesperus* occurs in aberrations with four spots (including f. *calabaricus*) and there is no reason why the occasional *P. horribilis* in the dry season should not lose a spot.

The range of *Papilio pelodorus*

The apparent overlap between *P. hesperus* and *P. pelodorus* in Zambia is also not so; the two are segregated geographically and/or ecologically. In Zambia *P. hesperus* is limited to the lowland forests of the north, as are many other equatorial butterflies that only just reach Zambia; *P. pelodorus* is somewhat montane in habits and is found only 500 km to the east on the border with Malawi (Heath *et al* 2002). Similarly in Tanzania, with *P. hesperus* in Kigoma, Mpanda, and Bukoba in the east, and *P. pelodorus* on the arc of mountains stretching from Malawi to the Usambara. *P. hesperus*, obviously, does not occur in Malawi or Mozambique.

Species or subspecies?

The presence of three very similar and wholly allopatric taxa throughout the African forest zone, with distributions matching well-known biogeographical patterns (Larsen 1997), raises the issue whether they should be treated as distinct species or as subspecies of a single butterfly. This, in truth, is not a very important matter, despite the heat often generated by discussions of the exact status. The controversy over the *Pieris napi*-complex in the Palaearctic has probably generated more literature than on all butterflies in any single country in Africa, bar South Africa – and many a friendship foundered in the process. The evolution of a subspecies to a full species is a continuous process that cannot be expressed in just two taxonomic categories. In my manuscript on West African butterflies I maintain *P. horribilis* and *P. hesperus* as two species since the small genitalic differences are as large as between many sympatric species, but I would not get worked up if someone decided to treat them as subspecies. *P. pelodorus* seems to be adapted to a different ecological regime than the two others and is likely to have evolved in such a way that were it to become sympatric with *P. hesperus* the two would probably not interbreed.

Discussion

This paper was inspired by my first perusal of the new CD-ROM on Afrotropical butterflies and skippers (Williams 2002) to show that taxonomic and nomenclature problems remain even amongst the largest and best known Afrotropical butterflies. Myriad such problems, some known, some not, permeate the disc – through no fault of the author. The continued updating to the disk will be a mammoth task and the author will need much help. The original “Afrotropical Catalogue” (Ackery *et al.* 1995) has assisted me immensely and saved me innumerable hours of hard work in libraries and museums. At present the CD-ROM mainly represents an update to include the new taxa described between 1995 and 2001 (a ten percent increase) and major generic reviews during that time, as well as beginning to add colour illustrations. This is a good start. The aims, objectives, and the mechanisms for continued updating now need to be more precisely specified to mobilize the necessary support.

Acknowledgements

This is paper no. 36 to result from advance work on the book *Butterflies of West Africa – origins, natural history, diversity, conservation* which has been generously supported by the Carlsberg Foundation in Denmark. My thanks are as usual due to the Natural History Museum, London and the African Butterfly Research Institute, Nairobi, both indispensable bases for research on Afrotropical butterflies. Haydon Warren-Gash and Michel Libert kindly reviewed the manuscript.

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Some interesting moths recently confirmed for or new to the Devon fauna

Examples of Morris's Wainscot *Chortodes morrisii morrisii* were found by hand held light at Culverhole Point, near Seaton, on 26 June 2002 by Barry Henwood and Phil Sterling. This appears to constitute the first record for the species in Devon since that of Barrett (*Victoria County History of Devon*, 1906) who noted that it "occurs in the extreme south-eastern corner of the county towards Lyme Regis amongst the foodplant *Festuca aruudiuacea*". South (1907. *The Moths of the British Isles* repeated in the fourth edition in 1961) gives references to the species at Charmouth, Dorset (where positive records were made in 1995), Lyme Regis and Sidmouth.

On 12 April 2003, two examples of the Lead-coloured Drab *Orthosia populeti* were taken by Rob Wolton, at Hannaborough Moor, near Hatherleigh. This is, perhaps surprisingly, the first confirmed record of this species in Devon; the only other records available are not supported by voucher specimens. They were allegedly recorded by Parfitt (1878. *Transactions of the Devoushire Association for the Advancement of Science Literature and the Arts*, 10), who details sightings by a Mr Reading who said.

“The only specimens known to have occurred within the area of the two counties were taken at gas-lamps at Woodside, Plymouth.” He continues. “In 1863 I could have taken the insect, in almost any number, flying around some poplars growing at the side of Trews Weir.” (Exeter). It was also noted by Elliston Wright (1932. *Braunton, a few Nature Notes*) where it was said to have been taken at Halsinger Down, near Ilfracombe, and in 1934, R. J. Burton took larvae at the same locality. There is one other record from Yarner Wood on 2 June 1989. The wings of this specimen were retained in a collection at the Forest Office; I have examined these remains and am not convinced they are this species. The Trews Weir site has no aspen growing; the Woodside, Plymouth site may not be viable, but is being checked.

A return visit to Hannaborough Moor on 27 May 2003 led to the capture of a Poplar Lutestring *Tetlea* or D.& S. Interestingly, there appear to be no other recent records of this species in Devon. The *Victoria County History of Devon*, 1906, notes that it was “Recorded in Stephen’s *Illustrations*.” It is said also to have been seen at Milber Down, Newton Abbot, at sugar, by J. Walker in August 1905, a site now mostly built upon. It is strange that C. G. Barrett omitted this record from the *VCH*. A more recent record is that from Maiden Down, near Westleigh on 15 July 1984 by H. T. King accompanied by T. and A. White. I had considered this to be doubtfully correct because the foodplant is not common in Devon. Ivimey-Cook (1984. *Atlas of the Devon Flora*) gives 144 sites where *Populus tremula* has been found, with a lot of these being modern plantings, but in the light of the recent find at Hannaborough Moor, the Maiden Down sighting will need to be investigated further.

At Hannaborough Moor again, on 31 May 2003, Rob Wolton, Barry Henwood, Peter Franghiadi, George Williams and myself recorded four further examples, along with what we believe to be a larva of *O. populeti*. A list of 94 other species included five or six specimens of the tortricid *Ancylis laetana* Fabr., a species which feeds also on Aspen. It is referred to (as *Ancylis lactana*) in the *Ilfracombe Flora and Fauna* (Palmer, 1946) in a list of “Some Smaller Moths of the Ilfracombe District,” on page 105. It was apparently taken by “F.R.E.W.” but there is no date or locality. This presumably relates to F. R. Elliston Wright, who lived at Braunton; the food plant is shown at Braunton by Ivimey-Cook (*op. cit.*). Bob Heckford said that he could find no other record than the one shown. We can only assume that the Hannaborough Moor examples are the first confirmed for Devon.— ROY MCCORMICK, 36 Paradise Road, Teignmouth, Devon TQ14 8NR.

***Otiorhynchus porcatus* (Herbst) (Col.: Curculionidae) in Northamptonshire.**

On 19 March 2003 I recorded a single male *Otiorhynchus porcatus* in my rural garden, in the village of Hemington (O. S. grid reference TL 091852), on the eastern borders of Northamptonshire with Cambridgeshire. The insect was found in a wheelbarrow used to transfer freshly cut lawn turf edgings, together with a selection of weeds from an herbaceous border. This is the first known occurrence of this species in a garden in which I have assiduously recorded Coleoptera for the past

years. Professor. M. G. Morris (1997, *Handbk. Ident. Br. Insects* 5, pt. 17a) records that it is not known from East Anglia and the East Midlands and informs me (pers. comm.) that he is unaware of any more recent records from this region. There is the possibility that the weevil was introduced in pot grown plants. Inquiries of local garden centres, from which I have purchased shrubs and herbaceous plants in recent years, indicates that most of their stock is either grown in East Anglia and Lincolnshire, or has been imported from Holland.— R. COLIN WELCH, The Mathom House, Hemington, nr. Oundle, Peterborough, PE8 5QJ.

A record of *Strangalia aurulenta* Fabricius (Col.: Cerambycidae) from Co. Kerry

On 22.vii.2001, a warm and sunny day, I took two specimens of *Strangalia aurulenta* (one ♂, one ♀) from felled alder (*Alnus*) at Dungeel, near Killorglin. This riverside locality was cleared of alder about ten years ago but some branches were left strewn about while the larger logs and roots were gathered into two small piles. Both specimens were very conspicuous and were located within minutes of each other, one on an isolated branch and the second on a log pile. As far as I have been able to ascertain, this appears to be the most westerly Irish record of *aurulenta*.

This fine species was first noted from Ireland by W. W. Fowler, *The Coleoptera of the British Islands* (1890, 4) from Glengarriffe, Co. Cork, a record repeated by W. F. Johnson and J. N. Halbert in *A List of the Beetles of Ireland* (1902). However, it was A. W. Stelfox who first reported it from Co. Kerry, in the article “Notes on the distribution in Ireland of the Long-horn beetles, *Strangalia aurulenta*, *S. quadrifasciata* and *S. armata*” in 1937 (*The Irish Naturalists' Journal* 6: 156-158), where he first found it in the east of the county near Kilgarvan on 31.vi.1935. Significantly, he also noted the species from Cos. Waterford and Wicklow. The *Ent. Record* for 1953 (65: 149-150) contains an article entitled “Some Notes on *Strangalia aurulenta* Fab.”, written by the lepidopterist, H. C. Huggins, who was a regular visitor to Ireland, to the effect that he had observed the species on the Kenmare side of Glengarriffe in 1950 and again in 1952 at Barley Lake, in the same general area. Both are Co. Cork records, but very close to the boundary with Co. Kerry.

R. R. Uthoff-Kaufmann, 1988 (The occurrence of the genus *Strangalia* Serville (Col. Cerambycidae) in the British Isles. *Ent. Record* 100: 63-71) repeats the species known Irish distribution from Cos. Wicklow, Waterford, Cork and Kerry. M. C. D. Speight (1988. The Irish Cerambycid Fauna (Coleoptera: Cerambycidae), *Bull. Irish Biogeographical Soc.* 11: 41-58) included some previously unpublished records and suggests that *aurulenta* must be regarded as vulnerable in Ireland.

It would appear that the insect's south and south-western British distribution, as outlined by F. G. Twinn and P. T. Harding in *Provisional atlas of the longhorn beetles (Coleoptera: Cerambycidae) of Britain* (1999) is mirrored by known records from Ireland. Stelfox had written “it is a powerful flier and for its bulk takes wing with alacrity. It would not be impossible therefore for it to spread in a district where cut timber is plentiful”. He had been unable to trace the species himself from any of the western parts of Kerry, but it is to be hoped that it is gradually expanding its

range. Possibly a distinct lack of native coleopterists, rather than the scarcity of the beetle itself, may be the reason for the paucity of records.— MICHAEL O’SULLIVAN, 20 St. James Gardens, Killorglin, Co. Kerry, Ireland.

Danish lepidopterist receives honorary doctorate from Russia

It is rarely that studies by an amateur lepidopterist earn academic recognition. Specially noteworthy therefore is the recent award by the Lomonossov University, Moscow of an honorary doctorate to Ernst Traugott-Olsen – a chemical engineer by profession. It stems from his independent researches on the taxonomy and phylogeny of the Elachistidae. Perhaps the best known and most widely used of his many publications is the monographic work with (the late) Ebbe Schmidt Nielsen on the Elachistidae of Fennoscandia and Denmark, published in *Fauna Entomologica Scandinavica* (1977). Dr Traugott-Olsen has deposited his collection of Elachistidae, complete with type material, in the Zoological Museum, Copenhagen. The original colour aquarelles of adults depicted in his publications are also in the museum.— JOHN BRADLEY, Conifers, Chard Junction, Somerset TA20 4QJ.

Clouded Buff *Diacrisia sannio* (L.) (Arctiidae), *Acrolepiopsis assectella* (Zell.) (Yponomeutidae) and *Adela rufimitrella* (Incurvariidae) three moths (Lepidoptera) new to Middlesex

Although relatively new to moth trapping, I have been running a light both at home and at work, in the London Borough of Ealing (Middlesex, VC 21), for the last two years. On 15 June 2003, I led a “Butterfly & Wildlife Ramble” over Horsenden Hill to look at the diverse wildlife there. Old maps show that the fields of Horsenden have been in existence since the 1500s. The Countryside Service has been managing them as hay meadows for the last 15 years and the resulting wildflower display is impressive.

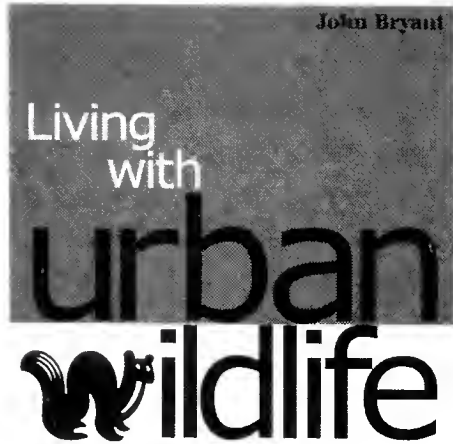
Walking across Batts Field (OS grid reference TQ 159840) at about 10.30am, the party disturbed a male Clouded Buff *Diacrisia sannio* from the long grass. This distinctive moth was very fresh and in pristine. Later examination of Plant (1993. *Larger Moths of the London Area*) indicated that there were no previous Middlesex records for this species and an e-mail to Colin Plant confirmed this to be the case.

Amongst other moths recorded in the Ealing borough this year was an example of the Leek Moth *Acrolepiopsis assectella*, taken at m.v. light at Horsenden Farm (TQ 162840), in March 2003, and the small, green longhorn *Adela rufimitrella*, which was netted at Horsenden Farm, on 24 May 2003. Both were kindly identified for me by Colin Plant. Neither of these two species is listed by Plant in his provisional list of the microlepidoptera of Middlesex (2002. *London Naturalist* **81**: 123-186).

One further record of interest this year, was a single Kent Black Arches *Meganola albula* (D.& S.), which I took at mv light on Rockware Field, Horsenden Hill (TQ 156841) on 20 July 2002. The only previous Middlesex record for this species relates to one taken in Harrow in 1901 (*Trans. City of Lond. ent. Nat. Hist. Soc.* **11**:63).— RACHEL TERRY, Parks & Countryside Service, Horsenden Farm, Horsenden Lane North, Greenford, Middlesex UB6 7PQ.

BOOK REVIEWS

Living with urban wildlife by **John Bryant**. 132 pp., 137 × 216 mm., paperback. ISBN 0 900001-49-6. £9.95. Open Gate Press, 51 Achilles Road, London NW6 1DZ.

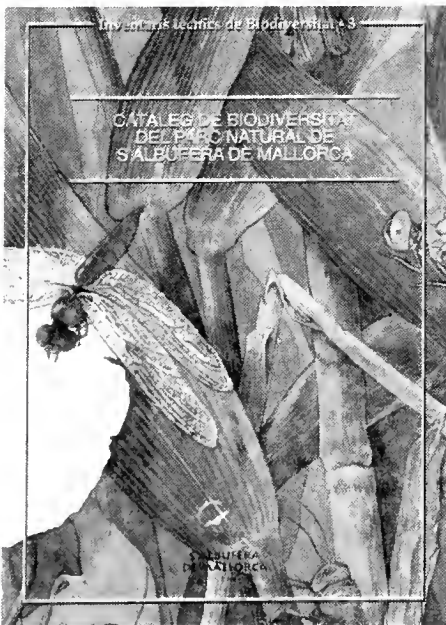


Foreword by Pippa Greenwood

continues that most fall foul to foxes and owls. Why not cut out the middle man ... just use humane-kill traps and have done with it. I do not condemn all that is written, and I would never knowingly quash an alternative approach to any problem, but there are several anomalies and I regret very much that this is not a book for the educated entomologist.

There is a readily discernible air of “animal liberation” about the author’s style and after the first few pages I realised that this was not a truly impartial and unbiased presentation. I do agree with the author that words like “pest” are grossly over-used, and I also readily agree that it is entirely possible to live with wildlife, even nuisance species, in most instances, and that when it is not there are alternatives to pesticides in many cases. The chapter on rats and mice is the giveaway, however, for the author is clearly against the killing even of rats. He recommends translocation to the local woodland (presumably he always asks the owner’s permission first). He even suggests locating and rescuing the nests so that baby rats don’t starve to death after parents are moved. Apart from the clear health risks of attempting to capture live rats in an urban setting, I find it rather interesting that he admits that the survival rate of rats relocated to the local woods is extremely low, justifying his proposals on the basis that they rarely live for more than eight months in any case. He

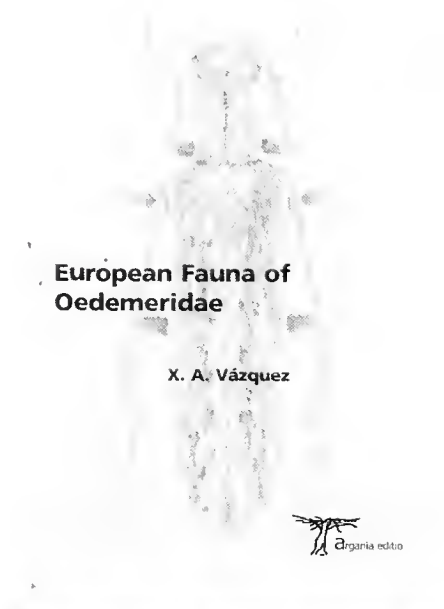
Catàleg de Biodiversitat del Parc Natural de S’Albufera de Mallorca edited by Nick Riddiford. This work is not available as the booklet illustrated here, but may be downloaded from the World Wide Web as a portable document format (pdf) file from <http://www.fsd.nl/TAIB/mainalbu.htm>.



Sponsored by the Government of the Balearic Islands, this is the inventory of species obtained by Earthwatch Europe’s *Project S’Albufera*. There is little a reviewer can do with a list, other than advertise its existence, but that latter task I am happy to do. Eighty-eight, A5-sized pages of the printed booklet under review comprise just ten of introductory material and 78 of species lists. Everything is here – plants, lichens, vertebrates and invertebrates, and the lists have arisen as a result of prolonged activity by a large number of volunteers. I am sure that the British Editor, a well-known name to birders and anyone who visits Fair Isle, where he lives, will not object to me saying that volunteers to look at groups not yet covered, or covered inadequately, are always welcomed.

European Fauna of Oedemeridae by X. A. Vázquez. 180 pp., 172 × 247 mm, hardbound, ISBN 84-931847-4-8. 80 Euros plus carriage.

Atlas fotográfico de los escarabeidos florícolas íbero-baleares by Estefanía Micó and Eduardo Galante. 82pp., 172 × 247mm, hardbound. ISBN 84-93 1847-3 X. 60 Euros, plus carriage. Both books from Argania Editio, Balmes, 61, pral. 3, 08007 Barcelona, Spain.



The scarabid volume aims to render easy the identification of the forty-three species of Scarabaeoidea found in Spain, Portugal and the Balearics. These large, usually brightly-coloured beetles fall into four families, the Glaphyridae, the Melolonthidae, the Rutelidae and the Cetoniidae. The introductory section is split in several chapters dealing with morphology, variation (with many photographs), biology, geographical distribution and conservation proposals. It is followed by the species accounts, which include information on the morphology, habitat, biology and geographical distribution of each species, as well as the bibliography of each taxon. Each species is given a whole page to itself, on which a distribution map is presented along with representative icons of the habitat and the emergence period of every species. These latter features are of particular interest, since it makes the book, which is written in Spanish, useable by readers who cannot understand that language. Of greatest interest are, inevitably, the glossy colour plates depicting each species. These are presented at greater than life size and are marvelously clear; body lengths (in millimetres) are given to prevent confusion. These large beetles are the sort of thing that one sees when abroad, and thinks "that should be easy enough to name", but the reverse proves usually to be the case. However, this book now allows names to be applied accurately to all Iberian scarabaeoids with minimal effort and at 60 Euros (currently just over £40) it is quite an affordable tome, worthy of a place on the British coleopterist's bookshelf.

With *European Fauna of Oedemeridae*, Argania Editio presents its first European Fauna, written by the same author who presented the work on this family in Iberia during 1993. This book deals with the 79 species of Oedemeridae recorded in Europe west of the Pechora, Volga and Don rivers, including the European part of

Turkey, Crete and the Dodecanese archipelago. Thus, the Caucasus is excluded. It starts with a wide introduction, followed by a systematic chapter, including identification keys for all the taxa to subspecies level, and many support drawings. Descriptions are given of all the taxa included and general data on them is also presented, including biology (with icons of the habitat and the emergence period), geographical distribution (maps) and a complete bibliography. The whole text is accompanied by drawings of various interesting morphological details. Finally, a complete systematic catalogue with the type species and all the known synonymies is added. Each taxon is illustrated in colour and, of course, the British species are amongst these. A promising start to what will be a very useful series, if that is the intention.

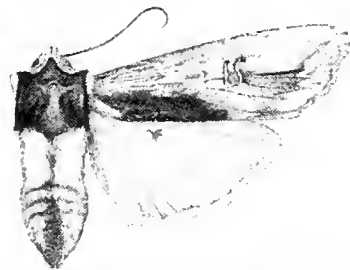
Noctuidae Europaeae, Volume 5, Hadeninae II by **László Ronkay, José Luis Yela & Márton Hreblay**. Entomological Press, 2001. 452 pp., 21 colour plates (featuring 1227 set moths), 387 genitalia photographs, 185 distribution maps. Hardback, 215 × 292mm, ISBN 87 89430 06 9. 1,190 DKK exclusive of postage (approx.£110 – Apollo have a facility to accept payment in British pounds)). Available directly from Apollo Books, Kirkeby Sand 19, DK-5771 Stenstrup, Denmark.

NOCTUIDAE EUROPAEAE

VOLUME 5

HADENINAE II

László Ronkay, José Luis Yela
& Márton Hreblay (†)



ENTOMOLOGICAL PRESS

This volume is one in a twelve-volume series, of which there are seven published, and covers the second half of the subfamily Hadeninae, comprising the tribes Orthosiini, Xylenini and Episemini. It presents, primarily, the results of an extensive taxonomic reworking; it also presents us with a comprehensive identification guide to the European species, and includes all those found in Britain.

It is no surprise then that this volume begins with a taxonomic and nomenclatural summary. British lepidopterists will find a number of discrepancies between this work and the existing British checklist, in terms of both names and sequence, and some may feel uneasy with some of the changes. For example, genera such as *Lithophane* and *Xylocampa*, traditionally in the Cucullinae, are now repositioned within the Hadeninae. The present reviewer is not qualified to comment on the details, but it can be said that a proper taxonomic revision of the

European Noctuidae has been, quite clearly, long overdue; whilst some changes may be difficult to get used to, they are none-the-less necessary for a proper understanding of the European fauna.

The bulk of the pages is taken up with species accounts, written in English in a clear and concise style. Each taxon is given a full entry comprising of type locality, synonymy where appropriate, taxonomic notes, diagnosis (a description of imago, male and female genitalia and, in most cases, larva), bionomics (habitat, flight period, foodplants etc) and distribution (with useful and interesting notes on occurrence beyond Europe). A condensed version of the above is given for sub-species. Each species also gets a black and white map with the distribution indicated by a bold line infilled with cross-hatching. Europe's political boundaries are clearly indicated – often an annoying omission in distribution maps.

Pictures of the genitalia of all species are included, for both sexes, as half-tone photographs; these are clear and well produced. Of course, in a work that is primarily a taxonomic revision, rather than an identification guide, one would expect this, but it seems worth noting since the genitalia define the species, then the genitalia are, indeed, a key factor in successful identification. It is unfortunate that most British publications, including some modern “key works”, seem to shy away from the use of genitalia for identification purposes in all but a few “critical” species. One cannot help but wonder if species such as the Lesser Common Rustic *Mesapamea didyma* might have been discovered earlier if British works had considered genitalia of the common “easily identified” species when preparing “original” text.

The colour plates are absolutely superb. In the same way that Bernard Skinner's *Colour identification guide to moths of the British Isles* (Viking, 1984) raised the bar for amateurs like me almost twenty years ago, this volume (and, indeed, the others in the series so far) has raised it still further. No surprise to find that David Wilson is responsible for the photography on both publications and the perfect colour reproduction has given us really stunning natural-size images. A wide range of variations is given for most species, often as many as a dozen!

At over a hundred quid it is, as they say, reassuringly expensive. But is it worth it? I would say, unreservedly, "yes". About a third of the 168 species covered here are British and the genitalia plates should resolve some identification issues with many of the more difficult species. There is also a 27 page addenda to Volume 7 (sub-family Cucullinae) dealing with another 17 species, including four British. The plates warrant endless thumbing and inspire thoughts of trips abroad and a constant vigilance for errant continental species over here.

The professional entomologist will, doubtless, already have *Noctuidae Europaeae* on his or her shelf, but no British amateur with an interest in the European macro-moth fauna, and a desire to expand their knowledge of the same, should ignore this excellent series. They should, in my opinion, make ready enough shelf-space for all twelve volumes.

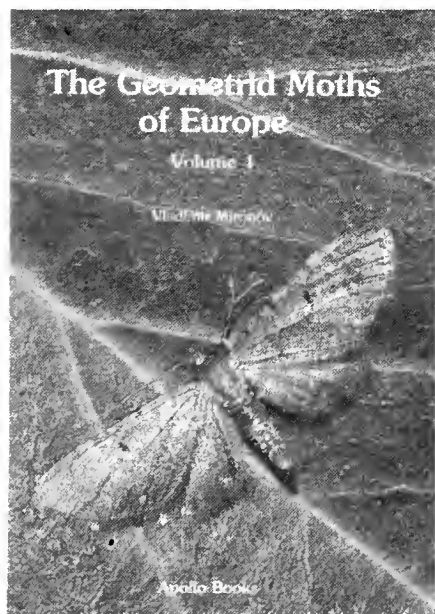
Marcel Ashby

EDITORIAL COMMENT

The following volumes of *Noctuidae Europaeae* are in print and available from Apollo Books:

Volume 1. Noctuinae 1, by Michael Fibiger, published 1990, £74; Volume 2. Noctuinae 2, by Michael Fibiger, published 1993, £69; Volume 3. Noctuinae 3, by Michael Fibiger, published 1997 – genitalia and species added since volumes 1 and 2, £84; Volume 4. Hadeninae 1, by Hermann Hacker, László Ronkay & Márton Hreblay, published 2002, £102; Volume 5. Hadeninae 2, reviewed above by Marcel Ashby; Volume 6. Cucullinae 1, by Gábor Ronkay & László Ronkay, published 1994, £69; Volume 7. Cucullinae 2, by Gábor Ronkay & László Ronkay, published 1995, £69. A 10% discount applies if ordering all twelve volumes. Volume 10 (Plusiinae & Catocalini) is due October 2003.

The Geometrid Moths of Europe. Volume 4: Larentiinae II by Vladimir Mironov. Apollo Books, 2003. 463 pp., 240 × 170 mm., hardback. ISBN 87-88757-40-4. Available direct from the publishers at Kirkeby Sand 19, DK-5771 Stenstrup, Denmark for 720 Danish Kroner plus postage. There is a 10% subscription discount on offer if you order the whole series direct from the publisher. An order form for volume 4 is distributed with this issue of the journal.



This is the second volume to appear in the series that is destined to have six, covering all the European Geometridae and edited for Apollo by Axel Hausmann. The first was reviewed in *Ent. Rec.* **113**: 239-240. Volume 4 covers the Perizomini and the Eupitheciini. I have moaned before about the lack of decent guides to the Geometridae, but if any one group within that family was in greater need of treatment than any other it must surely be the pugs. Although the inclusion of the Perizomini is equally important, this volume is already being referred to in informal entomological circles as the "European pug book".

The work presents a modern revision of the two rather closely related tribes which, together, contain 151 European species (18 in Perizomini and 133 pugs); this represents about 8% of the world fauna. Three species are new to the European fauna – *Eupithecia usbeca* Viidalepp,

E. repentina Volnits & de Laever and *E. sutiliata* Christoph and several new country records are reported. However, as is clearly stated in the Editor's Preface, the most important aim of this book is the identification of specimens! One can feel the exasperation behind his comment that he frequently receives "large boxes of European determinanda-material of *Eupithecia* from

colleagues and amateurs *in despair*" — many of us know exactly how he feels! But is the book successful in this primary aim? I think that the answer is a loud, clear "yes!".

The 151 species are depicted photographically as set specimens in 16 colour plates, mostly at 1.5 times natural size. Both sexes are depicted for most species, though not for all, but in the absence of any significant sexual dimorphism this scarcely matters. The colour reproduction is faithful to reality in the review copy and the background colour is suitably neutral so that it does not distort the colours of the insects. I consider that the size at which the insects are portrayed (1.5 times natural size) is just about ideal. At life-size, important features are not apparent in all cases (hence the difficulty in identifying many examples), but if the pictures are too big, one starts to see details that are not really relevant and the overall "jizz" of the moth is lost. I think that an ideal balance has been struck. I am delighted to be able to report that I was able to name two Spanish pugs that had been sitting in a store-box since October 1988 by using the pictures alone.

The pictures are supported by new drawings of male and female genitalia and the males "anal plate" (eighth sternite). These drawings, which have been superbly executed by the author, Vladimir Mironov, are far and away the most accurate and useful that I have ever seen for this group. I dissected the two Spanish specimens referred to above and arrived, without confusion, at the same answers which I had reached using the adult photographs (*Eupithecia oxycedrata* and *E. rosmarinata* – both females). One of the problems with existing genitalia drawings has been a distinct lack of clarity, particularly with regard to the ornamentation of the aedeagus, and so I am pleased to observe that these sclerotised features are distinct in the present drawings. At last I can see the difference between the aedeagi of Green Pug and Sloe Pug! I am also delighted that it appears un-necessary, other than in just a few species, to evert the vesica to view the relevant features!

English language text describes each species and provides information on similar species, phenology, biology, habitat, parasitoids and distribution. The several text drawings and photographs are furnished with lines pointing to the characters we are supposed to be looking at. Distribution maps for Europe complete the picture.

Overall, I am thoroughly delighted with this volume and there is little criticism that I can find to level at it. The spine is a different colour to that of volume 1 – so when the series is completed it will not be a "single colour-unit" on the shelf. Annoying, but not really important. Again, there are no larvae, but that is a pattern for the series and not at all the fault of the author (I repeat my hope that there will be a larva volume at the end of the series). With such a large and difficult group as the pugs one might have expected to find a dichotomous key to species. There is something fundamentally unscientific about identifying a taxon by comparing with a picture, though we all do it, I suppose, and if it works then why not. Certainly recent attempts at generating pug keys in the British non-scientific entomological literature have evidently led to a very large number of erroneous records being submitted.

There are those who say to me that there is little point in buying foreign moth books, because we don't need all those extra species depicted in order to identify the British fauna – they just add to the confusion! I strongly disagree, since in the last few years we have seen a far greater than usual number of moths added to the British fauna. As good luck would have it I can support my argument with the discovery of a pug new to Britain, identified from this very book under review within a few days of its receipt (the paper adding it appears in this issue of the journal). I feel sure that this book is destined to find a place on the bookshelf of every lepidopterist in Britain. It is the most useful book I have had the pleasure to review in some while and it is worth every penny of the price, which converts, at June 2003 rates, to £68. Of course, this falls to only £61 if you take out a subscription to the series direct from Apollo; on the basis of volumes 1 and 4, I think this would be an admirable plan.

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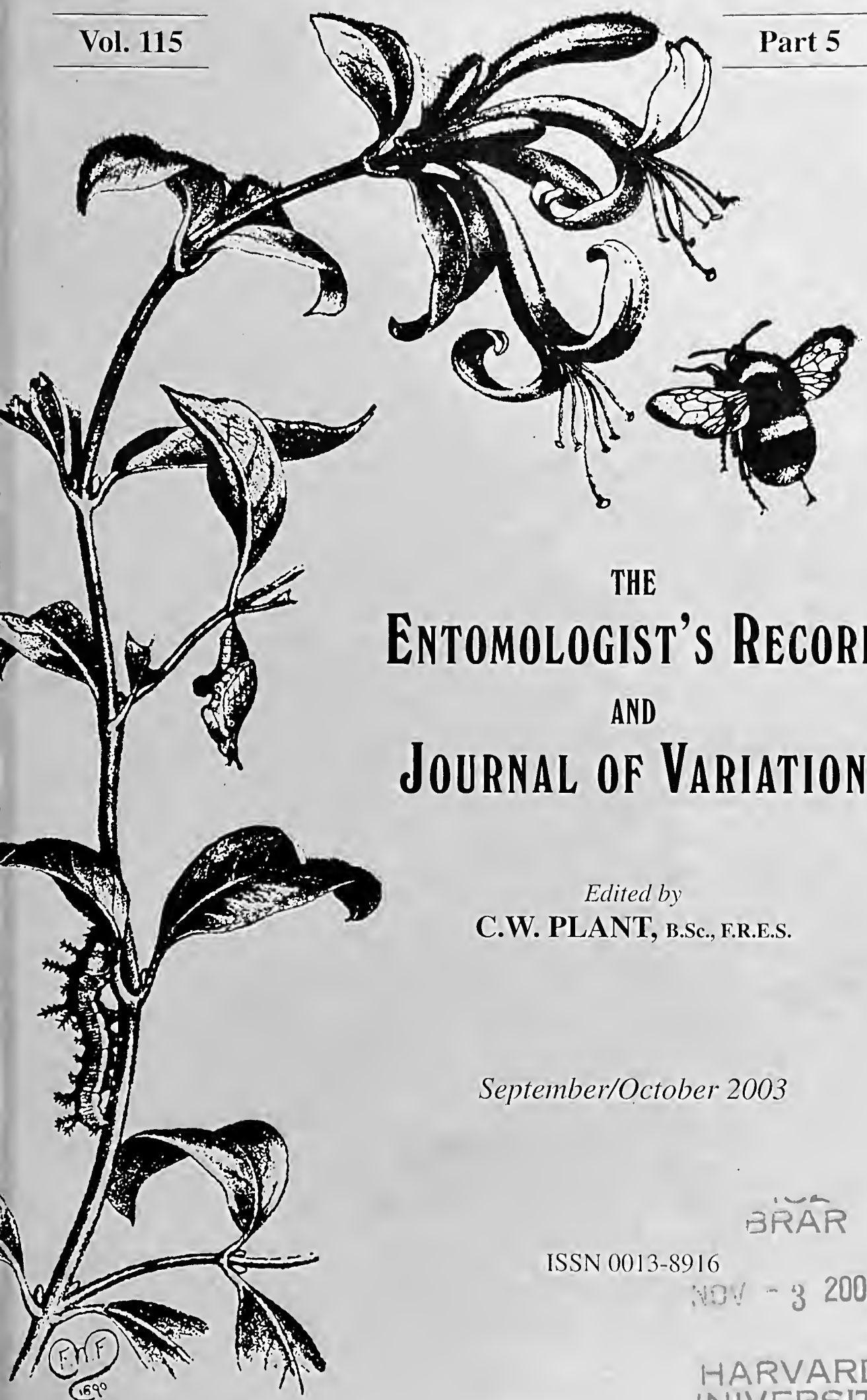
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A COLLECTION OF INVERTEBRATES ASSEMBLED BY THE LATE NORMAN E. HICKIN

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Abstract

During 2000 a collection of insect specimens accumulated by the late Dr Norman E. Hickin was found in a building in the Wyre Forest, Worcestershire. The identifiable material is catalogued. This material includes a number of significant Wyre Forest records and provides a microcosmic glimpse of the distinctive invertebrate life of that area.

Introduction

During the evening of 23 September 2000, KM attended a moth-trapping session at Lodge-Hill Farm in the Worcestershire Wyre Forest, where he observed an assortment of cardboard boxes under a table in an annexe; on investigation, these proved to contain a collection of dried invertebrates. Many of the specimens were contained in small rectangular airtight plastic containers, whilst others were pinned in small corked boxes. The condition of the specimens ranged from very good to entirely disintegrated, and many lacked accompanying data. Two things were of immediate interest; the name of N. Hickin was written in ink on many of the data labels, evidently in his own hand (those which conform to his calligraphy but are unsigned are marked "N. E. Hickin?" in Table 1), and some significant invertebrates were included.

Discussion

It was established that the building in which the collection was found is owned by English Nature, and permission was granted to KM to remove the collection by Mr Simon Walker, who is a Reserves Manager employed by English Nature, and whose duties cover this area. KM then approached PFW to see how work on the collection might be advanced. It was agreed that KM would deal with the bulk of the Lepidoptera, and that PFW would attend to everything else; results overall were not expected to be in any sense complete, due to the variable condition of the material. A store-box of caddis flies was almost wholly destroyed, and has had to be disregarded in this account. There were many instances of damage by anthrenid beetles and by mites (none of which were active), and one live example of the psocid *Liposcelis patula* Broadhead was discovered. There seems little doubt to us that the whole collection relates to Dr Hickin. Remarkably for such a limited amount of unaccessioned material, the dated specimens cover a period of 61 years up to 1981, so that both a *terminus post quem* and *terminus anti quem* are available for its formation. The early material dates from 1920 – 1925, is associated with G. V. Snelson, and includes Lepidoptera from Southport in Lancashire. Even in those early years, however, an association with Wyre Forest is apparent, and specimens of *Bena prasinana* (L.) (Lep.: Noctuidae) and *Rhemmpatera hastata* (L.) (Lep.: Geometridae)

survive from that time. Snelson also evidently collected at Sutton Park near Birmingham. Much of the material in the small plastic containers, especially that in box 9, originates from light-trapping. Many of these boxes contain moth-scales but no moths; some of them appear to have incarcerated live invertebrates, some of which in turn metamorphosed and produced parasitoids, all of which died *in vitro*. Others contain hatched moth ova and their larvae. The specimens in container 3:20, none of which have data, include two examples referable to the west Mediterranean Sea-basin *Chitona suturalis* (Ol.) (Col.: Oedemeridae), as well as an Ornate *Utetheisa ornatatrix* (L.), (Lep.: Arctiidae), a moth native of the americas, and a tropical hesperiid. The origin of these, and Hickin's sources for them, remain unknown, although most labelled material in box three dates from 1972. Neither have we sought to clarify the significance of Hickin's personal contacts.

This collection is important for a variety of reasons. It throws further light on the activities of Dr Hickin, whose connections with Wyre Forest (Hickin, 1971) are well-known, and it throws significant light on the biota of Wyre Forest in the past. In some cases the specimens represent the more recent examples of their kind known from Wyre Forest environs. The material also throws some light on Hickin's methodology as a collector, in the sense that his natural curiosity and artistic appreciation clearly drew him to the great variety of colour and form exhibited by the larger invertebrates. Many of the more spectacular species in this collection are figured in his published works. One can envisage Hickin perambulating amongst the wide variety of ecotones and anthropohabitats of Wyre, as well as at his various homes including The Newalls, collecting selectively (staphylinid beetles are scarcely represented in the collection, apart from one or two of the larger staphylinines) from the wide variety of invertebrates that he came across. One can envisage him perusing the trunk of the tree, which in box 9:44 provided, without data, both *Korynetes coeruleus* (Col.: Cleridae) and samples of lead shot. Another box contained a macrolabic nymph of the earwig *Forficula auricularia* L. (Forficulidae); others the mayfly *Ephemera danica* (Müller) (Ephemeridae) which has an arresting flight; yet others desiccated larvae of syrphine Diptera which aroused his curiosity, but which he evidently was unable to identify. Hickin was, however, aware of the case for biological conservation, writing over 30 years ago (Hickin, 1971) with regard to the Kentish Glory *Endromis versicolora* (L.) (Endromidae) "that all collecting of it should cease forthwith."

A database of the collection has now been created, and it is from this that Table 1, listing only those species with the better data, has been generated. Each individual container has been numbered, and replaced in its original box; our objective being that the collection should be lodged with a provincial museum. Of the 328 specimens (excluding the destroyed Trichoptera) represented in the collection, 212 (65%) have no data, and 21 (6%) cannot be determined readily to species level by us. We contend that many of the species without data also originate from the Wyre Forest, particularly, as is the case with certain scarce and rare species e.g., *Aleurostictus nobilis* (L.) (Col.: Scarabaeidae) and *Ctenicera pectinicornis* (L.) (Col.: Elateridae),

when they are closely associated with specimens that do have accompanying data. It is inconceivable that the single Kentish Glory *E. versicolora* (L.) did not originate from Wyre, and it may even be the one used to illustrate Hickin (1971).

Significant species

- Pyrgus malvae* (L.) (Lep.: Hesperiiidae) Grizzled Skipper. Two specimens without data. A rare and declining resident in Worcestershire and elsewhere (Asher *et al.*, 2001), threatened by loss of habitat. A small colony persists in Wyre Forest (Riley, 1991; A. N. B. Simpson, pers. comm.).
- Leptidea sinapis* (L.) (Lep.: Pieridae) Wood White. One specimen with no data attached. An uncommon, declining and localised resident in Worcestershire (Harper & Simpson, 2002), which despite the statement in Hickin (1971), still occurs in Wyre Forest in small numbers, where Blatch (1886) had found it to be abundant.
- Boloria euphrosyne* (L.) (Lep.: Nymphalidae) Pearl-bordered Fritillary. Nationally Scarce (Nb), BAP species. One specimen of the rare ab. *pallida*, labelled "Wyre Forest, 1967." A rare and declining species (Asher *et al.*, 2001) now confined to Wyre Forest in Worcestershire (Riley, 1991; Harper & Simpson, 2002).
- Melitaea cinxia* (L.) (Lep.: Nymphalidae) Glanville Fritillary. Red Data Book (RDB3), BAP species. One specimen labelled "bred from larva, Isle of Wight, 1953." In Britain this species is virtually confined to cliffs on the Isle of Wight (Lewington, 1999).
- Eurodryas aurinia* (Rott.) (Lep.: Nymphalidae) Marsh Fritillary. Two specimens labelled "Daglingworth, 10.v.1949," Daglingworth being not far distant from Cirencester in Gloucestershire. Extinct in Worcestershire, other than in Trench Wood, where it is maintained by introductions (Harper & Simpson, 2002), the most recent Wyre Forest record apparently dating from 1948 (Riley, 1991).
- Gastropacha quercifolia* (L.) (Lep.: Lasiocampidae) Lappet. One specimen "reared from larva, Gloucester, 1931". This is now a rare and declining species in Worcestershire and Gloucestershire.
- Endromis versicolora* (L.) (Lep.: Endromidae) Kentish Glory. One specimen without data. Apparently now extinct in Worcestershire where last recorded from Wyre Forest in 1972 (Harper & Simpson, 2002), since confined to the Highlands of Scotland. Young (1991) provides a detailed account of this species.
- Mesoleuca albicillata* (L.) (Lep.: Geometridae) Beautiful Carpet. One specimen labelled "Sutton Park, 1921, G. V. Snelson." This is an uncommon resident of ancient woodland in Worcestershire. A specimen from Sutton Park in the suburbs of Birmingham confirms the interest of this former royal hunting forest, which remains relatively undisturbed.
- Rhenanaptera hastata* (L.) (Lep.: Geometridae) Argent & Sable. Nationally Scarce (Nb), BAP species. One specimen labelled "Wyre Forest, 6.vi.1922, G. V. Snelson." A rare and declining resident in Worcestershire, where it is now confined to Wyre Forest (Harper & Simpson, 2002).
- Dicallomera fascelina* (L.) (Lep.: Lymantriidae). Dark Tussock. One labelled "bred from larva, Southport, 1920, G. V. Snelson." This is a localised species in Britain including the coastal sandhills of Cheshire and Lancashire (Skinner, 1998). An 1870 record from Malvern, Worcestershire, requires confirmation (Harper & Simpson, 2002).
- Leucoma salicis* (L.) (Lep.: Lymantriidae) White Satin Moth. One labelled as "bred from a larva, Southport, 1920, G. V. Snelson." An uncommon transient resident in Worcestershire with records as recently as 2000 (Harper & Simpson, 2002). Widely distributed throughout Britain, but rarely abundant.

- Parasemia plantaginis* (L.) (Lep.: Arctiidae) Wood Tiger. One specimen without data, last recorded in Worcestershire on Bredon Hill on 3.vi.1897 (Harper & Simpson, 2002).
- Bena prasinana* (L.) (Lep.: Noctuidae) Scarce Silver-lines. One specimen labelled "Wyre Forest, 2.vii.1925, G. V. Snelson." An uncommon resident in Worcestershire oak woods and parklands (Harper & Simpson, 2002).
- Phytometra viridaria* (Clerck) (Lep.: Noctuidae) Small Purple Barred. One specimen without data. A local and rare resident in Worcestershire, last recorded in the Worcestershire Wyre Forest in 1991, however there are records in the Shropshire Wyre Forest in 1999 and 2002 (K. McGee, pers. obs.).
- Graphocephala fennalii* Young (Hem.: Cicadellidae). North American Rhododendron Leafhopper. Nine examples of this rhododendron-associated auchenorrhynchan are represented in the collection (boxes 3:13, 9:16, 9:42) of which two (box 9:16) have the data "Bewdley, Kateshill, 3.ix.1973" in Hickin's hand. This is exactly 40 years after this Nearctic species was first recorded in England (China, 1935); although it has been found at least as far north as South Lancashire (Judd & Rotherham, 1992) it remains scarce in Worcestershire.
- Aleurostictus nobilis* (L.) (Col., Scarabaeidae) Noble Chafer. Red Data Book (RDB2). Two examples, one (box 9:11) without data, the other (box 9:40) bearing the data "in house, Newalls, Wyre Forest, 12.vi.1970." This is an increasingly rare old forest species (which undoubtedly warrants Ancient Woodland Indicator status in Britain) which breeds in decaying trees, and which in comparatively recent times has benefited from orchard practice (Whitehead, 1997; 1999). *A. nobilis* has been observed in houses, which it may perceive as structures bearing apertures and potential larval niches, in Worcestershire, Gloucestershire and Herefordshire. It has been observed in Wyre Forest since at least 1930 (Smith, 1948; Fraser, 1949) where it is a relict of Coed Mawr (Whitehead, 1996). Although, it still persists in Wyre Forest, its future there is by no means assured.
- Ctenicera pectinicornis* (L.) (Col.: Elateridae). Nationally scarce status Na. Examples of *C. pectinicornis* were found in box 9:38 without data and in box 9:34 (two) bearing the data "Newalls, Wyre, Worcs, N. E. H., 5.vi.1968." This is an increasingly scarce species (Mendel & Clarke, 1996), apparently nearing extinction in Worcestershire, often associated with small-scale woodland clearances or patchy woodland land use mosaics, which is still extant at Wyre Forest (K. McGee, pers. obs., 2.v.1999). It prefers well-aerated sediments.
- Trichodes octopunctatus* (F.) (Col.: Cleridae). Box 9:25 contains an example of this species bearing the data "live, Kateshill, Bewdley, Spain? vi. 1979. *Trichodes reichei*." The distribution of *T. octopunctatus*, which has been mapped by Gerstmeier (1998), accords well with Hickin's suggestion that this specimen has a Spanish origin.
- Hylecoetus dermestoides* (L.) (Col.: Lymexelidae). Ancient Woodland Indicator (AW3). Box 2:3 contains a female, extensively consumed by larval *Anthrenus* sp., bearing the data, in Hickin's hand, "Wyre Forest, 23.v.1970."
- Stenurella nigra* (L.) (Col., Cerambycidae). Red Data Book (RDB3 – *sensu* Fowles *et al.*, 1999). This is an increasingly rare longhorn beetle, which was known to have highly localised populations at Wyre Forest, where it favoured the flowers of Wood Spurge *Euphorbia amygdaloides*. Four examples are represented in the collection, of which those in boxes 9:28 and 9:42 are without data, but contain, in the case of box 9:28, a sprinkling of dried bracts and flowers of Wood Spurge, which Hickin placed in with the beetle. Box 9:22 contains two specimens bearing the data "Wyre Forest, Worcs, N. E. H., 1.viii.1962."

Location of sites

Sites mentioned in the collection data include, in Lancashire (VC59): Southport (SD31); in the West Midlands (VC38): Sutton Park (SP19); in Worcestershire (VC37): The Newalls, Wyre (SO77, c120m O.D.), Buckridge, Wyre (SO77, c150m O.D.), Kateshill, Bewdley (SO77, c35m O.D.), Ribbesford, Bewdley (SO77); in Gloucestershire (VC33): Daglingworth (SO91), Gloucester (SO81); in Norfolk (VC28): Thetford (TL88) and the Isle of Wight (VC10).

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Table 1. Select list of invertebrates assembled by or associated with the late Dr N. E. Hickin, found during 2000 at Wyre Forest, Worcestershire (single examples unless otherwise stated)

Box number	Higher taxonomy	Species (and numbers)	Locality	Date(s)	Other notes
4.6	Ephemeroptera Ephemeridae	<i>Ephemera danica</i> (Müller)	Wyre, Newalls	15.vi.1968	N. Hickin?
4.5	Odonata Calopterygidae	<i>Calopteryx virgo</i> (L.)	Bewdley, Blackstone Rock	27.v.1972	
4.5	Hemiptera Cercopidae	<i>Cercopis vulnerata</i> Illiger in Rossi	Bewdley, Blackstone Rock	27.v.1972	
9.16	Cicadellidae	<i>Graphocephala fennahi</i> Young(2)	Bewdley, Kateshill	3.ix.1973	"N. E. H"
9.13	Cixiidae	<i>Tachycixius pilosus</i> (Ol.)	Wyre Forest	12.vi.1968	"N. Hick."
4.32	Cixiidae	<i>Tachycixius pilosus</i> (Ol.)	Bewdley, Kateshill	11.vi.1973	
9.13	Lygaeidae	<i>Gastroles grossipes</i> (DeG.)	Wyre Forest	12.vi.1968	"N. Hick."
9.43	Miridae	<i>Miris striatus</i> (L.)	Wyre Forest	29.vi.1964	"N. E. Hickin"
4.12	Neuroptera Osmylidae	<i>Osmylus fulvicephalus</i> (Scop.)	Wyre, Buckridge	11.vi.1980	
10	Lepidoptera Tortricidae	<i>Rhyacionia buoliana</i> (D.&S.)	Thetford	18.vi.71	det T. Winter
2.8	Plutellidae	<i>Ypsolopha parenthesella</i> (L.)	Wyre, Newalls	9.vi.1970	" <i>Quercus</i> leaves"
3.26	Tortricidae	<i>Epiblema uddmanniana</i> (L.)	Wyre, Buckridge	10.viii.1972	
4.31	Lycaenidae	<i>Satyrium w-album</i> (Knoch)	Bewdley, Kateshill	10.viii.1978	"under swift's nest"
6	Nymphalidae	<i>Boloria euphrosyne</i> (L.) ab. <i>pallida</i> L.	Wyre Forest	1987	
8	Nymphalidae	<i>Euphydryas aurinia</i> (Rottemburg) (2)	Daglingworth	10.v.1949	

Box number	Higher taxonomy	Species (and numbers)	Locality	Date(s)	Other notes
8	Nymphalidae	<i>Melitaea cinxia</i> (L.)	Isle of Wight	1953	"bred from larva"
1	Lasiocampidae	<i>Gastropacha quercifolia</i> (L.)	Gloucester	1931	"reared"
1	Thyatiridae	<i>Thyatira batis</i> (L.)	Sutton Park	1924	"bred G. V. Snelson"
1	Thyatiridae	<i>Habrosyne pyritoides</i> (Hufnagel)	Birmingham	1922	"bred G. V. Snelson"
3.11	Geometridae	Indeterminate (2)	Wyre, Buckridge	7.vi.1972	"P. Willis"
4.10	Geometridae	<i>Geometra papilionaria</i> (L.)	Wyre, Buckridge	viii.1979	
3.15	Geometridae	<i>Scopula floslactata</i> (Haworth)	Ribbesford, Woods	6.vi.1972	N. Hickin?
1	Geometridae	<i>Xanthorhoe montanata</i> (D.&S.)	Birmingham	1921	"G. V. Snelson"
1	Geometridae	<i>Xanthorhoe fluctuata</i> (L.) ssp. <i>thules</i> (Prout)	Birmingham?	1923	"G. V. Snelson"
1	Geometridae	<i>Mesoleuca albicillata</i> (L.)	Sutton Park	1921	"G. V. Snelson"
1	Geometridae	<i>Cosmorhoe ocellata</i> (L.)	Sutton Park	1921	"G. V. Snelson"
8	Geometridae	<i>Rheumaptera hastata</i> (L.)	Wyre Forest	6.vi.1922	"G. V. Snelson"
1	Geometridae	<i>Abraxas grossulariata</i> (L.)	Birmingham	1922	"bred G. V. Snelson"
3.11	Geometridae	<i>Petrophora chlorosata</i> (Scopoli)	Wyre, Buckridge	7.vi.1972	"P. Willis"
3.38	Geometridae	<i>Opisthographis luteolata</i> (L.)	Wyre, Buckridge	12.viii.1972	
3.50	Geometridae	<i>Selenia dentaria</i> (F.)	Sandy Mount, Dublin	12.iii.1981	N. Hickin?
4.14	Geometridae	<i>Selenia tetralunaria</i> (Hufnagel)	Wyre, Buckridge	5.viii.1978	
4.15	Geometridae	<i>Odontopera bidentata</i> (Clerck)	Wyre, Buckridge	30.v.1973	"P. M. Willis"
4.4	Geometridae	<i>Biston strataria</i> (Hufnagel)	Wyre Forest		
4.7	Sphingidae	<i>Minna tiliae</i> (L.)	Wyre Forest	1965	
1	Notodontidae	<i>Phalera bucephala</i> (L.)	Southport	1922	"bred G. V. Snelson"

Box number	Higher taxonomy	Species (and numbers)	Locality	Date(s)	Other notes
1	Notodontidae	<i>Notodonta ziczac</i> (L.)	Southport	1922	"bred G. V. Snelson"
4.10	Notodontidae	<i>Pheosia gnoma</i> (F.)	Wyre, Buekridge	viii.1979	
3.23	Notodontidae	<i>Pheosia gnoma</i> (F.)	Wyre, Newalls	1971	
1	Notodontidae	<i>Prilodon capucina</i> (L.)	Sutton Park	1922	"bred G. V. Snelson"
1	Lymantriidae	<i>Orgyia antiqua</i> (L.)	Sutton Park	1921	"bred G. V. Snelson"
1	Lymantriidae	<i>Orgyia antiqua</i> (L.)		10.vii.1930	"reared"
1	Lymantriidae	<i>Dicallomera fascelina</i> (L.)	Southport	1920	"bred G. V. Snelson"
1	Lymantriidae	<i>Leucoma salicis</i> (L.)	Southport	1920	"bred G. V. Snelson"
8	Aretiidae	<i>Spilosoma lutea</i> (Hufnagel)	Birmingham	1922	"G. V. Snelson"
3.40	Aretiidae	<i>Phragmatobia fuliginosa</i> (L.)	Wyre, Newalls	1971	
1	Aretiidae	<i>Tyria jacobaeae</i> (L.)	Chelmsley	1922	"bred G. V. Snelson"
4.7	Aretiidae	<i>Tyria jacobaeae</i> (L.)	Wyre Forest	1965	
1	Noetuidae	<i>Euxoa nigricans</i> (L.)	Southport	viii?1922	"G. V. Snelson"
1	Noctuidae	<i>Agrotis exclamationis</i> (L.)	Birmingham	1920	"G. V. Snelson"
1	Noctuidae	<i>Ochropleura plecta</i> (L.)	Warwick?	1921	
3.42	Noctuidae	<i>Noctua prumba</i> (L.)	Bewdley, Kateshill	9.viii.1972	"live in study"
1	Noctuidae	<i>Lycophotia porphyrea</i> (D.& S.)	Sutton Park	vi.1921	"bred G. V. Snelson"
1	Noctuidae	<i>Xestia triangulum</i> (Hufnagel)	Birmingham	1921	"bred G. V. Snelson"
1	Noetuidae	<i>Agrochola circellaris</i> (Hufnagel)	Chelmsley	1923	"G. V. Snelson"
1	Noetuidae	<i>Agrochola lychnidis</i> (D.& S.)	Wyre Forest	1923	"bred G. V. Snelson"
1	Noctuidae	<i>Xanthia togata</i> (Esper)	Sutton Park	1922	"G. V. Snelson"

Box number	Higher taxonomy	Species (and numbers)	Locality	Date(s)	Other notes
1	Noctuidae	<i>Xanthia ictcritica</i> (Hufnagel)	Southport	viii.?1922	"G. V. Snelson"
1	Noctuidae	<i>Acronicta megacephala</i> (D. & S.)	Birmingham	1922	"G. V. Snelson"
1	Noctuidae	<i>Acronicta psi</i> (L.)	Southport	1921	"G. V. Snelson"
1	Noctuidae	<i>Cryphia domestica</i> (Hufnagel)	Birmingham	1922	"bred G. V. Snelson"
1	Noctuidae	<i>Panemeria teuebrata</i> (Scopoli)	Wyre Forest	1920	"bred G. V. Snelson"
8	Noctuidae	<i>Bena prasinana</i> (L.)	Wyre Forest	2.vii.1925	"G. V. Snelson"
1	Noctuidae	<i>Pseudoips fagana</i> (F.) <i>britannica</i> (Wn.)	Grantham	11.vi.1930	N. Hickin?
1	Noctuidae	<i>Diachrysia chrysiis</i> (L.)	Ward End	vii.1931	
1	Noctuidae	<i>Autographa gamma</i> (L.)	Birmingham	v.1925	"G. V. Snelson"
1	Noctuidae	<i>Euclidia glyphica</i> (L.)		v.1921	"May'21"
9.31	Coleoptera				
	Carabidae	<i>Cyclinus caraboides</i> (L.)	Bewdley, Kateshill	4.vi.1972	"see Linssen Vol 1 p.73"
9.12	Silphidae	<i>Nicrophorus vespilloides</i> Herbst.	Bewdley, Kateshill	30.ix.1973	"Dryad's Saddle"
3.19	Silphidae	<i>Silpha</i> sp. (larva)	Wyre Forest	25.v.1972	
9.34	Geotrupidae	<i>Geotrupes stercorarius</i> (L.)	Wyre, Newalls	5.vi.1968	"N. E. Hickin"
9.29	Scarabaeidae	<i>Melolontha melolontha</i> (L.)	Bewdley, Kateshill	3.vi.1972	
9.34	Scarabaeidae	<i>Melolontha melolontha</i> (L.)	Wyre, Newalls	5.vi.1968	"N. E. Hickin"
9.40	Scarabaeidae	<i>Aleurostictus nobilis</i> (L.)	Wyre, Newalls	12.vi.1970	"in house"
9.34	Elateridae	<i>Cteniceta pectinicornis</i> (L.)(2)	Wyre, Newalls	5.vi.1968	"N. E. H."
9.13	Elateridae	<i>Agritotes pallidulus</i> (Illiger)	Wyre Forest	12.vi.1968	"N. Hick."
9.34	Cantharidae	<i>Cantharis livida</i> L.	Wyre, Newalls	5.vi.1968	"N. E. Hickin"

Box number	Higher taxonomy	Species (and numbers)	Locality	Date(s)	Other notes
9.18	Cantharidae	<i>Cantharis pellucida</i> F.	Ribbesford, Woods	6.v.1972	"N. E. H."
9.18	Cantharidae	<i>Rhagonycha lignosa</i> (Müller)	Ribbesford, Woods	6.vi.1972	"N. E. H."
2.3	Dermestidae	<i>Anthrenus fuscus</i> Olivier	WyreForest	23.v.1970	many bits. N. Hickin?
9.25	Cleridae	<i>Trichodes octopunctatus</i> (F.)	Bewdley, Kateshill	vi.1979	"live. Kateshill; Spain?vi.1979"
2.3	Lymexelidae	<i>Hylecoetus dermestoides</i> (L.)	WyreForest	23.v.1970	eaten by <i>Anthrenus</i> , N. Hickin?
9.32	Nitidulidae	<i>Brachypterus urticae</i> (F.)	Wyre, Newalls	5.vi.1968	"N. E. Hickin"
9.18	Nitidulidae	<i>Gilischrochilus hortensis</i> (Fourc.) (2)	Ribbesford, Woods	6.vi.1972	"N. E. Hickin"
9.30	Coccinellidae	<i>Adalia bipunctata</i> (L.) (2)	Wyre, Newalls	24.vi.1972	
9.24	Coccinellidae	<i>Adalia decempunctata</i> (L.)	Wyre, Newalls	24.vi.1972	
9.18	Coccinellidae	<i>Coccinella septempunctata</i> L.	Ribbesford Woods	6.vi.1972	"N. E. Hickin"
3.15	Coccinellidae	<i>Propylaea quattuordecimpunctata</i> (L.)	Ribbesford Woods	6.vi.1972	N. Hickin?
9.26	Coccinellidae	<i>Propylaea quattuordecimpunctata</i> (L.)	Wyre, Newalls	24.vi.1972	
9.23	Coccinellidae	<i>Calvia quattuordecimpunctata</i> (L.) (2)	Wyrc, Newalls	24.vi.1972	" <i>Prunus spinosa</i> "
2.3	Coccinellidae	<i>Thea vigintiduopunctata</i> (L.)	Wyre Forest	23.v.1970	bits. N. Hickin?
9.18	Latridiidae	<i>Aridius nodifer</i> (Westwood)	Ribbesford, Woods	6.vi.1972	"N. E. H."
9.32	Scraptiidae	<i>Anaspis thoracica</i> (L.)	Wyre, Newalls	5.vi.1968	"N. E. H."
9.27	Chrysomelidae	<i>Cassida rubiginosa</i> (Müller)	Wyrc. Buckridge	10.v.1977	"P. M. Willis, Buckridge, Wyre"
9.35	Chrysomelidae	<i>Chrysolina oricalcia</i> (Müller)	Wyrc. Buckridge	4.viii.1978	"Tanner's Bow, Buckridge"
9.41	Cerambycidae	<i>Alosterna tabacicolor</i> (DeGeer)	Wyrc. Newalls	24.vi.1972	[<i>Leptura livida</i> misdet]
9.22	Cerambycidae	<i>Stenurella nigra</i> (L.) (2)	Wyrc Forest	I.vii.1962	"N. E. H."

Box number	Higher taxonomy	Species (and numbers)	Locality	Date(s)	Other notes
9.19	Cerambycidae	<i>Pachytodes cerambyciformis</i> (Schrank)	Wyre, Buckridge	7.vii.1978	"Dear Norman, Buckridge. "P."
10	Chrysomelidae	<i>Phratora vitellinae</i> (L.)	Alice Holt, Hampshire	11.viii.1965	"poplar, 11.viii.1965"
10	Curculionidae	<i>Hyllobius abietis</i> (L.)	Thetford	18.vi.71	"18.vi.71 det T. Winter"
10	Curculionidae	<i>Pissodes pini</i> (L.)	Branshill	vi.1964	
10	Scolytidae	<i>Scolytus scolyms</i> (F.) (2)	Alice Holt, Hampshire	iv.1973	"ex. English Elm"
	Diptera				
4.32	Stratiomyidae	<i>Boris chalybata</i> (Forster) (2)	Bewdley, Kateshill	11.vi.1973	
4.17	Tabanidae	<i>Chrysops caecutiens</i> (L.)	Bewdley, Kateshill	22.vi.1976	Hickin signed "det. J.E. Chainey"
8	Calliphoridae	<i>Lucilia bufonivora</i> Moniez	Wyre Forest	18.viii.1963	"N. E. H."
4.32	Anthomyiidae	<i>Pegomya bicolor</i> (Hoffm.) (2)	Bewdley, Kateshill	11.vi.1973	
8	Muscidae	<i>Phaonia viaruu</i> Harris	Wyre Forest	18.viii.1963	"N. E. H."
4.2	Syrphidae	<i>Rhingia campestris</i> Meigen	Wyre, Newalls	25.viii.1973	
4.32	Syrphidae	<i>Syrphini</i>	Bewdley, Kateshill	11.vi.1973	larva
	Pseudoscorpiones				
4.9	Cheiridiidae	<i>Cheiridium museorum</i> (Leach)	Bewdley, Kateshill	9.v.1978	
	Araneae				
2.8	Salticidae	<i>Heliophanus flavipes</i> C. L. Koch	Wyre, Newalls	12.vi.1970	[<i>H. cupreus</i> misdet.] "oak leaves"
3.7	Pholcidae	<i>Pholcus phalaugoides</i> (Fuesslin)	? Republic of Ireland	1975	N. Hickin?

Announcement: Planning a national macro-moth recording scheme

There is more interest in moths now than at any other time and this interest increases with every year. A vast amount of recording effort takes place across Britain and Ireland, and new discoveries continue to be made. Some once widespread species seem to have almost disappeared, other familiar species show worrying declines in abundance, whilst immigration seems to bring ever-increasing numbers of vagrant and potential colonist species from the Continent. The present network of county recorders do an admirable job in collating data at county level, but it is ironic that at a time when interest in moths has never been greater there is no national recording scheme to harness and present these data on a wider scale.

Butterfly Conservation is now conducting a planning, consultation and development project that will hopefully lead to the eventual establishment of a new national recording scheme for all macro-moth species. Adrian Spalding and Mark Tunmore are undertaking the bulk of this planning phase, in close association with BC staff. The planning phase is supported financially by the Heritage Lottery Fund, English Nature, the British Entomological and Natural History Society, Royal Society for the Protection of Birds and Biodiversity Challenge with the backing of many other partners.

The potential benefits from a co-ordinated national recording scheme are almost limitless. It would provide data to identify and promote conservation priorities, influence planning decisions, inform government policy and contribute to scientific research. It could also, in time, lead to the publication of a national distribution atlas.

In order for us to develop the type of scheme to which today's moth recorders would like to contribute, and to increase the chances of obtaining the necessary funding, it is vital that those interested in moth recording let us know their views before March 2004. The easiest way to do this is by completing the online questionnaire, viewable at www.mothrecording.org.uk. Alternatively, the same questionnaire is available on a colour leaflet, copies of which are obtainable from the address below upon receipt of an A5-sized stamped, self-addressed envelope. In the coming months we will be contacting local moth groups and attending events to canvas opinion. The following regional conferences will also take place, at which we look forward to meeting moth recorders, talking more about the scheme and hearing your views. There will also be guest speakers.

ENGLAND: Warwick University.

Saturday 10 January 2004 (10.00–16.30 hours).

SCOTLAND: Scottish Natural Heritage, Battleby Centre, Perth.

Saturday 13 December 2004 (10.00–16.30 hours).

WALES: To be announced. Details available on the website.

Booking is essential for these events as numbers are limited. There will be free lunch and refreshments. E-mail bookings@mothrecording.org.uk or write to NMRS (planning), Norfolk House, 16–17 Lemon Street, Truro, TR1 2LS.

News on the conservation of some UK Biodiversity Action Plan moths in 2002

The following is an update to previous annual reports on some of the moth projects in the English Nature Species Recovery Programme (*Ent. Rec.* **113**: 12-129; **114**: 149-153). This year the report is expanded to include some of the additional UK Biodiversity Action Plan priority species with which the author was involved during 2002 through Butterfly Conservation's Action for Threatened Moths project.

Barberry Carpet *Pareulype bereberata* (D.& S.)

First the native sites. At the single known Gloucestershire site the density of larvae in 2002 was the highest since the late 1980s when breeding was first confirmed and monitoring of larvae began (*Ent. Rec.* **103**: 287-292). In addition, a larva was found on one of several small bushes recently planted to increase the amount of foodplant available. At the single site in Dorset plans are underway for planting of additional home-grown wild Barberry *Berberis vulgaris* bushes, to link existing bushes and increase the effective size of the site. The single traditional site in Suffolk produced a negative result during surveys for larvae. The rest of the currently known native sites for this moth are in Wiltshire where plans for large-scale planting of wild Barberry alongside occupied bushes are being negotiated and where new stands of the plant have already been established. There are between six and nine known sites in Wiltshire, depending on whether a site is defined as a group of bushes or a larger locality. Results of larval monitoring at these sites were mixed. Some produced good densities of larvae, others produced blank results. On bushes which had been flailed in early September when larvae were feeding, the density was only one fortieth of that on nearby unflailed hedges and of that found on the same bushes in previous years prior to flailing. However, trimmed bushes generally have higher densities of larvae than untrimmed, provided they are trimmed late in the year, after the larvae have pupated beneath them. It appears that for many years the hedgerows in the Wiltshire sites, which predominantly surround fields of cattle or sheep, have been cut in November or later, which suits the moth. In this region in recent years there has been a change to arable farming, which has affected some of the sites with Barberry bushes. At these, the hedges are being trimmed after the harvest and just before the new crop is sown, which tends to be in late August or early September when the second generation of larvae are feeding.

Next, the establishment sites. The population at the main establishment site in Wiltshire is still doing well several generations after the releases of larvae and adults in 1998 and 1999. In addition, about one hundred captive-bred larvae of a different Wiltshire strain were released into the site in 2002 with the aim of widening the gene pool to offset potential inbreeding effects in the future. However, unlike in 2001 no larvae were seen in 2002 at another Wiltshire site into which occupied bushes had been translocated in February 2001, prior to the destruction of most of the donor site by mineral extraction. A population released into an unoccupied site in Suffolk has survived for two generations, as has one in Northamptonshire, where additional bushes have been planted. A release site in Lincolnshire produced negative results in 2002, but it would be premature to

conclude that this population had been lost. Hopefully all native and establishment sites will continue to be monitored in 2003.

Black-veined Moth *Siona lineata* (Scopoli)

Four sites currently support breeding populations of the Black-veined Moth. All are rough chalk grassland in Kent. The best news is that the population of one has definitely survived an instance of winter flailing which took place in February 2001 (*British Wildlife* 13: 439-440). Three adults, including two females laying eggs, were seen there on 17 June 2002 by Sean Clancy. In 2000, up to eleven individuals had been seen on a single visit, but in June 2001 none was seen in any of the five weekly searches. There are concerns related to less than ideal management on two of the other three sites. The third is suffering from the effects of a fire in February 2001, which has promoted rapid domination of the larval foodplants by Tor Grass *Brachypodium pinnatum*. Light grazing and cutting of part of the site is planned to reverse this, with other parts of the site protected by fencing until the outcome has been assessed. No adults were seen on two additional sites in Kent where small numbers of the moth have been recorded occasionally in the last five years, one of which is an establishment site. However, only single visits were made during the appropriate flight period in 2002.

Bright Wave *Idaea ochrata* (Scopoli)

Numbers of Bright Wave seen on the various parts of the stretch of coastal grassland and shingle at Sandwich were down again, as in 2001. The condition of rough areas where the moth breeds has deteriorated, with a thatch of dry grasses dominating areas that were rich in herbs only three years ago. Management is required to restore these areas. Population densities remain higher where this habitat meets the sparsely vegetated shingle in which proliferation of grasses and other coarse vegetation has not taken place.

The continued existence of a population of the Bright Wave at Kingsdown, some four kilometres south of the Sandwich population, was confirmed by the author and Sean Clancy, with the sighting of at least six of individuals on 26 June 2002. A local recorder, Nigel Jarman, noted the moth there in 2000 and 2001 and it was reported previously in the same area by Andrew Foster. The habitat is very different from the occupied ground at Sandwich, containing many tall ruderal plants on shingle, such as Ox-eye Daisies *Leucanthemum vulgare*, Red Valerian *Centrauthus ruber* and Great Mullein *Verbascum thapsus* amongst Hop Trefoil *Trefolium campestre*, Bird's-foot Trefoil *Lotus corniculatus*, Kidney-vetch *Anthyllis vulneraria* and bedstraws *Galium* spp. with many small patches of bare ground within the vegetation. On 9 July 1998 the author searched the nearby vegetated shingle and cliffs to the Kingsdown Golf Course without seeing the moth. The golf course appears too intensively managed to support the moth, but around the edges there were a few very small amounts of habitat like that occupied at Sandwich.

A population of the Bright Wave was also confirmed on the north shore of Pegwell Bay in 2002 with the sighting of six by Sean Clancy on 4 July. Over a dozen were

seen there by Francis Solly on 27 June 2000. A search by Ian Ferguson and the author on 4 July 2001 had proved negative despite very hot sunny weather, but parts of the habitat looked suitable and further searches on slightly earlier dates were recommended.

Although the Bright Wave may be seen as late as the third week in July, the first individuals emerge from the third week of June. It is best to have searches underway by the last week in June because in some years numbers build to a peak quickly and may fall off as quickly in early July.

No adult moths were seen in 2002 on the site further south on the Kent coast into which seven gravid wild females were released by the author on 3 July 2001, by special arrangement with the landowners and English Nature. This was despite inspection of the site by the author and Sean Clancy on 26 June 2002 and by Sean again on 29 June, 2, 10, 11 and 15 July. The site will be inspected again in 2003.

Dark Bordered Beauty *Epione vespertaria* (L) (= *parallelaria* (D.& S.))

A minimum of thirteen adults, including four females, were seen at Strensall Common, Yorkshire, on 27 July 2002, during a joint field meeting between Butterfly Conservation, the British Entomological and Natural History Society and the Yorkshire Naturalists' Union (*British Wildlife* **14**: 133-134). The moths were on both the Yorkshire Wildlife Trust reserve and the Ministry of Defence land, but were only seen in some parts of the latter. Further areas remain to be searched. Notes were made and photographs taken of the habitat, for comparison with the condition of the three known sites for this moth in Scotland. No Dark Bordered Beauty were seen at Newham Bog, Northumberland, in several visits including three by the author, on 28 and 29 July and 8 August. Newham Bog is the second of only two sites currently known to support the moth in England. It now appears that none was seen at Newham Bog in 2001, but precautions against the spread of Foot & Mouth Disease largely prevented access to the site that year. In the last couple of years Newham Bog has become a much wetter site, with standing water in the breeding areas for longer (Phil Davey, Site Manager, pers. comm.). This may be implicated in the apparent rarity of the moth on the site. Previously several adults could be seen on a single day-time visit. It is now a matter of urgency that the moth is refound on the site and its egg-laying, larval habits and major causes of mortality studied in this situation. A search of a quarry site in Upper Teesdale, Co. Durham was made on 29 July by the author, Alan and Jeri Coates and others, with negative results. This is now believed to be the site in which a singleton was collected by Ian Findlay on 13 August 1976.

Butterfly Conservation, the Royal Society for the Protection of Birds and Scottish Natural Heritage have continued to support work on the Dark Bordered Beauty in its sites Scotland. This is being reported elsewhere.

Four-spotted *Tyta luctuosa* (D.& S.)

The major news of 2002 was the sighting of a minimum of sixty-four moths at a site in Lincolnshire on 8 June (*British Wildlife* **14**: 58). The moth has been known from

this site since the 1980s, but has never been recorded in such numbers here previously. This may be only because visits may not have coincided with peak season and a systematic survey has not been attempted previously. Until this result, only Portland, Dorset, and a site near Peterborough, Northamptonshire, were known to support populations of comparable size in recent years. The moth appears to have dwindled at the other British sites which supported good numbers in the 1980s, but still turns up in small numbers, or more frequently as singletons, in several counties each year, suggesting that there are populations awaiting discovery.

At the Peterborough site the numbers seen were higher in 2002 than in 2001, coincident with an adjustment to the timing of an annual cut and scrape of the vegetation on an important part of the breeding area to maintain a water-course. In 2000, the management took place between 9 and 14 July, when the wild larvae were partly grown. In 2001, the scraping was less severe and took place between 1 and 7 August, by which time many larvae should have pupated below ground.

The moth started to emerge at the Peterborough site earlier in May 2002 than in May 2001 and the peak numbers were seen earlier, but the flight season still continued into early July as in 2001. Four individuals of a partial second generation were seen in 2002 compared to two in 2001, and they were in late July rather than early August. Two training sessions were held on site for Robin Field and Butterfly Conservation's Cambridgeshire and Essex Branch to show members the habits of the moth in the adult and larval stages to assist survey work at other sites.

On Portland, the moth was not seen in May and only in numbers in mid-late July (Martin Cade). On the basis of the dates and the southerly location, it is assumed that the first generation was very poor, but that there was a larger, second generation, which seems to be the usual pattern at this site. However, it is possible that the emergence of some adults may be delayed at this site, for reasons as yet unknown.

A site in Essex where an adult was seen on 21 July 2000 was explored on a single visit on 1 July 2002, without success, but nearby habitat looked promising and the locality merits further visits. Occupied sites were also visited in Oxfordshire and Bedfordshire to examine the habitat and management requirements. A larva was found during a nocturnal search at the Bedfordshire site on 12 July. A single Four-spotted moth was seen by day at a second site in Northamptonshire on 14 June. Other records for 2002 are currently being gathered together for a report and all information will be gratefully received.

Marsh Moth *Athetis pallustris* (Hb.)

In 2002, the Marsh Moth emerged very early at its single known current British site, on the Lincolnshire coast. It was virtually over on 7 June when James McGill and the author operated nine m.v. light-traps and recorded just two worn males. This contrasts with 12 June 2001, when nine individuals, some in good condition, were captured in just two mv traps. The early emergence was unfortunate, because a BENHS field meeting had been carefully arranged for 8 June to search for the moth at Red Farm Flash, slightly further north along the coast, in similar habitat. Sixteen light-traps were operated, each catching 70-100 macro-moths, and 53 species were

seen, but no Marsh Moths. Seacroft Golf Course adjacent to Gibraltar Point Nature Reserve was explored with light-traps by Adrian Russel and Ron Follows on 6 June with negative results the night before the two worn males were seen at the known site. Both sites merit further survey.

No Marsh Moth larvae were seen in 2002 during surveys using the litter-pile technique at the known site and at Gibraltar Point. The complete lack of success in finding the moth at Gibraltar Point, despite searches for adults and larvae in 2001 and 2002, is now a cause for concern. In the 1970s, Rick Pilcher was able to find the moth easily and in numbers on various parts of the site using a single actinic light-trap.

Reddish Buff *Acosmetia caliginosa* (Hb.)

The breeding grounds of the only surviving native British population, on the Isle of Wight, involve a number of owners. During 2002, the Hampshire & Isle of Wight Wildlife Trust completed protracted negotiations and became the new owners of the largest portion. Also during 2002, virtually the entire breeding area was notified by English Nature as a Site of Special Scientific Interest. These measures are intended to secure the future of the last remaining British site for the moth for posterity. Until the Hampshire & Isle of Wight Wildlife Trust secured ownership, there was a real possibility of that portion of the site falling into unsympathetic hands. The SSSI notification was considered necessary for various reasons, including the bull-dozing of a small part of the site by one of the owners who has since planted it with grass, removing any chance of it supporting the moth.

The Reddish Buff was seen in good numbers in 2002. The moths were well on the wing on 3 June at the start of the author's first visit and on 4 June six were seen by day (a personal best) and the same night there were eight in one Robinson trap (the best over the last fifteen years is 14 in one trap). Individuals were still on the wing and in good condition when the site was light-trapped again on 18 June.

Heavy rain marred a light-trapping session on 5 June to see if any adults had been produced from larvae released in 2001 as part of an English Nature authorised establishment attempt on a site in the New Forest, Hampshire. It is likely that an establishment attempt at a second site on the mainland has failed, following several years of negative monitoring results. If so, the reason is almost certainly poor weather and less than ideal management during the years the moth was released. A few moths succeeded in breeding because larvae were found subsequently. Management knowledge and capability on site has now been improved and the site merits further establishment attempts.

Square-spotted Clay *Xestia rhomboidea* (Esper)

More work was done on the Square-spotted Clay in 2002 than in the previous hundred years. Apart from one individual swept by chance 50 years ago, the larva of this moth has probably never been found in the wild in Britain, and certainly not studied. Independent nocturnal searches were made in spring 2002 in Norfolk by Gerry Haggett (*Atropos* **17**: 41-44) and in Cambridgeshire and Northamptonshire by the author, Robin Field et al. (*British Wildlife* **13**: 361-362, *Atropos* **17**: 37-41)

resulting in the finding of post-winter larvae feeding on leaves of Nettle *Urtica dioica* and Oxlip *Primula elatior* and the documenting of breeding situations to inform management. Studies began on the behaviour of the adults in the summer (see *British Wildlife* **14**: 134). Although the adults visit flowers for nectar from dusk, it was found that they only come to light-traps in numbers late at night. Consequently all-night trapping is advised. Two females were seen on the wing deep in woodland, flying slowly as if interested in egg-laying. One was flying around the leaves of Small-leaved Elm *Ulmus minor*, the other beneath them nearer to nettles. Subsequently, Ruth Edwards and Jenny Joy found five eggs on Small-leaved Elm leaves at another site. One egg was collected and sent to the author. It was an exact match to eggs laid in captivity, but it did not hatch. Further work is necessary to confirm that females lay at least some of their eggs on elms and to find out if other tree species are used. Newly hatched and older captive larvae accepted leaves of Small-leaved Elm and grew as quickly on these as on Nettle, but selected the latter when given the choice both in batches reared by Ruth Edwards and by the author.

During 2002, the moth was found on a number of sites from which it had not previously been recorded and as in 2001 it was the target for a BENHS field meeting.

It is clear from both the fieldwork and examination of sites with older records that this moth is not dependent on coppicing and its decline and loss from Hampshire is probably due to some other cause. If the cause is climate change, it is likely that the moth is declining in other western parts of its distribution, such as in Oxfordshire, where it was distinctly local in the late 1970s (*Atropos* **17**: 44-45). This should be investigated by reviewing recent records and, if necessary, revisiting former sites with light-traps. The moth appears to be holding its own and even increasing its range in parts of eastern England, based on recent data. Its status in the north and far west of its range, including parts of Scotland and Wales, appears much less well known and needs investigation. Some of the records are in doubt. The moth has been rediscovered in Derbyshire after many years (*Ent. Rec.* **114**: 161).

White-spotted Pinion *Cosmia diffinis* (L.)

Larval searches during 2002 produced further information on breeding habits, and the first records of larvae from several sites in Huntingdonshire and Cambridgeshire. Rates of parasitism in penultimate instar larvae were found to be high (two out of three larvae, or 67%), as in 2000. The tachinid fly *Eumea linearicornis* (Zett.) (det. John Chainey) was reared again, as in 2000 (*Ent. Rec.* **113**: 135-138) as was a wasp *Homolobus annulicornis* (Nees) (Braconidae - Homolobinae) (det. Mark Shaw). The latter (misidentified as *H. testaceator* in British literature) is widespread in Britain, but rather rare. It has been recorded from various noctuid larvae including the Lead-coloured Drab *Orthosia populeti*, Dingy Shears *Parastichtis ypsilon* and Double Square-spot *Xestia triangulum*. The wasp reared previously (in 2000) was *Meteorus gyrator* (Thunb.) (Braconidae - Meteorinae) (*Ent. Rec.* **113**: 135-138). Larvae were found in a shelterbelt as well as deep in woodland. So far they have been found on English Elm *Ulmus procera* and Small-leaved Elm *U. minor* but not on Wych Elm *U. glabra*, though this is a reported foodplant in the literature.

The various known sites in Huntingdonshire were monitored for adults by Barry Dickerson and members of the Huntingdonshire Moth and Butterfly Group and numbers seen per trap-night were up on recent years. Ruth Edwards also had good numbers at her home site in Cambridgeshire. However, neither were fortunate enough to trap a gravid female so no eggs were available for planned rearing experiments using various elm species in different situations. Overhall Grove, Cambridgeshire, was light-trapped on 13 August 2002 by David Green, Will Kirby, James McGill and Bill Urwin, using ten light-traps and recording 42 White-spotted Pinion, all males. The distribution of males in the various traps showed that the moths were flying near most of the elm, on the edges of the wood and within and around young trees about five metres tall as well as taller, more mature examples.

Searches were also made in the woodlands immediately to the west and north of the known sites. An adult moth was light-trapped in a Bedfordshire garden by John Day. However light-trapping by the author, Charles Baker, John Comont, David Manning and Tony Smith on 13 August in Great Early Grove, Renhold, produced none. Great Early Grove has a large amount of elm and was considered one of the most promising sites in Bedfordshire. The author stayed all night with two Robinson traps. The Lesser-spotted Pinion *Cosmia affinis* was frequent, with a total of nine in the two traps. Other promising sites in Bedfordshire have been identified for future exploration. A further search and trap-night at Oxy Wood on the Milton Estate, Northamptonshire, in a wood full of Wych Elm, produced no White-spotted Pinion but the first Square-spotted Clay ever to be recorded on the site.

The White-spotted Pinion is at last being found again in Essex (Brian Goodey, pers. comm.). It was reported from two Essex sites in 2002, Chalkney Wood, Earls Colne, on 17 August 2002 (Dave Warner, Joe Firmin, Ian Rose) and Langenhoe, 19 August (Hugh Owen, Ian Rose, Joe Firmin). Other recent Essex records include singles from Saffron Walden in 1997 (Maitland Emmet). Reg Fry reports that many of the elms at the fenced gravel-pit in which he recorded the moth at Brightlingsea, Essex, in the early 1980s, have been felled.

In addition to all the individuals and organisations named above, I would like to thank all the private land-owners of the many sites involved and the following organisations for their help: Bedfordshire County Council*, British Entomological and Natural History Society, Butterfly Conservation (National* and Cambridgeshire and Essex Branch*), Cambridgeshire County Council*, the Environment Agency*, English Nature*, Forestry Commission, Kent Wildlife Trust, Lincolnshire Wildlife Trust, Ministry of Defence, Peterborough City Council*, Sandwich Bay Bird Observatory, Yorkshire Naturalists' Union and Writtle College. An asterisk (*) indicates that the help included financial support. Most of the work was conducted as part of the English Nature Species Recovery Programme, with David Sheppard as nominated officer, or the Butterfly Conservation "Action for Threatened Moths Project" with Mark Parsons and David Green as the Moth Officers, to whom the author is most grateful for their continued support.— PAUL WARING, 1366 Lincoln Road, Werrington, Peterborough, PE4 6LS (E-mail: paul_waring@btinternet.com).

The Horse Chestnut Leaf Miner *Cameraria ohridella* Deschka & Dimic (Lep.: Gracillariidae) in North Oxford in 2003

The Horse Chestnut Leaf Miner *Cameraria ohridella* was first reported in 1984 from near Lake Ohrid in Macedonia, and was described as a species new to science in 1986. Since that time, it has become a significant pest of horse chestnut trees *Aesculus hippocastanum* and has spread through much of Europe, with reports claiming that "in some countries such as Austria or the Czech Republic, the moth has infested virtually every single horse-chestnut tree" (un-refereed web site comment). There can be up to four or five generations per year in hot climates and numbers can increase ten-fold in each generation under natural conditions, so highly-visible browning of the leaves soon appears, leading to complete defoliation in extreme cases. As a result, the moth has attracted considerable attention from the public as well as from entomologists, and an internet search reveals hundreds of web sites devoted to it; at the time of writing, there is an European Community-funded programme aimed at its control to be found at www.cameraria.de/index_e.php.

The moth was first detected in Britain in July 2002 by Marian Comfort in her Wimbledon garden, and the Forestry Commission "Exotic Pest Alert" devoted to it confirms that it was present in the same area in May 2003, so it appears to have established itself in the country. Its spread has been discussed by Parliament and, according to their records (*Hansard*, 15 October 2002), pheromone traps placed at selected ports and towns in the south of England have failed to detect it outside the Wimbledon area, but "further spread is considered inevitable". Towards the end of July 2003, I noticed a few leaf mines on horse chestnut trees in Oxford (OS grid reference SP5108), and sent examples to the Forestry Commission where they were confirmed by Nigel Straw as being caused by *C. ohridella*. I therefore surveyed trees in the vicinity of the initial observation in early August. Of one hundred nearby horse chestnut trees, mines were detected on ten. The most heavily affected tree contained one or more mines in most leaves, although the density was not sufficient to make it look brown from a distance. Another five trees showed many mines, and on the remaining four trees only one or two mines were seen. The infected trees show a striking geographical pattern, forming a cluster around the most heavily affected one, suggesting spread from a single source. Examination of another 66 horse chestnut trees outside the area of the map at distances of up to eight miles (13 km) away did not reveal any additional mines. It therefore seems likely that the moth has arrived recently in this area, and has just begun to spread. Its favoured host is the white-flowered horse chestnut *Aesculus hippocastanum* and all the mined trees were of this type. There appear to be many suitable trees in the neighbourhood, so these early observations provide an opportunity to monitor the likely spread of the species in this locality. The origin of the Oxford moths is unclear, but the occurrence of the moth so far inland, away from obvious sources, suggests that it may be worth searching it for throughout the country.— CHRIS TYLER-SMITH, Northview, North Lane, Weston-on-the-Green, Bicester, Oxon OX25 3RG.

A partly successful attempt at rearing *Dahlica inconspicuella* (Stt.) (Lep.: Psychidae)

Following an unsuccessful attempt at rearing the bagworm moth *Dahlica inconspicuella* during 2001/2 (*Ent. Rec.* **114**: 141-143), during which all larvae were lost either during their third instar due to starvation, or while overwintering due to desiccation or mould, a second attempt at rearing this species was undertaken in 2002/3. As reported previously, the late Dennis O'Keeffe sent me some pupal cases from the Dungeness site in February 2002. By 7 March, 20 adults (seven males and fourteen females) had hatched, and these produced larvae later that month. This second batch of larvae were initially reared as before, i.e. indoors in boxes containing a layer of *John Innes* Potting Compost. They were fed the same sort of diet as before, i.e. fresh dead insects to instar three, but this time the lichen *Xanthoria parietina* was provided at this point and most went on to feed on this successfully. As previously, they were also given periodic light sprays with water to prevent desiccation.

This time, larval survival was good, with about 300 (75%) making it through their third instar and the dietary transition that occurs at this point in their life cycle. This was one point where high losses occurred during my original rearing of this species in 2001. Unfortunately, then it took some time to appreciate this change in dietary requirement had occurred and many larvae starved in the meantime.

Having made this transition successfully about 260 (65%) survived to their final (fifth) instar. They began to ascend the walls of their culture vessels at the end of August and I was hopeful that significant numbers could be successfully reared the following spring as I had an alternative plan for overwintering them.

Perhaps the most critical period for losses during the original rearing was the overwintering of full-grown larvae. Last time this was attempted by keeping the larvae indoors in an unheated room. For this, they were left in their culture vessels where they had loosely fixed their cases to the lids, and sprayed periodically. Using this method, losses were total, with desiccation and mould being the chief problems encountered. For this reason, and following advice from Uwe Widowski, who had had some success rearing larvae from the original batch I sent him in November 2001, I adopted a different approach to overwintering these larvae. In the past I have had some success overwintering single-brooded Nepticulidae by placing autumnal mines in earthenware flower-pots containing a layer of *John Innes* Potting Compost and sphagnum moss. These pots are then covered with a sheet of polythene and sunk to their shoulders in the garden (*Ent. Rec.* **110**, 251-252). If these are left undisturbed over the winter and brought indoors at various times during the spring/early summer, adults emerge with variable success rates. This was the method I adopted for overwintering my second batch of *D. inconspicuella* larvae. On 25 October I placed two large flower-pots, each containing about 130 larvae, in a recently dug border under an east facing fence. The pots were covered with clear polythene sheet tightly tied with string. Clear polythene was used as it enables periodic inspection of the pot contents during the winter months without disturbance. The pots also contained bark

with growths of *X. parietina* as food for the larvae, and some old roofing felt to provide them with cover and a substrate to fix their cases under.

On 14 February 2003 the flower-pots were lifted and about 150 (80 and 71) live (mobile) larvae removed, placed in culture vessels and brought indoors for pupation and emergence. Success I thought. However, from these only three males and two females emerged, the males between 4 and 6 March and the females between 9 and 13 March. The remaining cases were opened on 22 March and their contents found to have died before or after pupation. This was apparently due to desiccation, despite periodic water spraying during this period. I suspect that they were brought indoors too early, as they were still perambulating and had not fixed their cases for pupation.

It appears that that this species, and I suspect *D. lichenella*, is very sensitive to humidity. Uwe has also come to the same conclusion and says that members of this genus are notoriously hard to culture. Consequently, if attempting to rear this psychid I would suggest using large flower-pots for overwintering larvae, in an attempt to provide a range of micro-climates. Also, avoid excessive moisture by ensuring the ground used for sinking the flower-pots is well drained and leave the pots *in-situ* until at least the end of February or the middle of March. Just goes to show that you shouldn't count your bagmoths before their hatched.— IAN SIMS, 2 The Delph, Lower Earley, Reading, Berkshire, RG6 3AN. (E-mail: Sims@wrcplc.co.uk)

***Pyrausta aurata* (Scop.) (Lep.: Pyralidae) in Staffordshire**

The pyralid *Pyrausta aurata* has always been a locally uncommon moth in Staffordshire, and is patchily distributed in the rest of England, Wales, southern Scotland to the Inner Hebrides and in the Channel Islands (Goater, 1986. *British Pyralid Moths*). The larvae are associated with *Mentha*, *Calamintha*, *Salvia* and *Origanum vulgare*. There are very few Staffordshire records of the moth. The earliest are from Dovedale (H. W. Daltry, given in the *Victoria County History*) and then later there are records from the Manifold Valley by the late Richard Warren who noted it (1988. *The smaller moths of Staffordshire*) as more common on the limestone than elsewhere in the county. Subsequent records are from gardens, at light traps – one at Springfields in 1977 (R. G. Warren and D. W. Emley), one at Stone in 2000 (D. W. Emley) and one at Acton Trussel in 2000 (S. Phipps). Subsequently, one landed on the head of my friend R. H. Heath in his garden at Meir, at around midnight on the warm, humid night of 14 August 2002. I quickly boxed it for examination. Mr Heath grows cultivated mint in his garden, but there is also some Water Mint *Mentha aquatica*, which originated at the River Blythe, and may be the source? This small pyralid moth is possibly rather more widespread in Staffordshire than the records suggest.

I thank Keith Bloor and Don Steward, Keepers of Natural History at the Potteries Museum, who saw the living specimen and also David Emley (Staffordshire Lepidoptera Recorder) and Craig Slawson for distribution records.— JAN KORYSZKO, 3 Dudley Place, Meir, Stoke-on-Trent, Staffordshire ST3 7AY.

The names of Engrailed moths (Geometridae)

In the last issue Bob Palmer and Philip Gould (*antea* p. 153) refer briefly to a difference of opinion about the status of the Engrailed moth and the Small Engrailed moth.

When I have discussed this with Geometridae specialists they have acknowledged that in Britain and some other parts of northern Europe the taxon which is described in British literature as *Ectropis crepuscularia* (Denis & Schiffermüller), the Small Engrailed moth is different from the double brooded taxon known in British literature as *E. bistortata* (Goeze). However, in most of Continental Europe, only the one taxon occurs which is the commoner Engrailed moth.

The name *crepuscularia* was described from the Vienna district so this must be the same species which we in Britain have called *bistortata*. Denis & Schiffermüller's collection was destroyed by fire so there is no type specimen available. Goeze was mostly giving names to species described by others, so again there is no type specimen of *bistortata*, but since this was also from Continental Europe it is certain to be the same species. Continental authors are therefore correct in stating that *bistortata* (Goeze, 1783) is a junior synonym of *crepuscularia* (Denis & Schiffermüller, 1775).

If the taxon known in Britain as the Small Engrailed is a distinct species, then it needs a different scientific name. Mark Parsons and I went through all the names used in this species group, especially those described from Britain: *strigularia* Stephens, 1831 and *laricaria* Doubleday, 1847. It was clear that all refer to the same taxon, *crepuscularia*, the Engrailed moth, and should be listed in the synonymy of that species.

What is needed is a geometrid specialist to explore the case for specific status, using molecular methods if possible, and if the Small Engrailed moth is proven to be a good species a new scientific name should be used. Neither *crepuscularia* nor *bistortata* will be available.— DAVID J. L. AGASSIZ, The Natural History Museum, Cromwell Road, London SW7 5BD.

Vanessa cardui (L.) (Lep.: Nymphalidae) reared from *Borago officinalis*

I had the opportunity of exploring the insects of some arable weed fields at West Pentire, Crantock (O.S. grid reference SW 7760) on 11.vii.2003. Sweep-netting amongst borage *Borago officinalis* and bugloss *Anchusa arvensis* produced a single caterpillar of *Vanessa cardui*. I kept it in a container with some *Borago* leaves and it ate its way through them fairly quickly, and did not feed on any of a wide range of alternative plant foliage provided. It pupated a few days later and the butterfly emerged by 1.viii.2003. Butterfly books often mention vipers bugloss *Echium vulgare* as an occasional foodplant, but I have found no mention of any other Boraginaceae.— KEITH N. A. ALEXANDER, 59 Sweetbrier Lane, Heavitree, Exeter EX1 3AQ.

Acrolepiopsis marcidella (Curtis) (Lep.: Yponomeutidae) and other microlepidoptera on Guernsey and Sark

Phil Sterling's short stay on Guernsey from 30 May to 1 June 2003 yielded much of entomological interest on both Guernsey and Sark. Several species new to Guernsey were identified (either in the field or from previously set specimens and genitalia preparations) and a day on Sark produced a list of 40 species, 27 of which had not previously been recorded from that island. The first of these, *Scrobipalpa samadensis*, was found within minutes of landing on the island in the toilets next to the harbour.

In a telephone conversation planning what we might do during his visit, I had suggested to Phil that we could perhaps look for cases of *Bankesia douglasii*. This he was more than willing to do but felt that in light of a recent paper (Sattler, K., Shaffer, M., 2002. Notes on British Psychidae (Lepidoptera). *Entomologist's Gaz.*, **53**:239-242), which discusses the confusion between *Bankesia douglasii* and *Bankesia conspurcatella*, we should first establish which of the two species was present on Guernsey as it is *conspurcatella*, rather than *douglasii*, that is now known to be present on Jersey. I therefore sent Phil the abdomen from each of the four specimens in my collection for dissection and he was quickly able to establish that they were in fact all *conspurcatella*. My interest in this species arose because although (what I now know to be) *conspurcatella* is locally not uncommon early in the year, when adults can be seen flying in the early morning sun as well as in light traps and even at the light of my kitchen window, the cases, as far as I know, had never been found on Guernsey. Nevertheless, they were soon discovered in three places: Petit Bot, a wooded valley on the south coast of Guernsey; Harbour Hill on Sark; and at the top of our garden behind the greenhouse! In each case the location was similar: a dark and virtually sunless position which was damp but which appeared to dry out occasionally. At Petit Bot and in our garden, the cases were found on an old dry stone wall where the soil between the large irregular stones had been washed away to leave a cavity. They were attached to the underside of the overhanging stone and immediately above that stone there were dead leaves, loose soil and general detritus. On Sark the cases were found in a similar situation but on an unrendered breezeblock wall. At this time of year the cases were empty.

The most interesting species, and one that Phil suspected might be present on the island, was *Acrolepiopsis marcidella* which was found at Petit Bot when a single adult moth was beaten from a clump of Butcher's Broom (*Ruscus aculeatus*), a plant frequently encountered on the south of the island. This moth has a curious life history with the newly hatched larva first mining the cladode on which the egg was laid, then feeding on the growing tip of a shoot, before completing its feeding in a berry (Sterling, P.H., Langmaid, J.R., 1998. The life history of *Acrolepiopsis marcidella* (Curtis) (Lepidoptera: Yponomeutidae). *Entomologist's Gaz.*, **49**:151-154.)

On our return from Petit Bot my wife Pat presented Phil with a moth she had found sitting on Pellitory (*Parietaria judaica*) in our garden. Phil was able to confirm her provisional identification of *Cosmopterix pulchrimella* and on being

shown the plant on which it had been discovered, immediately found some early mines. Adult moths of this species had been reared from mines found in our garden, and elsewhere in Guernsey, last year (Sterling, P.H., Costen, P.D.M., Austin, R.A., in press. *Cosmopterix pulchriiella* Chambers, 1875 [Lepidoptera: Cosmopterigidae] resident in the Channel Islands. *Entomologist's Gaz.*) and it was a particular pleasure to see that this beautiful but tiny moth had survived a winter here in which temperatures had on occasions been unusually low. It would appear that moths hatch during the late autumn and winter and remain as adults until May when egg-laying begins. Larvae are then found during the summer months with a generation of adults in late summer and early autumn, followed by another generation of larvae in the middle of autumn.

The night temperatures during Phil's visit were favourable for moths and on the morning of 31 May he took two specimens of a *Biselachista* species, one at each of the mercury vapour and actinic traps we ran in the garden, and these he subsequently identified as *Biselachista eleochariella*. On visiting the wetland near to me at La Claire Mare on the evening of 1 June he found a further specimen, suggesting that the species may be breeding there. *Biselachista eleochariella* is a local species in the British Isles, especially in the south, and this appears to be a new record for the Channel Islands.

No note about Guernsey moths is complete without the mention of W.A. Luff who in late Victorian times recorded over 450 species on Guernsey and Sark. And no Guernsey entomological expedition is complete without a search for the cases of *Luffia lapidella* the eponymous generic name of which was given in his honour by the founder of this journal. In contrast to those of *couspurcatella*, the habitat requirements of *lapidella* seemed far less specific and cases were found on many lichen-covered granite walls on Guernsey and Sark, both inland and on the coast, and in far greater numbers than those of *couspurcatella*.

A list of new records for the Channel Islands (VC 113) will appear subsequently in this journal in the annual Microlepidoptera Review, and fuller lists of all the species found in the *Report and Transactions of La Société Guernesiaise*.

I am grateful to Phil Sterling for the interest he shows in the moths of Guernsey and for the help and encouragement he continues to give me personally, not least in my attempts to understand the life cycle of *pulchriiella*.— P. D. M. COSTEN, La Broderie, La Claire Mare, St Peters, Guernsey, GY7 9QA. (E-mail: pcosten@guernsey.net)

Argyresthia trifasciata Staudinger (Lep: Yponomeutidae) - new for Wales

On 31 May 2003, I was in North Wales, at the home of John Smith, a member of Butterfly Conservation who lives at Marford, near Wrexham, in Denbighshire (VC 50). John identifies the macro-moths that come to his garden trap, but has little enthusiasm for the "micros". Hence after emptying the trap I returned home with several live moths, including two of a tiny, unfamiliar, but highly distinctive

Argyresthia species. This proved to be *Argyresthia trifasciata*. I forwarded a specimen to David Slade at the National Museum of Wales with the view that as this appeared to be a first for Wales, he might like to lodge a specimen in the Museum collection. Dave contacted John Langmaid, who was able to confirm that there were no previous records for Wales. The foodplants of *A. trifasciata* are Junipers *Juniperus* spp., Cedars *Thuja* spp., Cypresses *Chamaecyparis* spp. and *Cupressocyparis leylandii*. John Smith confirmed on the telephone that both cultivated Junipers and Cypresses are present in his own and adjacent gardens, but was unable to say whether any are recently planted examples that might have come from nurseries at some distance in Britain or indeed, from abroad. He also told me that only days after informing county recorder Bryan Formstone about the capture of *trifasciata*, Bryan contacted him to say that he too had captured a specimen of *trifasciata* in his garden, approximately half a mile from the site of the first captures.— MARTIN J. WHITE, 58 Victoria Quay, Maritime Quarter, Swansea SA1 3XG.

***Mompha langiella* (Hb.) (Lep:Momphidae) – the first records for North Hampshire, VC12**

In July 2003, John Robbins (Porlock) had been helping RE to identify *Mompha* mines on willow-herbs, which had been found locally in Fleet. Leaves of Broad-leaved Willow-herb *Epilobium montanum* had been mined by *Mompha locupletella*, but also, John suspected, by *M. langiella*. He advised finding occupied mines or cocoons and breeding through for confirmation.

This was a small problem, as some of the leaves had been taken from plants growing on the utility room roof of RE's house! They had been watered by a faulty overflow, which had been repaired and the plants had withered. He collected some cocoons on 18 July 2003 from these shrivelled plants and labelled them "*locupletella?*" Another few cocoons were taken on 19 July 2003, from another local *Epilobium montanum* plant, where *langiella* was also a suspected miner and labelled "*langiella?*" A few of each of these cocoons were then posted to IK, for breeding through.

A specimen of *M. langiella* emerged from the "*locupletella?*" batch in the post and IK had subsequent emergences on 25 and 31 July. RE had *M. langiella* emerge from this batch on 28 July, with two emergences from the "*langiella?*" batch on 5 August. From the leaves examined locally it seems that *M. langiella* was more numerous than *M. locupletella* and that they possibly occurred in mixed colonies but it will need careful examination of the willow-herbs during the coming season to establish this.

We very grateful to John Langmaid for confirming the identity of these moths, which we believe are the first examples for VC12.— ROB EDMUNDS, 32 Woodcote Green, Calthorpe Park, Fleet, Hants, GU51 4EY (E-mail: redmunds@ntlworld.com) & IAN KIMBER, 6 Bank Close, Littleborough, Lancs, OL15 0DP (E-mail: ian@ukmoths.force9.co.uk).

A population of *Dahlica triquetrella* (Hb.) (Lep.: Psychidae) persisting in the Reading area

Last year I reported the presence of a colony of the bagworm moth *Dahlica triquetrella* at Lower Earley near Reading in Berkshire (*Ent. Rec.* **114**: 112-113). It was possible that the 17 larvae of this species found crawling on some local brick walls during the autumn of 2001 may have resulted from my rearing this species during 1997 and 1998. I had not seen it here during the previous decade, and speculated as to its persistence in subsequent years.

I can now report that greater numbers of larvae (24) were found on the same three lengths of walling during 2002, the first appearing on 23 August and the last on 4 November. Once again, larvae were found during periods of warm, dry and often sunny weather, between 09.00 and 20.30hrs. Other walls in the area were searched to ascertain the extent of this population, but so far it appears to be localised to these three walls alone. However, unlike 2001, larvae were found during the following winter and spring. Two were seen on 24 January and two on 31 January 2003. It was apparent that these individuals were no longer perambulating, as they had fixed their cases firmly to the brick surface ready for pupation.

Adult moths (15), emerged between the hours of 05.30 to 08.00 from 11 to 28 February 2003, and commenced ovipositing in their pupal cases in the manner described for this species (*Br. J. Ent. & Nat. Hist.* **12**:29-30). It is therefore apparent that a colony of this parthenogenetic moth now exists in the environs of Lower Early. No parasites were reared from these larvae, or from the larvae found during 2001. Further early instar larvae started to occur on the same walls during early August 2003.

I am unable to say for certain if this population is native to the Reading area or is an introduction. However, the absence of any parasites from reared examples tends to support the latter possibility, despite the extreme precautions taken to prevent this during the original 1997 and 98 rearings. Nevertheless, it is nice to think that the late Dennis O'Keeffe, who had an interest in this family of Lepidoptera, had a hand in the establishment this scarce species here by giving me the original material from his Orpington site that the moths were reared from in 1997 and 1998.— IAN SIMS, 2 The Delph, Lower Earley, Reading, Berkshire, RG6 3AN. (E-mail: Sims@wrcplc.co.uk)

***Acleris logiana* (Clerk) (Lep: Tortricidae) – the first North Hampshire, VC12, records**

On the evening of 26 January 2003, RE noticed a small, off-white moth about 10mm in length at one of the bedroom windows of his house. Not recognising it he took a photograph, by the light of a table lamp and posted it onto the Internet discussion group "UKMoths". John Langmaid suggested, subsequently, that it should be set and kept, as it could be an interesting moth. Ben Smart suggested that it was *Acleris logiana* (from looking at European moth websites).

This posed a problem as RE had no equipment for setting the moth, but help was at hand from Paul Boswell, who collected the moth and Tony Dobson, who not only set the moth, but also took it to John Langmaid for confirmation. John kindly confirmed its identity and this was the first time it had been recorded in VC12. Until John discovered this species in South Hampshire (VC 11) in 1992 (*Ent. Gaz* **44**: 154), it was a moth known only from the Highlands of Scotland. On 26 April 2003 a group of lepidopterists, including MW, were trapping in a wood at the edge of Hook Common. The evening started with a torrential downpour, just as the traps were set, but then cleared up to allow trapping. MW was searching the trunks of some oak trees when he found what proved to be another example of *A. logiaua* – the second for VC12. The identification was rapidly confirmed as Rob, Tony and Paul were by coincidence at the same event. Tony Dobson set this second specimen. Thanks are due to all those involved in the identification of these moths.– ROB EDMUNDS, 32 Woodcote Green, Calthorpe Park, Fleet, Hants, GU51 4EY (E-mail: r.edmunds@ntlworld.com) & MIKE WALL, 11 Waterloo Avenue, Basingstoke, Hants, RG23 8DL (E-mail: mike@bike2nature.co.uk).

Early butterfly dates in the Scottish Highlands in 2003

The April 2003 heat wave produced a number of early butterfly records in the Highlands. On 4 April a single Green-veined White *Pieris uapi* (L.) visited *Prinula dentata* flowers in our Muir of Ord garden. My previous earliest date was 9 April in 1974 at Torrin (O.S. grid reference NG 52) on the island of Skye.

The next day, 5 April, my wife and I visited Clash Wood (NH 507516), a local Scots pine and birch forest, as it seemed a likely habitat for the Kentish Glory. No *Endromis versicolora* (L.) were seen but, surprisingly, a female Common Blue *Polyommatus icarus icarus* (Rottemburg) was spotted sunning itself on the wide stony track at 12.50 GMT when the temperature was 18°C. After examining closely, it rose from the path and flew into the Scots pines. Quarter of an hour later and a couple of a hundred yards along the track, almost certainly another female was flying over the ling. I gave chase and had an excellent view of its upper-side as it came to rest on a young birch twig. This was an exceptionally early date for this species, my previous earliest being of a female on 30 May in 1968 at Ardmore (NC 15), NW Sutherland.

We visited the wood again on 7 and 10 April and later dates but did not see *icarus* here again until 25 June when a pair were visiting bird's-foot trefoil flowers in hot sunshine (temp. 23°C). However, we were rewarded on both the April dates with early male Green Hairstreaks *Callophrys rubi* (L.). My previous earliest date for this species was 23 April in 1974 at Elgol (NG 51) on Skye.

Also on 10 April at least three male and a female Orange-tip *Anthocharis cardamines* (L.) were found at Rosemarkie cliffs (NH 75) on the Black Isle, seventeen days before the previous earliest on 27 April in 1993 at Muir of Ord. The next occurrences were in our garden on 14 and 18 April, also early dates.

Single Red Admirals *Vanessa atalanta* (L.) were recorded on 14 and 17 April at Muir of Ord (NH 55) and Allt Grisean (NG 78) respectively, these being a month earlier than the previous earliest on 16 May in 1992 at Loch Broom, Ullapool (NH 18).

The Small Heath *Coenonympha pamphilus* (L.) made an appearance on 21 May at Kingussie (NH 70), Inverness-shire, three days earlier than the four noted in 1990 at Eathie (NH 76) on the Black Isle.

I think it is remarkable that, in forty years of recording in the Highlands, six species of butterfly should put in their earliest appearance in the year 2003. In addition, a naturalist friend, Sheila Mackay, had a Peacock *Nymphalis io* (L.) visiting primroses in her garden at Dingwall (NH 55) on 13 and 14 April. This was undoubtedly an overwintering specimen. This species is very rarely recorded in the north of Scotland, usually between June and October, but was noted at several localities around the Moray Firth in 2002.—DEREK C. HULME, Ord House Drive, Muir of Ord, Ross-shire IV6 7UQ.

***Chorosoma schillingi* (Hem.: Rhopalidae), new to Middlesex?**

On 8.viii.2000, I swept a specimen of this distinctive bug from a derelict and overgrown wharf on the River Thames at the outflow of 'Chelsea Creek' where it is overshadowed by the Lotts Road Power Station (O. S. grid reference TQ 265769). This is apparently the first record for Middlesex, vice-county 21.

Until the 1960s, *Chorosoma schillingi* was always regarded as a local coastal insect (apart from sites in the Breck) and was recorded from vice-counties Norfolk to Pembroke and Anglesey. It has recently been found increasingly at inland sites and since first being noted from Peterborough (Russell, W. E., 1967, *Ent. Gaz.* **19**:8), numerous notes have charted its apparent spread: e.g. Kirby, P., 1984, *Ent. Mon. Mag.* **120**: 177; Kirby, P., 1991, *Ent. Mon. Mag.* **127**: 250; Lane, S. A., 1988, *Ent. Mon. Mag.* **124**: 80; Nau, B.S., 1997, *Ent. Mon. Mag.* **133**: 261-262.

Many of these new localities are brownfield sites, including clay pits, gravel pits, sand quarries, railway cuttings, disused railway lines, chalk grassland, roads verges and grassy heathland (P. Kirby and D. Budworth, pers. comm.). Indeed, the last time I found this insect was on a scrappy railway embankment of the District Line at East Ham (TQ 425844, VC18, South Essex) on 8.vii.1999.

Recently, finding *Chorosoma* may have lost some of its novelty among hemipterists, and further inland records have perhaps not been published. However, there is very good evidence that the bug has not yet been found in land-locked Surrey (VC 17) or Middlesex (VC21). There is an active recording scheme for Pentatomoidea and Coreoidea (including Rhopalidae), in Surrey, for the forthcoming Surrey Wildlife Trust atlas, and no record is yet listed (R.D. Hawkins, pers. comm.). The Chelsea Creek locality is only the width of the Thames (about 200 metres) from Surrey, so it quite likely that it will eventually be found south of the Thames too, probably on a similar brownfield site.—RICHARD A. JONES, 135 Friern Road, East Dulwich, London SE22 0AZ (email: bugmanjones@hotmail.com).

The generic names of the British longicorn Coleoptera explained

<i>Prionus</i>	From <i>prion</i> = a saw or sawyer, from the antennal formation
<i>Arlhopalus</i>	Without a club, with reference to the femora
<i>Aseumum</i>	Unmarked
<i>Tetropium</i>	Having four eyes, from their appearing divided (Same as <i>Tetrops</i>)
<i>Rhagium</i>	A kind of venomous spider (<i>rhagion</i>) mentioned by an old Greek author
<i>Stenocorus</i>	Apparently a slender youth (formerly <i>Toxotus</i> an archer)
<i>Acmaeops</i>	Perhaps appearing at the height (<i>acme</i>) of summer
<i>Grammoptera</i>	Written or marked wing, though there are no elytral markings
<i>Alosterna</i>	With wing-like breast (Latin plus Greek)
<i>Leptura</i>	Slender tail, from the more or less tapering form
<i>Judolia</i>	No meaning can be assigned – an invention
<i>Anoplodera</i>	Unarmed neck, with reference to hind pronotal angles
<i>Strangalia</i>	Compressed, squeezed, from the generally narrow tapering form
<i>Cerambyx</i>	Some unidentified horned beetle feeding on dead wood (<i>keras</i> = horn)
<i>Trinophyllum</i>	Not clear (<i>phyllum</i> = leaf)
<i>Gracilia</i>	Latin <i>gracilis</i> slender (no connection with “graceful”)
<i>Obrium</i>	Apparently an invention
<i>Natlarius</i>	Apparently an invention
<i>Molorchus</i>	Name of a poor vine-dresser who hospitably entertained Hercules
<i>Aromia</i>	From the pleasant aroma given off by <i>A. moschata</i> , the Musk Beetle
<i>Hylotrupes</i>	Wood-borer (cf. <i>Hylobius</i> , <i>Geotrupes</i>)
<i>Callidium</i>	A diminutive formed on <i>kallos</i> = beauty
<i>Pyrrhidium</i>	From the preceding with the first element altered to “fiery”
<i>Poecilium</i>	From <i>poikilos</i> = variegated
<i>Phymatodes</i>	Resembling a growth; obscure
<i>Clytus</i>	Famed, renowned, suggested by the bright clear markings
<i>Plagionotus</i>	With back sloping or slanting (the fasciae are straight)
<i>Anaglyptus</i>	Carved up, suggested by the markings
<i>Lamia</i>	A fabulous monster, bogey, hobgoblin
<i>Mesosa</i>	Formed from <i>mesos</i> middle, but intended meaning not clear
<i>Pogonocherus</i>	Beard(ed) horn, from the long hairs on antennae; the second element should have been <i>cerus</i> with no ‘h’
<i>Leiopus</i>	Smooth foot, with apparent reference to hairless tarsi
<i>Acanthocinus</i>	From the spine (Greek <i>akanthos</i> = thorn) at each side of pronotum, but second element (- <i>cinus</i>) unclear. The common synonym <i>Astyomus</i> was the title of a magistrate in ancient Athens (astu ‘city’, nomos ‘law’)
<i>Agapanthia</i>	Love (<i>agape</i>) of flowers
<i>Saperda</i>	A name applied to one or more kinds of fish
<i>Oberea</i>	An invented name or possibly an eponym
<i>Stenostola</i>	Literally, a narrow robe
<i>Phytoecia</i>	Inhabiting plants (oikos = house)
<i>Tetrops</i>	Four eyes – the eyes being completely divided (Cf. <i>Tetropium</i>)

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EDITORIAL COMMENT: Previous contributions on the subject of the generic names of British beetles may be read in this journal at volume **114**: 139-141, 169 and 268 and in the present volume on page 149.

Little-known entomological literature — 10. The Morris's *Naturalist*

During the nineteenth century, numerous natural history journals commenced publication; some lasted only a year, others for several years while yet others are still being published. One such title, *The Naturalist*, ran to three volumes in 1837-39; eight volumes 1851-58, then commenced again in 1864 and ran until 1913. Many such "nature" magazines contained, sometimes substantial, amounts on entomology, including some early county or locality lists. It is the second such title that concerns me here. The first five volumes of this 1850s *Naturalist* journal was conducted by Beverley R. Morris (a medical man) and the last three volumes by Rev. F. O. Morris, his brother and a more familiar name I am sure to my readers, which may be why the Natural History Museum Library catalogue lists it as *The Naturalist (F. O. Morris)* rather than under the name of his brother the first and major editor. After F. O. took over, the entomological content, as can be seen in the listings below, increased substantially, and the eighth and final volume had a running head labelled "entomology" under which all the items on this subject were gathered. Sad as it may seem, could it have been this sudden concentration on entomology that caused the failure of the journal? After taking over the editorship, F. O. suggested to subscribers that the price be increased and the journal enlarged. This suggestion was, however, emphatically turned down by the readership but under the new editorship the entomology content increased substantially, resulting, of course, in a diminution of other natural history articles which could well have caused the non-entomologists to abandon the journal as at this period of time they were being well catered for by other journals, such as *The Zoologist*. Nevertheless, after ceasing publication, for which F. O. received a number of letters of complaints, he then commenced another journal under the title of *Magazine of Natural History and Naturalist*, the first number of which appeared in January 1860. It is perhaps significant that the entomological content of this is minimal and some of the entomological items which ended in Volume 8 of *The Naturalist* "To be continued" did not carry over into the new title, although in style and content of natural history it started out being similar, as perhaps should be expected, being under the same editor, but then, after issue No 8, had clearly run into trouble for the ninth and final issue consisted (apart from three short items), solely of F. O.'s address to the British Association for the Advancement of Science given at Oxford in 1869. As explained on the cover this had been printed in advance for future issues and the pagination does not therefore run in sequence. The intermediate pages were never published.

Volume 1 of *The Naturalist*, in 1851, has the first reference, as far as I know, to Lepidoptera on Wicken Fen (... saw great quantities of Swallowtail butterflies). The journal also contains some very substantial lists, not only of insects, from over 150 years ago. To us today the sheer abundance of some, and the frequency with which now scarce and endangered species were encountered, often from some new locality where they have not been found since, may come as a revelation. For instance, both the Death's head Hawk-moth (*Acherontia atropos* L.) and the Purple Emperor (*Apatura iris* L.) were, if not quite common, worthy of a note about being found, often in some new locality and are frequently quoted in the journal. Others, which today

we regard as common, were often cited as scarce, the Cinnabar, *Callimorpha jacobaeae* for instance.

Many of the articles had a very generalist title such as A botanical ramble; An ornithological ramble; An Entomologist's excursion; A stroll by the seaside; A day at Clova. Sometimes imprecise as to localities although these could often be inferred from the address, nearly always given, of the author. In the list of titles given below I have therefore, for clarity, added the locality in parentheses after the entry where I think it might be helpful. While the majority of such titles concerned themselves with ornithology, botany, shells or marine life, they sometimes included stray entomological remarks and observations and It is only by chance that I may have noticed such, so the list below only contains items with an obvious entomological title or is contained within an "entomological" section of the pages.

Controversy over a number of subjects also raged. Are Channel Island insects British or not? Is it not time to have uniformity of names and should they be scientific or vernacular? A discussion I think which is still raging! There was considerable discussion of the Cuckoo and its behaviour and choice of host. Like many other journals of the day brief reports of the meetings of various natural history societies was given and amongst these there are certainly items of entomological interest; these I have not extracted. Also of interest are the reviews of the books, now known to us as antiquarian but still desired by many an entomologist, such as Stainton's *Manual* and the first volumes of his *Natural History of the Tineina* and *Entomologists Annual*. One factor that comes through strongly and shows the ethos of the times is "If it moves shoot it." Imagine the outcry today if a party of Cambridge Undergraduates went to Wicken Fen and shot two pairs of Short-eared owls (*Strix brachyotos*). One can but admire, however, their marksmanship as well as their energy, having started at 7.00 am and rowed up the river from Cambridge and even carried their boat overland for some half a mile! In spite of their ornithological mayhem, however, they also had time to observe "...very numerous (moth) caterpillars and great quantities of Swallow-tail butterflies." It is also interesting to note that already there was beginning to be a reaction to this killing ethos as several articles also deplore both the shoot to kill policy and the amassing of hundreds of similar insects.

Volume 1, 1851

An entomological sketch. The Scotch argus (*Polyommatus artaxerxes*) by R. F. Logan. pp 49-51 (with illustrations of *P. artaxerxes* and *P. agestis*)

Notes on the Lepidoptera of the West of Scotland and Fifeshire by John Gray. 82-86; 133-136; 180-183; Vol 2 10-15; 259-262 (concluded).

Instinct of the house spider by A. S. Moffat. 136-137.

Delayed appearance of the Emperor moth (*Saturnia pavonia-minor*) by W. Ferguson. 143.

A trip to Wicken fen, Cambridgeshire, in pursuit of natural history by R. A. Julian. 170-171;

The leaf-cutting bee by J. A. Robinson. 190.

Capture of *Leptinus testaceus* near Paisley by Morris Young. 190.

Capture of *Rhinomacer attelaboides*, near Paisley by Idem. 190.

Capture of *Acidota rufa* near Paisley by Idem 190.

The flea (from a dog) by J. A. Robinson 190.

Notes on the appearance and capture of Lepidoptera in the Lake District, in 1851 by W Greenip. 204-205.

Notes on the Entomological fauna of Perthshire by J. Gray. 217-220.

On the common Dung beetle (*Bolboceras mobilicornis*) by Michael Westcott. 227-229.

Sphinx atropos by D. Ferguson. 237. (Caterpillars near Redcar)

Volume 2, 1852

Notes on *Cheimatobia borearia* and *Trochilium sphenigiformis* by R. S. Edleston 15-16.

Peacock butterfly (*Vanessa io*) by R. A. Julian 20.

Clouded yellow butterfly (*Colias edusa*) by Idem 20.

Scolopendra electrica by F. M. Burton 22.

A microscopic examination of the ova of *Penthulusapidarius* by Spencer Cobbold 55-58.

remarks on the attacking of pupae by ichneumon flies by John Gray 58-59.

Remarks on certain species on Microlepidoptera by R. F. Logan 64.

The Lepidopterous insects of Midlothian by Dr W. H. Lowe & R. F. Logan 121-128; 141-149.

Occurrence of *Vanessa antiopa*, etc., in Berwickshire by John K. Wilson 133.

Vanessa antiopa taken near Lincoln by Frederick M. Burton 133.

Mildness of the season: the Peacock butterfly (February 2nd) by John Garland 133.

Note on *Abraxus grossulariata* by Bombyx Atlas 133-134.

Do Ichneumons pierce insects in the pupa state? by R. Maysmor 154- 157.

An enquiry as to a species of fly by J. C. Dale 177-178.

On the differences between *Pieris (Poutia) brassicae* and *P. chariclea* - the Large cabbage white butterflies by Bombyx Atlas 178-180.

Entomological hints by W. Balfour Blaikie 207.

Hints to Entomologists by R. B. P. 208.

The Brimstone butterfly (*Gonepteryx rhauni*) by C. Stubbs. (Recorded February 16th)

Some account of the diurnal Lepidoptera of Sussex by Maria E Catlow 226-229.

Occurrence of Oleander hawkmoth (*Metopsilus uerii*) by E. S. L. Smith. (At Brighton). 230.

The Querist: A correspondent has inquired of me whether insects captured in Gurnsey and Jersey, are to be regarded as British ones or not? It is an interesting question and I shall feel much obliged to any correspondents who can answer it "on authority." F. O. Morris. 232.

Notes on the natural history of Southampton by William D. Balshaw 234-237.

An Entomologist's excursion to Warminster Down by Michael Westcott 245-248.

A few notes on some insects taken during a short tour in Switzerland by S. Arthur Sewell 248-250.

Occurrence of *Vanessa antiopa* by Bombyx Atlas (At Stoke Newington) 252.

On *Vanessa antiopa* by Bombyx Atlas 252-253.

Captures of lepidoptera by Robert S. Edleston 263.

On a new insect; a parasite of the sycamore by Thomas P. Fernie (*Phyllophora testudinacea*) 265.

Curious varieties of the Drinker moth (*Odenestis potatoria*) by Bombyx Atlas 280.

Volume 3, 1853

The locust (*Locusta migratoria*) by T. S. Rudd. (at Redcar) 21

Capture of Death's head moth (*Acherontia atropos*) by William Bond (At Redcar) 21

Acherontia atropos at Redcar by W. Ferguson 21.

Obituary - Mr. J. F. Stephens by J. Mc'Intosh 40.

A few additions to Miss Catlow's account of the diurnal Lepidoptera of Sussex by W. C. Unwin 48-50.

Additions to the Lepidoptera of Midlothian by R. F. Logan 69-71.

- Libellulinae observed in Sussex, chiefly in the neighbourhood of Lewes by W. C. Unwin 71-73.
 The Puss moth (*Cerura vinula*) By W. Macduff 85
 The Scotch Argus butterfly (*Hipparchia blandina*) by G. Donaldson 85.
Agrotis pascuea by W. C. Unwin 85
Chaerocampa celerio by Idem 85.
Chaerocampa celerio near Bristol by J. N. Duck.
Carabus nitens by James Taylor (Near Aberdecn) 85.
 The disease of the Housefly (*Musca domestica*) by A. Ingpen 87-88.
Colias edusa in Scotland by R. F. Logan 87-88.
 The common Vapourer moth (*Orgyia antiqua*) by F. O. Morris 109.
 Our zoological ancestors, and their labours in the field of science. No. I.-Joannes Godartius by S. de V. 113-116.
 Some account of the Lepidoptera round Exeter by Edward Parfitt 126-128; 154-155; 250-253; 264-265; Vol 4: 59-61.
Vanessa antiopa near Whitby by John Braim 134.
 The Swallow-tail butterfly (*Papilio machaon*) by John Garland (In Dorset) 137.
 Capture of insects by W. B. Clarke (Sugaring for moths) 184.
 Occurrence of the Sharp-winged hawk-moth (*Metopsilus celerio*) by G. Stubbs (At Henley-on-Thames) 206.
 Curious fact by W. Thomson Crewe (Hybrid *Taeniocampa species*) 207
 The Death's head (*Acherontia atropos*) by D. Ferguson (At Marske) 207.
Vanessa urticae by James Taylor (In early March) 207.
 The Death's head moth (*Acherontia atropos*) at Louth by John Brown 228.
 Note on a wild bec (*Bombyx terrestris*). by G. R. Twinn 255.
Colias hyale in Sussex by J. Cafavy 256.
 Captures of Lepidoptera by Robert S. Edleston (Round Manchester) 256.

Volume 4, 1854

- Protracted continuations of insects in the chrysalis state by Stephen Stone 10-12.
 Notes on the Lepidoptera of Banff by T. Edward 12-14.
 Second note on a wild bee (*Bombyx terrestris*) by G. E. Twinn 19.
 Capture of *Sphinx convolvuli* 3 mile out to sea by D. Ferguson 19.
Acherontia atropos by Idem (at Redcar) 19.
 Capture of *Vanessa antiopa* by Larret Shields (At Lewisham) 19.
Colias hyale by Rev Henry Hilton (near Dover) 19.
 Lepidoptera round Exeter by W. S. M. D'Urban 21-22.
 An Entomologist's excursion to Ebbor Rocks by Michael Wescott 34-39.
 Note on the caterpillar of the Goat moth (*Cossus ligniperda*) by T. P. Fernie 45.
 Rare animals, etc. occurring in Aberdeenshire. Includes Death's head moth (*Acherontia atropos*) by J. Longmuir 755-76.
 Some account of the Coleoptera round Exeter by E. Parfitt 83-85.
 Injurious insects-The Earwig, (*Forficula auricularia*)-No 1. by J. Mc'Intosh 136-137.
 On *Lencophasia sinapis* and *Vanessa hampstediensis* by F. O. Morris 138-140.
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 Description of a new Coleopterous insect belonging to the genus *Prionus* by John Gray 158-159. (*P. westwoodianus*)
 Ornithological and entomological notes by Charles & William Fothergill 167-168.
 Occasional notes by Michael Wescott 172-173. (Mentions various butterflies).
 Notes on the ant of Scripture by J. Longmuir 181-186.

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 Early entomological captures by T. F. Whitney 210.
 Notice of some insect occurring in Hainault forest by George Stockby 227-228.
 Entomological captures near Cartmel by Thomas King Atkinson 236 (Mazarine blue).
 The small white butterfly (*Poutia rapae*) by Sydney Hile 236.
 Note on honeydew by T. J. Tottenham 237-238.
 Local jottings No. 14. Dorchester, Dorsetshire by John Garland 252-253. (Wasps)

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Injurious insects No. 3. The common wasp (*Vespa vulgaris*, L.) by J. Mc'Intosh 312-34; 139-141. Vol 5: 30-31.
Vaessa antiopa at Blackheath by L. Shields 41.
 Notice of the Red spider (*Dysdera erythrina*, Walk.) with remarks on a few others by George Stockley 66-67.
Sirex gigas at Oxford J. F. Whiteaves 166.
 Late appearance of the Peacock butterfly by Uncas 166 (scen Xmas day)
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 On grease in insects by F. O. Morris 168.
 On grease in insects by John Fothergill 168.
 Deformity of a chrysalis of *Poutia brassicae* by George King.
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 Moth mixture by R. P. Allington 23-24.
 Occurrence of *Acheroutia atropos* at Southport by C. Fryer 45.
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 Relaxing of insects by F. O. Morris.
 Moth hunting; or an evening in a wood, being two leaves from the life of a naturalist by Thomas Edward 84-88; 104-107. (Banff)
 English names for butterflies & moths by J. J. R. 93-94.
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 A few words on commencing a collection of lepidoptera by Re. R. P. Alington 250-252; 275-279.
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List of butterflies and sphinges observed at Lausanne, Switzerland by Thomas George Bonney 80-82.

Entomological captures in 1856 by Rev. R. P. Allington 82-85.

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Four days collecting in the neighbourhood of Dorking by James Gardner 236. (Moths).

T. allantiforme (White-belted clear wing) by Idem. 236 (5th record)

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The wasp and the spider by Idem 259.

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The study of Nature; an entomological Pro'em for 1858 by the editor 9-11.

How to set lepidoptera by rev Joseph Green 14-16.

A list of the rarer species of Coleoptera, which occur, or have been taken in the neighbourhood of Harleston, Norfolk, by J. Leedes Fox and in the neighbourhood of Bungay by W. Garness 16-18; 87-89; 160-161; Was *to be continued*, but Journal ceased publication.

A list of the insects observed in the southern part of the county of Sussex by W. C. Unwin 18-20; 39-41; 91-93; 158-160; 208-210; 255-257; 276. Was *to be continued*, but Journal ceased publication.

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The foodplant of *Gonepteryx rhamni* by H. Doubleday 41.

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- Chrysophana dispar* by H. Harpur Crewe 41-42.
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 Are the Lithosiae attracted by sugar by John Porter 42-43.
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 The first fly of the season by R. P. Allington 138 (Brimstone in snow at Louth).
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 Capture of *Micra ostrina* by Ed. 165 (At Torquay).
 Clouded yellow butterfly by W. Wesley 166 (At Winchester).
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On the variation of species by Ed. 234-235.
The so-called showers of insects by Ed. 235-236.
Synia musculosa by T. Thorncroft 236 (At Brighton)
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Ravages of the Halticae by F. E. Guerin-Meneville 286-287

The Lepidoptera Collection of Scarborough Museum – background and some specimens of note

The recent curation and consolidation of the British Lepidoptera collections at the Scarborough Museum revealed them to be a substantial repository of specimens and information. The bulk of the material was contained in five collections originating from G. B. Walsh, H. W. Dobson, A. N. Hickton, S.R. Pollard and the Girls' High School. These collections have been amalgamated into a single collection within which the origin of each specimen can be traced. The final collection consists of 1,058 butterflies, 3,137 macromoths and a few (316) micromoths, all with data of some sort. Much of the material is of local origin and so forms an invaluable source of Yorkshire records. In all, 701 British species are represented by specimens possessing data. The A. N. Hickton, S.R. Pollard and the Girls' High School collections were substantially the work of single individuals. The H. W. Dobson collection contains much material collected by E. Richards while the G. B. Walsh collection contains many specimens bearing the labels of A. Smith, A. S. Tetley and J. Thwaytes. The latter collection also contains material of diverse periods and collectors, presumably the result of purchase or exchange. The whole museum collection contains specimens originating from over 250 collectors.

List of Collectors represented by specimens in the Scarborough Collection.

P.W. Abbott, B.W. Adkin, Allis, Arley, J. Armitage, C. Ash, J.H. Ashby, Atmore, H.A. Auld, C.J.B., W.P.B.-Maye, J.W. Bagett, H.W. Baker, W.S. Baker, E.R. Bankes, R.H. Barker, T.L. Barnett, P. Barraud, C. Barrett, W.H. Barrow, H. Bartlett, R.T. Baumann, T. Baxter, Mrs. Bazett, Rev. J. Bell, W.Bell, M.S. Blaker, T. Blest, W. Bloomfield, R.T. Bowman, C.A. Briggs, P.M. Bright, Brights, G. Brooks, H.B. Browne, G.V. Bull, Rev. H. Burney, A.R. Burrows, C.R.N. Burrows, A.E. Bursor (?), G. Burt, W.B. Butler, J.C., Cannon, P.A. Cardew, Mr. Carratt, J.A. Clark, A. Clark, W. Claxton, W.S. Clutton, G.B. Coney, B.H. Crabtree, W.Craigs, E.S. Craske, W.J. Cross, W.P. Curtis, A.A. Dalglish, Rev. A. Day, F.A. Day, G.O. Day, M.C. Dixon, H.W. Dobson, Iris M. Dobson, S. Dobson, H. Doidge, M. Dolby, F. Dresser, G.C. Dresser, J. Dunsmore, R. Dutton, Eastwood, A.D. Edwards, J. Elisha, S. Ellison, W.M. Ellison, W. Fabian, Farren, C. Fenn, G. Fleming, W.B. Fletcher, A. Ford, A. Fords, E.C. Dobrée-Fox, R.E.E. Frampton, P.T.G., Miss Gamble, J.E. Gardner, G.R. Garland, E.F. Gilmour, Girls' High School, W.G. Glutton, Goodson, E. Goodwin, S. Goodwin, P.P. Graves, Rev.J. Green, F.J.H., W.L.H., J.C. Haggart, F.H. Hamling, Hancock, J. Harrison, G.E. Hartley, Hartley-Wintney, W.H. Harwood, H.W. Head, Hearter, G.H. Heath, J.A. Helps, Herd, A.N. Hickton, S.G. Hills, A.J. Hodges, A. Hodgson, A. Holmes, C. Holmes, A. Horne, W. Howgate, Huggins, W.H. Jackson, W. Jarvis, C.F. Johnson, H. Johnston, A.H. James, R.D. Pany Jones, R. Junkermann, J.J.F.X. King, W.W. Kinsey, A.J.L., B.R. Last, H.A. Leeds, F.H. Lees, C. Levett, Lincs, J.A. Lofthouse, A.M. Longhurst, H. Lowden, C.I.M., J.N.M., G. Machin, Major, N. Maney, W. Mansbridge, M.J. Mansfield, Major S. Maples, G.F. Matthew, Mattley, G.L. McDearmid, H. McNaught, P.P. Milman, J.C. Mohenley(?),

M. Moody, E.D. Morgan, Morton, S.L. Mosley, Murray, Mutch, G.D.N., Newberry, L.W. Newman, C.E. Newnham, R.A. Nicols, J. Nobbs(?), F.A. Oldaber, G.B. Oliver, R.W. Parfitt, F. Pennington, C.P. Pickett, F.N.P., W.M. Pierce, A. Pike, R. Pitman, S.R. Pollard, A. Ponchaud, S. Proudfoot, L.B. Prout, W. Quibell, R.B.R., W.J.R., H.R.-B., G.H. Raynor, P.C. Reid, W. Reid, Renton, E. Richards, N.M. Richardson, G. Ridley, P.W. Ridley, J.P. Robson, E.F.S., E.R.S., E.W.S., Capt. Salomp (?), T. Salvage, W. Salvage, M. Samis (?), Seymour, E.P. Sharpe, V.E. Shaw, A. Simmons, F.A. Small, Smallpiece, H.D. Smart, A. Smith, Rev. B. Smith, B.H. Smith, J. Smith, T. Smith, A.H. Sperring, Spiller, C.L. Stein, A.T. Stiff, G.H.T. Stovin, Boswell Syme, F.T.-A., Tait, L. Tatchell, E.H. Taylor, A.S. Tetley, A.H. Thompson, J.A. Thompson, S.T. Thorne, Rev. C.F. Thornevell, J.E. Thwaytes, A.E. Tong, W. Torsdy, D. Tozer, Mr. Tugwell, T. Tunstall, J.W. Tutt, W.F. Urwick, V. Valezina, Capt. Vipan, G.C.W., J. Waddington, S. Wakely, J. Walker, S. Walker, A.A. Wallington, S.A. Wallis, G.B. Walsh, J. Warrington, H. White, A.J. Wightman, B.S. Williams, Williamson, Willman, A.C. Winford, P. Winter, F. Womersley, H. Wood, H. Worsley Wood, F.C. Woodforde, G.M. Woosnam, W. Wylie, G.W. Wynn, C.C. Young, C.E. Young, C.S. Young, H. Yums.

There are several specimens in the collection that deserve individual mention:

Zygaena exulans (Hohenwarth, 1792). Zygaenidae. Scotch Burnet

There is a short series of this species from the G. B. Walsh collection but only one bears data, namely "Braemar (S.L. Mosley, 8.v.[19]02)". This data indicates that it is from the well-known locality in Deeside. However a single specimen from the S.R. Pollard collection with broader wings and a more matt coloration (identity confirmed from a preparation of the male genitalia) bears the handwritten label "Rannoch/ [18]92". No other specimens of this species are known to have been taken at Rannoch which is over 50 miles away from the known locations in Deeside. This single specimen of this elusive uplands species is tantalising. Did (or does) an isolated colony occur at Rannoch or is the label spurious? Certainly hearsay information suggests that the species may be more widely distributed than the present known colonies indicate.

Strymon melinus Hübner [1818] Lycaenidae.

A single specimen of this Central American species labelled "POCKLINGTON 15.7.1894" was in the A. N. Hickton collection masquerading as *Quercusia quercus* (Purple Hairstreak). A genuine *Q. quercus* was also present bearing a label "CHESTERFILD[sic] 2.8.1878" [Several labels indicate that A. N. Hickton suffered from mild dyslexia]. As, at the period of capture of the *S. melinus*, a central American species would have been a better prize than a second specimen of the indigenous species, the Purple Hairstreak, it seems probable that the misidentified *melinus* had been accidentally imported into Yorkshire and when captured was assumed to be a local specimen of the similar British species.

Erebia ligea (Linnaeus, 1758). Nymphalidae. Arran Brown

Amongst the S.R. Pollard material was a store box of mixed British butterflies and moths, only some of which bore data. A single specimen of *Erebia ligea* in good condition but without data was also present. However, as a single specimen of another non-British European satyrid without data was also present, there are only tenuous grounds for assuming that this *E. ligea* was of British origin.

Spiris striata (Linnaeus, 1758). Arctiidae. Feathered Footman

A few store-boxes from the H. W. Dobson collection contained specimens that had not been labelled up individually but had written in pencil "All at Cloughton" and pencil lines demarking different date groups. One such box but just labelled "All [caught] at Cloughton" without any indication of dates contained a single specimen of *Spiris striata*. It is mounted on the same style of black pin as the rest of the material in the box and set in the same rather casual way. There is no reason to believe this is not of local origin. Cloughton is about five miles north of Scarborough and appears to be where H. W. Dobson lived.

I feel sure there are other items of interest awaiting discovery in this diverse collection if persons with a better grasp of the local distribution of macrolepidoptera than myself are willing to spend the time.

I am grateful to David Barbour, Gerry Tremewan and Mark Young for useful discussions about the *Zygaena exulans* specimen. My thanks also go to Scarborough Museum and to my colleague Graham Rotheray for giving me the opportunity to curate this interesting collection.— K. P. BLAND, National Museums of Scotland, Chambers Street, Edinburgh EH1 1JF.

Arboreal substrate for an egg-laying Meadow Brown *Maniola jurtina* L. (Lep.: Nymphalidae)

During a survey on Alderley Edge, Cheshire, of biotope exploitation by *Maniola jurtina* L. and *Pyronia tithonus* L. (Nymphalidae, Satyrinae) in the sweltering conditions of 14 July 2003 with temperatures rising to 30°C, a female meadow brown was observed laying three eggs at 13.43 hours on an oak tree trunk 20cms above short grass at the base of the tree and whilst in shade of the tree. The eggs were all deposited on lichens growing on the tree trunk (aspect c. 250°), two in rapid succession in slightly different locations and the third ten seconds after the second at a nearby position. The tree is one of 11 located in a line at the base of hill slope meadow where the butterfly is abundant.

During the survey a number of meadow browns, both sexes, have been recorded within woodland. On 14 July, two were observed accessing open spots in the woodland by flying in complete shade under the dense pine and oak canopy. One male was engaged in intense patrolling mate location of last year's leaf litter in one small area under oak trees. During the long period of research on wing margin

ocellation in the butterfly by Ford and his colleagues (Ford, E. B. 1972 *Ecological genetics*. Methuen), the butterfly was considered incapable of penetrating vegetation barriers lacking suitable host plant biotope. However, occurrence in woodland is not atypical for the butterfly on Alderley Edge. In the detailed MRR study on Brereton Heath in 1987 meadow browns were frequently recorded flying over a woodland barrier and observed in the light birch woodland (Shreeve, T. G. et al. 1996, Uniformity of wing spotting of *Maniola jurtina* (L.) (Lep., Satyrinae) in relation to environmental heterogeneity. *Nota Lepidopterologica* 18: 77-92) and were also regularly observed in the woodland away from host plant locations in an earlier study on Alderley Edge (Cook, L. M. et al. 2001. Butterfly-host plant fidelity, vagrancy and a measurement of mobility from distribution maps. *Ecography*, 24: 497-504). In the nearby urban areas of Wilmslow and Sale, they are often seen outside their typical biotopes flying over cut grass, car parks and buildings. In hot sunny weather, it would appear that they are able to behave more like the butterfly in Mediterranean olive groves and Cypress woodland.– R. L. H. DENNIS, 4 Fairfax Drive, Wilmslow, Cheshire SK9 6EY.

Unusual abundance of flies (Diptera) at a moth trap on a cold winter's evening

On a recording trip to the Herts and Middlesex Wildlife Trust's nature reserve at Ashwell Chalk Quarry, in northern Hertfordshire, on the night of 2 November 2002, four moth traps were set up at various positions and the lights turned on at 16.30 hours. The temperature soon fell rapidly from the initial 15°C and light rain fell throughout the session; it was decidedly cold by 18.00 hours. A grand total of nine moths, comprising six species, was less than exciting and by 20.00 we were packed up and on the way home. However, whilst three of the lights produced just about nothing other than their share of the moths, one lamp, set in a small wooded area and adjacent to the entrance to a badger sett, was swarming with flies within half an hour of lighting up – and was still swarming at home time.

Two things led us to the conclusion that this was unusual. First, there was an exceptionally large number of flies – many more than normally expected at a light trap set in a chalk landscape and miles away from any wetland habitat. Second, although many Diptera hibernate as adults, the late date and the somewhat cold evening air were not really conditions under which large swarms of flies were expected. And I do mean swarms! There were dozens of them – to the extent that putting one's head inside the trap to look for moths on the egg trays was unpleasant, with flies getting behind spectacles and inside ears! A sample of the offending insects was collected using a large pooter, pinned and eventually dispatched to Laurence Clemons – who tells me that he actually likes these beasts! The list follows (the Syrphidae identified by myself, the rest by Laurence, to whom I am most grateful):

Syrphidae:	<i>Eristalis tenax</i> (L.)
Fanniidae:	<i>Fannia lepida</i> (Wiedemann); <i>Fannia monilis</i> (Haliday)
Muscidae:	<i>Hydrotaea cyrtoneurina</i> (Zett.); <i>H. similis</i> Meade; <i>Morellia simplex</i> (Loew); <i>Phaonia subventa</i> (Harris); <i>P. lardarius</i> (Fabr.)
Sphaeroceridae:	<i>Cruunomyia fimetaria</i> (Mg.); <i>Limosina silvatica</i> (Mg.)
Calliphoridae:	<i>Pollenia augustigena</i> Wainwright
Scathophagidae:	<i>Scathophaga stercoraria</i> (L.)
Sarcophagidae:	<i>Sarcophaga carnea</i> agg. (the example collected had damaged genitalia and could not be named further)

Whilst the proximity of a badger sett may have in some way influenced the number and presence of the flies, it is nevertheless to be borne in mind that badgers are very clean animals and that they have their fixed-position latrines; the nearest latrine that could be found by day was not all that nearby and, again, the weather was cold. I have no explanation for this phenomenon, but it seems unusual and that alone is justification for placing it on record.— COLIN W. PLANT, 14 West Road, Bishops Stortford, Hertfordshire CM23 3QP (E-mail: colinwplant@ntlworld.com).

Hazards of butterfly collecting. “What is in the pot?” – Ghana, 1993

I came to Bia National Park in Ghana for the first time in 1993, staying in a small ranger camp just at the edge of a small bit of virgin forest. It was the first of Ghana’s national parks and was set up in thirty years by Claude Martin, later to become director of the Worldwide Fund for Nature (WWF); he had even compiled a modest list of butterflies during his three years in almost complete isolation. It was in his old house that I was to stay – a fine room, running water, a real toilet, and electricity were promised.

Evidently my briefers at the Ghana Wildlife Department had not been quite up-to-date. The room was in a frightful state, the toilet blocked by rubble and a collapsed septic-tank, and electricity had never been connected. But there was a raised veranda with a lovely view in front of which I could park my Lada Niva (“Schevy”) and run a cable from the cigarette lighter to my computer. My camp chair, table, and camp-bed fitted snugly under a serviceable part of the awning. That’s not bad for accommodation in the sticks.

Next on the agenda in a new place is fixing up some cooking. You don’t want to drag too much stuff of your own around, and when daylight lasts only from 06.00 to 18.00 you do not want to waste time cooking. Four or five women, wives of the forest guards, asked: “Do you like snails?” The Bia area is the snail capital of Ghana – African Giant Snails, growing to the size of a clenched fist. I had been keen to try them, so the answer was an emphatic “Yes!” There were the usual worries about whether someone like me could stomach “spicy African food” – actually quite tame for someone who grew up in India. “You must cook it just as you do for your husband” I said. “Smoked fish would also be fine”, I added. The concept of a purely vegetarian meal is almost inconceivable, even among the poor.



Learning to cook snails at the house of a friend in Ghana some years later. She loved snails, her husband would not touch them!

During the next week I had snails in palm nut soup, snails in spinach, grilled snails with pepper sauce, and snails in groundnut stew. All were quite delicious. When well cooked the snails as juicy and as tender as you might wish – not like the poor little French *escargots* cooked to cinders in oil and garlic. For staples I had variously pounded yam, boiled yam, pounded cassava, or my own rice. I use the awful Uncle Ben's rice on these occasions; the concept of perfectly cooked basmati rice has not reached rural Africa and Uncle Ben's is a very robust rice. Praise was lavished on each of the cooks, and ... no they had not been too spicy for a foreign stomach.

One morning I was out at a junction of two small tracks, lying flat on my stomach photographing the *Euphaedra* and *Bebearia* coming to the fermenting mangoes I had laid out as bait. I heard a small group of people coming my way fast, which was unusual inside the forest, and rose to greet them just as they turned a corner six metres away. Before I could say *akwaba*, they turned and fled screaming, head over heels ... strange reaction? Someone had dropped a cloth, which turned out to contain five or six giant snails. Back at camp I related my experience. There was a consensus ... it had been snail-poachers, already nervous of discovery, who had just seen a ghost rising straight out of the forest floor! Snail-poachers! ... well why not? ... It was certainly powerful testimony to the popularity of snails in the area.

On my last day I decided to cook a really good curry for the whole camp, some twenty people in all. I told them that I would cook a chicken in Indian style and that they might find Indian food a bit too spicy for their taste, but that this was my childhood food. The thought of a man cooking dinner took a bit of getting used to. Three chickens were procured – the ultimate in luxury; chickens are for eggs, not usually for eating. Tomatoes, onions, and sundry greens were gathered in the camp gardens. I had brought curry powder from Accra and I had gathered red chillies of fearsome strength on the sly. Pretty soon a big pot was bubbling on the fire – the chickens were truly free-range and would need a lot of stewing. Rice was prepared, with a back-up of pounded yam, since many rural folk are not comfortable with rice. An hour later we sat down to eat. I am not used to cooking for twenty people at a time and fine-tuning of the spice inputs was not possible, but the curry was good – and very, very hot. I was pleased to see the occasional tear in the eyes of the diners! After the pot had been wiped clean with balls of pounded yam, we sat down for an evaluation session. There was general agreement that: 1) it had been a very fine meal, and 2) they were not going to fuss over my stomach during my next visit.

Some people would never dream of touching a stew of giant snails. My own approach is simply that if the local people eat something and offer it to me, then I am willing try. I do not promise that I will like it, but I see no reason not to give it the benefit of doubt. Beetle grubs, moth caterpillars, termites, sea cucumbers, grasshoppers, crocodile eggs, lizards, cane rats, squirrels, and porcupines have all been on my menu in different parts of the world. In Zaïre I once had an excellent “bush-meat” stew. I tried to find out what I had eaten. My hosts French was poor and my lingala non-existent. “Moment, si'l vous plait”, someone said, only to return with the severed hand of a chimpanzee. That I would obviously never have touched, had I known in advance!

I was back in Bia in 2000 for two months, doing an analysis of the butterfly fauna for a conservation project financed by the European Union. The camp had been renovated. There was running water and solar electricity, rooms with beds and crisp linen, a kitchen with bottled gas, a kerosene fridge for cold beer, and much else. But the memories of chicken curry had become part of local folklore; I was asked even by people who I did not know: "Will we have a chicken curry?"—TORBEN B. LARSEN, UNDP Vietnam, c/o Palais des Nations, 1211 Geneva 10, Switzerland. (E-mail: torbenlarsen@compuserve.com).

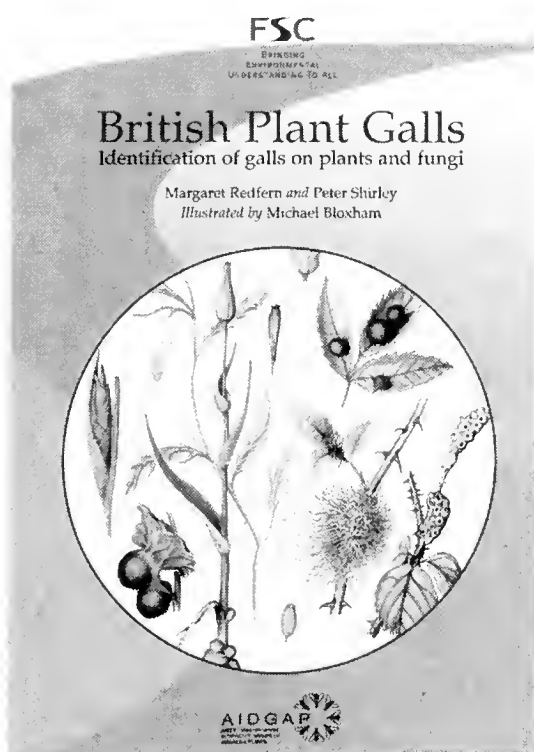
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New edition of the *Directory for Entomologists*

The Amateur Entomologists' Society is at present collating the necessary information to produce a new edition of the *Directory for Entomologists*. Entries for non-profit organisations such as museums, societies, groups, county recorders, periodicals etc are entered for free upon request, and traders' entries start from £5. Anyone wishing to place an entry in the new edition should write for full details to The General Editor, 31 Wilmer Road, Eastleigh, Hants SO50 5EW.

BOOK REVIEWS

British Plant Galls. Identification of galls on plants and fungi by Margaret Redfern and Peter Shirley, illustrated by Michael Bloxham. 326 pp., softback, 176 x 246 mm., ISBN 1 85153 214 5. Field Studies Council, 2002. £18 (plus £3 UK postage and packaging), from Field Studies Council, Preston Montford, Shrewsbury, SY4 1HW.



This paperback tome is the latest in the AIDGAP series of keys from the Field Studies Council. The letters stand for "Aids to Identification of Difficult Groups of Animals and Plants" and the works appear, initially, in draft form. They are then extensively field-tested by a large number of both professional and amateur naturalists before a corrected version appears as a formal paper in the journal *Field Studies* (this one appeared in *Field Studies* **10** (2002): 207-531). Thereafter, the works are usually published in book form, though retaining the original journal page numbers.

As a result of this lengthy process, there is rarely any problem with the keys as all the glitches should have been edited out before the final version appears: try as I might, there is little that I can find to criticise with regard to the technical content. After a brief but helpful introduction, there are sections on galls caused by bacteria, galls caused by fungi, galls caused by plants, galls caused by

nematodes and galls caused by insects and mites. Each section is arranged alphabetically by host plant and the galls on each are keyed out using easy yet reliable characters which are, in almost all cases, illustrated by excellent line drawings alongside the key couplet.

This is one of the most useful technical books on general natural history to appear in recent years and will appeal to entomologists and naturalists of all disciplines. I have tested the keys extensively over the past couple of months using fresh material from just about all corners of England and southern Scotland, and have not yet managed to find a gall that does not feature in the book – believe me, I have tried! Of course, there *are* some galls that are not in here, but these are most unlikely to be encountered by anyone other than the sort of specialist who doesn't need the keys anyway and, if an amateur like me does find a gall that is not in this key, then at least they will know now that it is likely to be worth showing to a specialist.

I have only one area of criticism and that is in the division of the keys into five sections according to the higher taxonomy of the causer. Frankly, when confronted with a gall I am not necessarily aware of whether it is caused by an insect, a mite, a nematode, a fungus or whatever. There is no apparent means of making such a distinction and no key at this level is presented in the book. Thus, I need to work through five separate keys in order to name the gall causer. This is not as bad as it sounds, since although the keys to causers other than arthropods occupy 50 pages of the work, one only needs to look at the key for that particular host plant. It is, however, extremely annoying to discover that a book designed to make life easier has retained this particularly annoying flaw in spite of several of the field testers complaining that it should be eliminated.

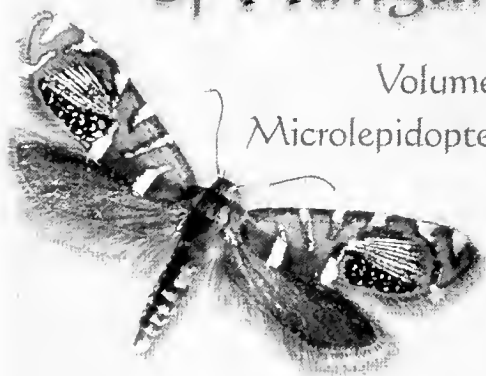
Nevertheless this book represents an immensely important contribution to the study of entomology. Plant galls are caused by a huge range of the moths and other insects that will interest readers of this journal and there can be few of us who do not encounter them at least occasionally. Now, at last, we can learn what they are! The price is reasonable for what you get and, as we race towards the year's end, if you are looking for a Christmas present for an entomologist or for some other breed of naturalist, this book is highly recommended as a candidate.

Checklist of the fauna of Hungary. Volume 2: Microlepidoptera by Cs. Saboky, A. Kun & F. Buschmann. 184 pp., softback, 165 x 240 mm, ISBN 963 7093 80X. Hungarian Natural History Museum, Baross u. 13, H-1088, Budapest, Hungary, 2002. Price unknown.

The first volume of the *Checklist of the Fauna of Hungary* was that by Papp, concerning the Diptera and published in 2001. This is the second volume to be published under the general editorship of I. Matskási. The term "microlepidoptera" here includes all those up to and including the Pterophoridae in the British Checklist, and so includes the Hepialidae, Cossidae, Zygaenidae and Sesiidae, which we currently regard as macros. This list is long overdue and a welcome addition to the literature, although British lepidopterists may not altogether agree with the priority given to some of the names used. I look forward to the "macros" in due course.

Checklist of the Fauna of Hungary

Volume 2
Microlepidoptera



Hungarian
Natural History
Museum

Provisional atlas of British spiders (Arachnida, Araneae) by **P. R. Harvey, D. R. Nellist & M. G. Telfer**. Two volumes, vi + pp. 1 – 214 (volume 1: ISBN 1 870393 63 5) and vi + pp. 215 – 406 (volume 2: ISBN 1 870393 64 3), A4. Natural Environment Research Council, 2002. £20 including post and packaging from Biological Records Centre, CEH Monks Wood, Cambridgeshire PE28 2LS.

This two volume provisional atlas is, surprisingly, the first ever set of dot distribution maps for spiders in Britain. It represents the results of the intensive field surveys by members of the Spider Recording Scheme and others since 1987 and is, I must say, a marvelously splendid effort. I am particularly keen to see that the first map presented is of the distribution of Spider Recording Scheme members (solid dots) and past members (open circles). The origin of this map is amusing (you will have to read it yourself) but I fully agree with the authors that comparing this map with the coverage maps shows *'the enormous amount of work that relatively few people have freely put in to ensuring that these provisional maps go as far as possible in providing up-to-date and comprehensive maps for all British species of spider'*. Distribution maps are accompanied by phenology histograms in which males and females are presented separately (it would be interesting to do this for moths!). Spiders do not appeal to everyone, but all ecologists will surely find this work invaluable.

Provisional atlas of the Cantharoidae and Buprestoidea (Coleoptera) of Britain and Ireland by **Keith N. Alexander**. 82 pp., A5 Paperback, ISBN 1 87039369 4. Natural Environment Research Council, 2002. £6 inclusive of UK postage and packaging from Biological Records Centre, CEH Monks Wood, Cambridgeshire PE28 2LS.

This is latest set of distribution maps to be produced by the Biological Records Centre – this time authored by Keith Alexander, whose Coleopterological credentials are well-established. A useful innovation is the setting in grey of those map squares from which records have been received, then overlaying this grey and white base with the usual black dots and open (white-filled) circles. As a result, the maps are far more meaningful than simple dots on a plain background, and areas where a species *apparently* does not occur can be seen as easily as those where it does. Cantharids include the familiar soldier beetles that surely everyone has seen at some stage and it is a bit of a surprise to learn that until now we had no distribution maps. This will be another invaluable contribution to our understanding of biodiversity and related issues in the British Isles. I am pleased to see that Ireland is included on the maps.



What good are bugs by **Gilbert Waldbauer**. 366 pp., hardbound, 162 x 243 mm., ISBN 0 674 01027 2. Harvard University Press, 2003. £19.95

From the pen of the prolific author who gave us *The birder's bug book* (1998) and *Millions of Monarchs, bunches of beetles* (2000), both of which have been reviewed in earlier issues of this journal, comes this latest offering via Harvard University Press. Sub-titled *Insects in the web of life* the work covers a range of topics under the four main topics "Helping plants", "Helping animals", "Limiting population growth" and "Cleaning up". Dr Waldbauer's inimitable style is applied throughout and if you liked the two earlier titles then you will like this one too.

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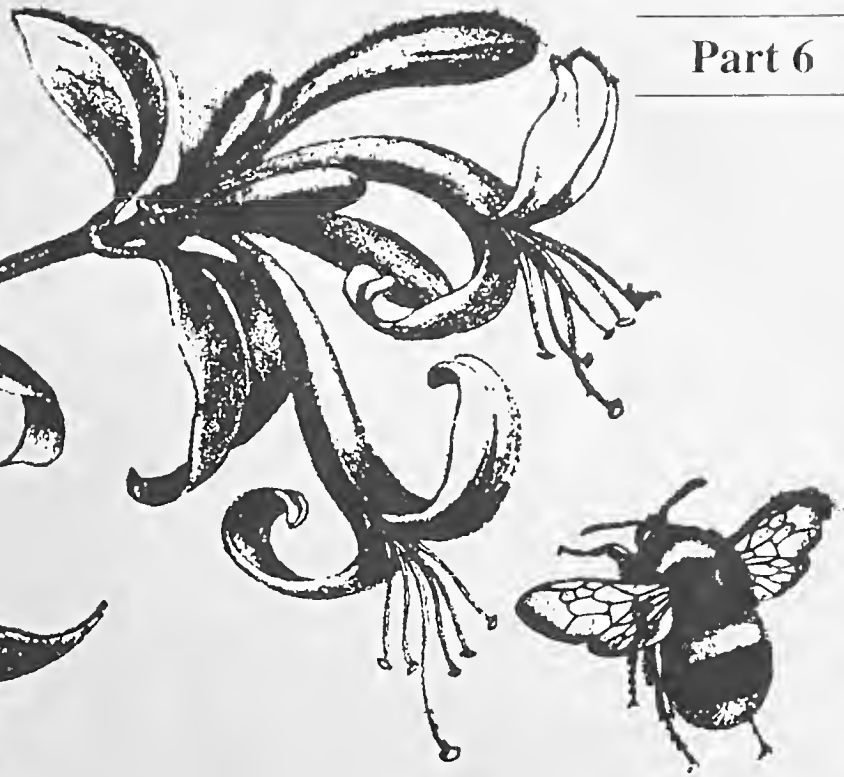
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MICROLEPIDOPTERA REVIEW OF 2002J. R. LANGMAID¹ AND M. R. YOUNG²¹Wilverley, 1 Dorrita Close, Southsea, Hampshire PO4 0NY. (john@langmaidj.freecserve.co.uk)²Culterty Field Station, Department of Zoology, University of Aberdeen, Newburgh, Aberdeenshire AB41 6AA. (mhi220@abdn.ac.uk)**Abstract**

Noteworthy records of microlepidoptera, including new vice-county records made in the British Isles during 2002 are listed and discussed.

Introduction

As for the year 2001, over 50 people have provided noteworthy and new records of microlepidoptera for 2002 and this is contributing to an improving picture of the distribution and status of these small moths in the British Isles. We are most grateful to all these recorders, listed later, and do hope that they and others will continue to study micros and to submit records. We judge new vice-county records against a set of maps, originating with Maitland Emmet but now held by JRL. The onerous task of updating these is assisted by Ian Thirlwell, to whom we offer special thanks.

In 2002 the weather was generally mild and frequently wet, with only October showing below normal temperatures. In particular the January to May period was especially mild, and there were also some markedly dry spells in March and April, before a wetter than usual June and July. August and September were unusually warm and mostly dry, but October was noticeably cool and wet. The wet conditions then continued throughout November and December, but temperatures were unseasonably high in November, before an average December. Of special interest to lepidopterists was the general lack of bright sunshine, with only April, August and September achieving average values. Of course, the difficulty with brief summaries like this is that our climate is so variable that it is impossible to do justice to each region. Perhaps the inhabitants of Leuchars will remember most the wettest July since 1922, the folk of Northolt a day of 33°C in September and Belfast lepidopterists half an inch of lying hail in late May.

Five species new to Britain were first recognised in 2002. Of these, *Anatrachyntis simplex* (Walsingham) was adventive on pomegranates from India. Another remarkable discovery, by R. J. Heckford, is the occurrence in Cornwall of *Infurcitinea captans* Gozmány, a species very similar to *I. albicomella* (Stainton). The true *Coleophora frischella* (Linnaeus) was recorded from Batheaston in North Somerset after years of confusion with *C. alcyonipennella* (Kollar), and it seems likely that more will be found now that distinguishing characters have been clarified. *Ectoedemia heringiella* (Mariani), whose larvae mine leaves of *Quercus ilex*, has been recorded in London and may be a recent colonist, and this certainly applies to *Cameraria olividella* Deschka & Dimic, which has been racing north-westwards across Europe since its first discovery in 1985 in Macedonia. It was confidently predicted to reach us very soon. This species mines the leaves of horse chestnut, often in huge numbers, so that the leaves become brown and autumnal in appearance

by July or August. It was found on Wimbledon Common and it will be most interesting, but rather horrifying, if it now spreads across Britain as rapidly as it has done elsewhere.

The 2002 records show the spread of several other recent colonists, some of which have reached new countries. These include *Phyllonorycter leucographella* (Zeller) and *Epipliyas postvittana* (Walker), both new to Scotland; *P. platani* (Staudinger) and *Tachystola acroxanthla* (Meyrick), new to Wales; and *Caloptilia azaleella* (Brants) and *Blastobasis decolorella* (Wollaston) new to Ireland, as well as the general spread of *Argyresthia trifasciata* Staudinger and *A. cupressata* Walsingham. In many of these cases, the key to invasion and spread is presumably the widespread abundance of their equally non-native foodplants. However, other "new" species have probably been previously overlooked and may actually be more widespread and well established than is currently known. This may apply to *Ocnerostoma friesei* Svensson, new to Wales and *Epinotia sordidana* (Hübner) in Ireland. Although some of these species are inconspicuous, it is inexplicable why such a noticeable species as *Paratalanta pandalis* (Hübner) should be found well established in just one wood in highland Scotland. It just shows that many more discoveries await us.

Whilst more populated areas may now be largely explored entomologically, it is obvious that more remote places have not, and we urge recorders to be adventurous in their exploration. Duncan Williams lives in East Sutherland, with ready access to Caithness, and his numerous new records of leaf-miners not only fill the northern gap for widespread species, but have also demonstrated the unexpected occurrence of sparse, "southern" species, such as *Ectoedemia angulifasciella* (Stainton) and *E. intimella* (Zeller). We might guess that remote western areas of Wales and Ireland would also yield similarly unexpected species.

This annual review of records was the inspiration of David Agassiz, who began it 25 years ago, at a time when there were very few reliable records of the distribution of microlepidoptera. On the anniversary we have been reminding ourselves of its purpose. It seems to us that there are many reasons why it is important to record accurately the distribution of organisms in the British Isles. First of all, the selection of species requiring conservation depends on proper knowledge of their status. One has only to review the current lists of "protected" species of invertebrates to see how ill-informed their original selection was. Secondly, there is great interest in the biogeography of species. Why do they occur where they do? Research in this field provides fascinating insights into the lives of our moths. Next, in the context of climate change, it is important to map the changing distribution of existing residents and the arrival and spread of new species. We already have many examples of species that are showing a northward trend, possibly linked to our noticeably milder recent climate. Imagine how disappointing it would be to our successors in 50 years time, if they looked back and found that we had not recorded the distribution of species now. Any opportunities for comparison would have been lost. A further interest is the way that new knowledge of the habits of difficult species then allows us to record them more effectively. Many examples exist of species for which we now know sufficient of the larvae to record them reliably, even if the adults are virtually never seen.

We would also hope that the existence of this annual review gives purpose to the collection of locality lists by microlepidopterists. Without an obvious collection point for records, it seems aimless to hoard notebooks or disks full of data. We have been sadly lacking in co-ordinated distribution schemes for moths in Britain; imagine, there has never been a set of maps published for the Geometridae. When David Agassiz started his review, the only maps for micros were those in Volume 1 in *Moths and Butterflies of Great Britain and Ireland*, and it was already clear that even these were incomplete. It was in this context that Maitland Emmet began to prepare his distribution maps for all micros. Now we have the maps in MBGBI for most of the smaller micros, and text comments in reliable books on the Tortricidae and Pyralidae, as well as distribution schemes in various degrees of completion for several families. As we write this, the provisional maps for Pyralidae are imminent. Even so, most of these published maps rapidly become out of date, as each new yearly review is published.

We wonder how readers use the records in the review. 25 years of text is very cumbersome. Perhaps our own experience is a guide. MRY scans each review for new Scottish records and enters these onto rather scruffy but fascinating maps for VCs 72-112; JRL updates all the maps but pays special attention to his 'home' area on the south coast. We know of others who either extract data on their favourite group, such as leaf-miners, or for their distribution scheme, such as for pyralids. The standard format is designed to help this process. We hope it works.

We hope to continue to improve this review by encouraging more precision, especially in two ways. Please can we ask for four figure grid references for localities whenever possible (eg NJ8233) and please can records based on feeding signs (e.g. leaf-mines) be quoted as either "vacated", "tenanted" or "moths bred". Following recent advice from Erik van Nieuwerkerken, we have decided that records for the following oak-feeding nepticulids will only be accepted if mines are tenanted and specimens bred (and dissected if necessary): *Stigmella atricapitella* (Haworth), *S. ruficapitella* (Haworth), *S. roborella* (Johansson), *S. svenssoni* (Johansson) and *S. samiatella* (Zeller).

Please send records in the usual format, if possible, and we especially welcome WORD files sent to "john@langmaidj.freereserve.co.uk".

Finally we are most grateful to the many recorders listed below, who are listed by their initials in the systematic text. We do hope that they will contribute more records for the 2003 review and we would also encourage others to send their records as well.

D.J.L. Agassiz, J. Baker, H.E. Beaumont, D.T. Biggs, K.P. Bland, K.G.M. Bond, J. Clifton, G.A. Collins, M.F.V. Corley, A.M. Davis, B. Dickerson, R.D. Edmunds, C.H. Fletcher, R.G. Gaunt, D.J. Gibbs, B. Goodey, A.N. & J.E. Graham, D.G. Green, N.M. Hall, M.W. Harper, C. Hart, R.J. Heckford, B.P. Henwood, J.B. Higgott, S.H. Hind, D. Hipperson, S.A. Knill-Jones, J.R. Langmaid, N.A. Littlewood, J.A. McGill, A.J. Mackay, D.V. Manning, A. Musgrove, S. Nash, R.M. Palmer, S.M. Palmer, M.S. Parsons, S.J. Patton, C.W. Plant, J. Porter, S. Preddy, A.W. Prichard, A.P. Russell, K. Saul, M.P. Skevington, D.J. Slade, E.G. Smith, I.F. Smith, M.H. Smith, P.H. Sterling, S. Thomas, R.W.J. Uffen, M.R. Young.

In the following systematic list SEM stands for the Scottish Entomologists' Field Meeting which was attended by some of the above-named. As in previous Reviews, the following journals are abbreviated: *Ent. Gaz.* for the *Entomologist's Gazette*, *Ent. Rec.* for the *Entomologist's Record and Journal of Variation* and *BJENH* for the *British Journal of Entomology and Natural History*. New vice-county records are shown underlined and in **bold** type.

SYSTEMATIC LIST

MICROPTERIGIDAE

- 3 *Micropterix aureatella* (Scop.) — Nantgwyn SN3623 (**44**) 18.vi.2002 — JB
 4 *M. aruncella* (Scop.) — Garaffin S2995 (**H14**) 23.vii.2001 — KGMB; Bundoran Dunes (**H34**) 14.vii.2002 — MRY

ERIOCRANIIDAE

- 6 *Eriocrania subpurpurella* (Haw.) — Scolty Hill (**91**) vacated mines on oak 27.vii.2002 — RMP
 9 *E. sparrmannella* (Bosc) — Pembrey Forest (**44**) 1.v.2002 — JB; Hamilton NS75 (**77**) tenanted mine on *Betula* 6.vii.2002 — SHH; Dunbeath (**109**) tenanted mines on *Betula* 13.viii.2002 — D. Williams *per* MRY; Ballinahistle M677178 (**H15**) tenanted mine on *Betula* 11.ix.2001 — KGMB
 10 *E. salopiella* (Staint.) — Coedd Wenallt SH8431 (**48**) — tenanted mine on *Betula* 9.vi.2002 — AN&JEG, **New to Wales**
 12 *E. sangii* (Wood) — Loch Ussie (**106**) tenanted mines on *Betula* v.2002 — D. Williams *per* MRY

NEPTICULIDAE

- 40 *Bohemannia pulverosella* (Staint.) — Contin (**106**) vacated mines on *Malus* sp. 29.ix.2002 — D. Williams *per* MRY
 20 *Ectoedemia decentella* (H. -S.) — Rushmere St Andrew (**25**) 27.vi.2001 — JBH
 23 *E. argyropeza* (Zell.) — Ipswich TM2043 (**25**) mines 15.x.2002 — N. Sherman *per* AWP; Hellhoughton Common (**28**) mines on *Populus tremula* 31.x.2002 — JC; Torroy, Kyle of Sutherland (**106**) tenanted mines on *Populus tremula* 9.x.2002 — D. Williams *per* MRY
 24 *E. turbidella* (Zell.) — Ipswich TM2043 (**25**) mines 1.x.2002 — N. Sherman *per* AWP; Mildenhall TL7276 (**26**) mines on *Populus canescens* 25.ix.2002 — JC & AWP
 25 *E. intimella* (Zell.) — Ashill (**5**) mine on *Salix* sp. 19.x.2002 — JAMcG; Inveran (**107**) tenanted mines on *Salix caprea* 20.x.2002, moths bred — D. Williams *per* MRY
 28 *E. angulifasciella* (Staint.) — Morfa Harlech SH5732 (**48**) tenanted mine on *Rosa* 4.x.2002 — AN&JEG; Learnie (**106**) tenanted mines on *Rosa pimpinellifolia* 22.ix.2002, moths bred — D. Williams *per* MRY
 31 *E. rubivora* (Wocke) — Bradfield Woods NNR nr Gedding TL9357 (**26**) tenanted mines on *Rubus caesius* 20.x.2002 — AWP; High Batts NR, Ripon (**65**) vacated mines on *Rubus* sp. 29.xi.2001, det. HEB — CHF
 34 *E. occultella* (Linn.) — Balmacara (**105**) vacated mines on *Betula* sp. 19.ix.2002; Berriedale (**109**) vacated mines on *Betula* sp. 22.viii.2002 — D. Williams *per* MRY
 35 *E. minimella* (Zett.) — Sudbourne TM4053 (**25**) tenanted mines on *Betula* 12.x.2002 — AWP; Loch an Abhair (**105**) vacated mines on *Betula* 15.viii.2002; Dunbeath (**109**) vacated mines on *Betula* 13.viii.2002 — D. Williams *per* MRY

- 36a *E. heringella* (Mariani) — South Kensington (**21**) 1996, det. E.J. van Nieukerken in 2001 — MRH, **New to the British Isles**
- 37 *E. albifasciella* (Hein.) — Sharow (**64**) 19.vi.2002, det. HEB — J.C. Warwick *per* CHF; Plockton (**105**) tenanted mines on *Quercus* sp. 19.ix.2002 — D. Williams *per* MRY
- 39 *E. heringi* (Toll) — Bould Wood (**23**) 1.vi.2002 — MFVC
- 42 *E. septembrella* (Staint.) — West Happas (**90**) mines on *Hypericum* sp. 12.iii.2002 — KPB; Petit Bôt and La Garenne, Guernsey (**113**) mines on *Hypericum tetrapterum* and *H. pulchrum* 6.x.2002 — PHS, R. Austin & P.D.M. Costen
- 43 *E. weaveri* (Staint.) — Black Fell (**60**) mine on *Vaccinium vitis-idaea* 5.v.2002 — SMP
- 46 *Trifurcula immundella* (Zell.) — Garaffin S2995 (**H14**) 23.vii-23.viii 2001 — KGMB
- 50 *Stigmella aurella* (Fabr.) — Glen Leraig (**108**) tenanted mine on *Rubus fruticosus* agg. 14.ix.2002 — D. Williams *per* MRY
- 58 *S. ulmariae* (Wocke) — Ashill (**5**) vacated mines on *Filipendula ulmaria* 26.x.2002 — JAMcG; Balls Wood (**20**) tenanted mine on *Filipendula ulmaria* 26.x.2002 — CWP
- 61 *S. poterii* (Staint.) f. *serella* Staint. — Loch an Arbhair (**105**) vacated mines on *Potentilla erecta* 5.x.2002; The Ord, Lairg (**107**) vacated mines on *Potentilla erecta* 30.ix.2002 — D. Williams *per* MRY; Inchnadamph (**108**) vacated mines on *Potentilla erecta* 17.viii.2002 — SEM; Rumster (**109**) vacated mines on *Potentilla erecta* 7.x.2002 — D. Williams *per* MRY
- 63 *S. lemniscella* (Zell.) — North Kessock (**106**) vacated mines on *Ulmus glabra* 2.ix.2002; Inveran (**107**) vacated mines on *Ulmus glabra* 2.ix.2002; Berriedale (**109**) vacated mines on *Ulmus glabra* 6.ix.2002 — D. Williams *per* MRY
- 64 *S. continuella* (Staint.) — Clare Island L704866 (**H27**) vacated mines on *Betula* 28.ix.2002 — KGMB
- 66 *S. sorbi* (Staint.) — Berriedale (**109**) vacated mines on *Sorbus aucuparia* 23.vii.2002 — D. Williams *per* MRY; Ballydoogan Bog M677179 (**H15**) vacated mines on *Sorbus aucuparia* 27.vi.2002 — KGMB
- 68 *S. salicis* (Staint.) — Berriedale (**109**) vacated mines on *Salix* sp. 22.viii.2002 — D. Williams *per* MRY
- 69 *S. plagicolella* (Staint.) — Contin (**106**) vacated mines on *Prunus spinosa* 12.viii.2002 — D. Williams *per* MRY
- 70 *S. obliquella* (Hein.) — L'Ancrese, Guernsey (**113**) mines on *Salix x sepulchralis* 6.x.2002 — PHS & R. Austin
- 72 *S. myrtillella* (Staint.) — Loch Achilty (**106**) vacated mines on *Vaccinium myrtillus* 12.viii.2002; Strath Vagatie (**108**) vacated mines on *Vaccinium myrtillus* 7.ix.2002; Berriedale (**109**) vacated mines on *Vaccinium myrtillus* 22.viii.2002 — D. Williams *per* MRY
- 74 *S. assimilella* (Zell.) — Loch Arkaig (**105**) vacated mines on *Populus tremula* 5.x.2002; Torroy, Kyle of Sutherland (**106**) vacated mines on *Populus tremula* 1.x.2002; Ardroe (**108**) vacated mines on *Populus tremula* 14.ix.2002; Ballachly, Dunbeath (**109**) vacated mines on *Populus tremula* 6.ix.2002 — D. Williams *per* MRY
- 75 *S. floslactella* (Haw.) — Dunbeath (**109**) vacated mines on *Corylus avellana* 23.vii.2002 — D. Williams *per* MRY
- 77 *S. tityrella* (Staint.) — Berriedale (**109**) vacated mines on *Fagus sylvatica* 6.ix.2002 — D. Williams *per* MRY
- 79 *S. perpygmaeella* (Doubled.) — Balmacara (**105**) vacated mines on *Crataegus monogyna* 19.ix.2002; North Kessock (**106**) vacated mines on *Crataegus monogyna*

- 22.vii.2002 ; Morvich (**107**) vacated mines on *Crataegus monogyua* 22.viii.2002 — D. Williams per MRY; Ardvreck (**108**) vacated mines on *Crataegus inonogyua* 18.viii.2002 — SEM; Halkirk and Watten (**109**) vacated mines on *Crataegus monogyua* 21.viii.2002 — D. Williams per MRY
- 89 *S. basiguttella* (Hein.) — Compton Dundon (**6**) vacated mine on *Quercus robur* 27.x.2002 — JAMcG
- 90 *S. tiliae* (Frey) — Orchard Portman ST2520 (**5**) vacated mines on *Tilia cordata* 10.ix.2002 — JAMcG; Much Hadham (**20**) vacated mines on *Tilia x vulgaris* 10.x.2002, det. CWP — C. Watson per CWP; Elton Hall TL0993 (**31**) vacated mines on *Tilia cordata* 27.ix.2002, det. BD — D. Evans per BD; Kingsley (**58**) vacated mines on *Tilia cordata* 14.ix.2002 — SHH, K. McCabe & A. Wander
- 92 *S. anomalella* (Goeze) — Garbh Ling (**105**) vacated mines on *Rosa* sp. 19.ix.2002; Glen Leraig (**108**) vacated mines on *Rosa* sp. 14.ix.2002; Dunbeath (**109**) vacated mines on *Rosa* sp. 6.ix.2002 — D. Williams per MRY
- 94 *S. spiuosissimuae* (Waters) — Learnie (**106**) tenanted mines on *Rosa pinpinellifolia* 22.ix.2002, moths bred — D. Williams per MRY
- 99 *S. lybnerella* (Hüb.) — Lower Gledfield (**106**) vacated mines on *Crataegus monogyua* 22.vii.2002 — D. Williams per MRY; Linsidemore (**107**) vacated mines on *Crataegus* 16.viii.2002 — RMP & JRL
- 100 *S. oxycauthella* (Staint.) — Contin (**106**) tenanted mines on *Malus* sp. 29.ix.2002 - D. Williams per MRY
- 103 *S. nylandriella* (Tengstr.) — North Kessock (**106**) vacated mines on *Sorbus aucuparia* 22.vii.2002 — D. Williams per MRY
- 107 *S. regiella* (H.-S.) — Trawscoed SH8432 (**48**) vacated mine on *Crataegus* 10.ix.2002 — AN&JEG
- 110 *S. betulicola* (Staint.) — Pembrey Forest SN4001 (**44**) 3.v.2002 — JB
f. *nanivora* Peterson — The Crask (107) tenanted mines on *Betula uana* 11.x.2002; Dyke (108) tenanted mines on *Betula uana* 28.viii.2002 — D. Williams per MRY
- 111 *S. microtheriella* (Staint.) — Loch a'Mhuilinn (**108**) vacated mines on *Corylus avellana* 17.viii.2002 — SEM; Dunbeath Water (**109**) tenanted mines on *Corylus avellana* 6.ix.2002 — D. Williams per MRY
- 112 *S. luteella* (Staint.) — Learnie (**106**) tenanted mines on *Betula* 16.ix.2002; Altass (**107**) tenanted mines on *Betula* 8.ix.2002; Glen Leraig (**108**) tenanted mines on *Betula* 14.ix.2002; Dunbeath Water (**109**) tenanted mines on *Betula* 6.ix.2002 — D. Williams per MRY
- 114 *S. glutinosae* (Staint.) — Dowdeswell Wood SO9919 (**33**) mine on *Alnus glutinosa* 29.x.2002 — G. Meredith per RGG; Eilean Donan (**105**) tenanted mines on *Alnus glutinosa* 18.x.2002; Strathconan (**106**) tenanted mines on *Alnus glutinosa* 29.ix.2002; Strath Vagastie (**108**) tenanted mines on *Alnus glutinosa* 7.ix.2002; Berriedale (**109**) tenanted mines on *Alnus glutinosa* 17.ix.2002 — D. Williams per MRY
- 116 *S. lapponica* (Wocke) — Berriedale (**109**) vacated mines on *Betula* 23.vii.2002 — D. Williams per MRY
- 117 *S. confusella* (Wood) — Berriedale (**109**) vacated mines on *Betula* 23.vii.2002 — D. Williams per MRY
- 118 *Euteucha acetosae* (Staint.) — Bolt Tail (**3**) tenanted and vacated mines on *Rumex acetosella* and *R. acetosa* 5.x.2002 — RJH; Ipswich TM2043 (**25**) mines 8.vii.2002 — N. Sherman per AWP

OPOSTEGIDAE

- 119 *Opostega salaciella* (Treits.) — Ballinger (**24**) 27.vii.2001, det DVM — P.R. Hall *per* DVM
- 121 *Pseudopostega crepusculella* (Zell.) — Morfa Harlech SH5732 (**48**) 6.viii.2002 — AN&JEG

TISCHERIIDAE

- 124 *Tischeria dodonaea* Staint. — Brandon TL7986 (**26**) mines on oak 19.x.2002 — AWP; Litcham TF8817 (**28**) mines on *Quercus robur* 19.x.2002 — Norfolk Moth Group *per* JRL

INCURVARIIDAE

- 128 *Phylloporia bistrigella* (Haw.) — Berriedale (**109**) vacated mines on *Betula* 23.viii.2002 — D. Williams *per* MRY
- 129 *Incurvaria pectinea* Haw. — Bradfield Woods NNR nr Gedding TL9357 (**26**) larval cut-outs on *Corylus* 20.x.2002 — AWP; Berriedale (**109**) larval cut-outs on *Betula* 23.vii.2002 — D. Williams *per* MRY
- 130 *I. masculella* ([D. & S.]) — Cornhill (**94**) 17.v.2002 — R. Leverton *per* MRY

ADELIDAE

- 143 *Nematopogon metaxella* (Hübner) — Ballyseedy Wood Q862126 (**H2**) 1.vi.2002 — KGMB
- 144 *Nemophora fasciella* (Fabr.) — Quickswood (**20**) vii.2002, det. CWP — D. Heath & E. May *per* CWP
- 148 *N. degeerella* (Linn.) — Glenmalure T104904 (**H20**) 22.vi.2002 — KGMB
- 149 *Adela cuprella* ([D. & S.]) — Drumcroy Hill (**88**) 31.v.2002 — KPB; Strathavon (**94**) 16.v.2002 — D. Barbour *per* KPB; Findhorn Valley (**96**) 10.v.2001 — D. Barbour *per* KPB

HELIOZELIDAE

- 154 *Heliozela sericiella* (Haw.) — Inchmarlo (**91**) vacated mines and cut-outs on *Quercus robur* 15.viii.2002 — JRL; Logie Woods (**92**) cut-outs on *Quercus* 6.x.2002 — MRY; Loch Achilty (**106**) mines on *Quercus* 12.viii.2002; Ledmore Woods (**107**) cut-out mine on *Quercus* 15.ix.2002 — D. Williams *per* MRY
- 156 *H. resplendella* (Staint.) — Berriedale (**109**) mines on *Alnus glutinosa* 13.viii.2002 — D. Williams *per* MRY
- 157 *H. hammoniella* (Sorhagen) — Torroy, Kyle of Sutherland (**106**) cut-out mines on *Betula* 1.x.2002 — D. Williams *per* MRY; Clare Island L704866 (**H27**) vacated mines 28.ix.2002 — KGMB

PSYCHIDAE

- 175 *Narycia monilifera* (Geoff.) — Bedford Moss (**59**) case 1.vi.2002 — SMP
- 185 *Luffia ferchaultella* (Steph.) — Chorlton (**59**) cases v.2002 — B. Smart *per* SMP
- 191 *Acanthopsyche atra* (Linn.) — Dalrachie (**94**) one old case v.2002 — D. Barbour *per* MRY

TINEIDAE

- 196 *Morphaga choragella* ([D. & S.]) — Clipsham SK9815 (**55**) 31.vii.2002, det. APR — R. Follows & J. Hervey *per* MPS

- 199 *Psychoides verhuella* Bru. — Streatley (**22**) case on *Asplenium* 6.v.2002, moth bred — NMH; Plas yn Rhiw SH2328 (**49**) pupae on *Phyllitis* 30.v.2002, moths bred — IFS; Inchnadamph (**108**) larvae on *Asplenium ruta-muraria* 19.viii.2002 — SEM
- 200 *P. filicivora* (Meyr.) — Marymount S2693 (**H14**) 23.vii.2001; Union Wood G6827 (**H28**) 16.vii.2001 — KGMB
- 203a *Infurcitinea captans* Gozm. — near Chapel Porth (**1**) 19 & 26.vii.2002, genitalia det. — RJH, **New to the British Isles**
- 212 *Haplotinea insectella* (Fabr.) — Morfa Harlech SH5732 (**48**) 4.ix.2002, genitalia det. — AN&JEG
- 216 *Nemapogon cloacella* (Haw.) — Monasop S2299 (**H14**) 23.vii.2001 — KGMB
- 219 *N. ruricolella* (Staint.) — Rushmere St Andrew (**25**) 19.vi.2000 — JBH; Garaffin S2995 (**H14**) 23.vii.2001 — KGMB
- 228 *Monopis weaverella* (Scott) — Clare Island L715858 (**H27**) 10.vii.2002, second Irish locality — S. McCormack *per* KGMB
- 237 *Niditinea fuscella* (Linn.) — Hutton Conyers (**65**) 17.xii.2002, genitalia det. HEB — CHF
- 238 *N. striolella* (Matsumura) — Leigh Woods ST5573 (**6**) 30.vi.2002, genitalia det. — M. Ellis, *Ent. Rec.* **115**: 40
- 239 *Tinea columbariella* Wocke — Oxford (**23**) in swift nest-box 29.vi.2002, genitalia det. MFVC — G. Candelin; Newent SO7329 (**34**) 19.v.2002 — J.D. Bradley *per* RGG
- 277 *Oinophila v-flava* (Haw.) — Emsworth (**11**) indoors 21.iii.2002 — C. de T. Millard *per* JRL

BUCCULATRICIDAE

- 266 *Bucculatrix nigricomella* Zell. — Morfa Farm SN3919 (**44**) 16.v.2002 — JB; Invercauld (**92**) larvae on *Leucanthemum* 16.v.2002, moths bred — RJH
- 270 *B. frangutella* (Goeze) — Howlett Hills TL7276 (**25**) mines 25.ix.2002 — AWP
- 271 *B. albedinella* Zell. — Odiham Common (**12**) vacated mine on *Ulmus procera* 12 x.2002 — RDE
- 272 *B. cidarella* Zell. — Loch Shiel (**105**) mines on *Abus glutinosa* 19.ix.2002; Strathconon (**106**) mines on *Abus glutinosa* 12.viii.2002 — D. Williams *per* MRY; Loch a'Mhuilinn (**108**) mines on *Myrica gale* 17.viii.2002 — SEM
- 273 *B. thoracella* (Thunb.) — Staplegrove (**5**) many mines on *Tilia* sp. 27.x.2002 — JAMcG; Rushmere St Andrew (**25**) 26.vii.2002 — JBH
- 274 *B. ulmella* Zell. — Plockton (**105**) mines on *Quercus* 19.ix.2002; Ledmore Woods (**107**) mines on *Quercus* 15.ix.2002 — D. Williams *per* MRY
- 275 *B. bechsteinella* (Bech. & Scharf.) — Tattenhall (**58**) vacated mine on *Crataegus* 29.ix.2002 — SHH, I. Kimber & A. Wander; Hutton Conyers (**65**) vacated mines on *Crataegus* 3.xi.2002, det. HEB — CHF
- 276 *B. demaryella* (Dup.) — Dunbeath (**109**) mines and moulting cocoons on *Betula* 6.ix.2002 — D. Williams *per* MRY

ROESLERSTAMMIIDAE

- 447 *Roeslerstammia erxlebella* (Fabr.) — Macclesfield (**58**) 24.iv.2002 — R. Brereton; Achany (**107**) 17.vi.2002 — D. Williams *per* MRY

GRACILLARIIDAE

- 281 *Caloptilia populetorum* (Zell.) — Boreham (**19**) 12.iii.2002 — G. Ekins *per* BG; Elveden Forest (**26**) 13.viii.2002 — HEB

- 282 *C. elongella* (Linn.) — Berriedale (**109**) vacated rolls on *Alnus glutinosa* 13.viii.2002 — D. Williams *per* MRY; Rosroe Lough R442697 (**H9**) 19.x.2002; Bull Island 0250382 (**H21**) mine on *Alnus glutinosa* 25.vi.2002 — KGMB
- 283 *C. betulicola* Her. — Inchmarlo (**91**) 23.v.2002 — C.W.N. Holmes *per* RMP; Berriedale (**109**) tenanted spinnings on *Betula* 23.viii.2002 — D. Williams *per* MRY
- 284 *C. rufipennella* (Hübner) — Berriedale (**109**) vacated spinnings on *Acer pseudoplatanus* 23.vii.2002 — D. Williams *per* MRY
- 285 *C. azaleella* (Brants) — Woodbridge TM2648 (**25**) 31.xii.2002 — N. Sherman *per* AWP; Hest Bank (**60**) 16.vii.2002, det. SMP — A. Kirkham *per* SMP; Belfast (**H39**) 1.vi.2002 — JBH, *Ent. Rec.* **115**: 130, **New to Ireland**
- 290 *C. semifascia* (Haw.) — Stoke Holy Cross TG2301 (**27**) vacated spinnings on *Acer campestre* 4.ix.2002 — AM; Flixton (**59**) 7.viii.2002 — K. McCabe *per* SMP
- 292 *C. leucapennella* (Stephens) — Achany (**107**) spinnings on *Quercus* 17.vi.2002 — D. Williams *per* MRY
- 297 *Eucalybites auroguttella* (Steph.) — Monasop S2299 (**H14**) 23.vii.2001; Tullaghanstown Bog N785662 (**H22**) 18.vii.2002 — KGMB
- 300 *Parornix loganella* (Staint.) — Berriedale (**109**) spinnings on *Betula* 6.ix.2002, moths bred — D. Williams *per* MRY
- 302 *P. fagivora* (Frey) — Lound TG5000 (**25**) vacated spinning on *Fagus* 16.x.2002 — AWP
- 303 *P. anglicella* (Staint.) — Lower Gledfield (**106**) cones on *Crataegus monogyna* 25.viii.2002; Morvich (**107**) cones on *Crataegus monogyna* 22.viii.2002 — D. Williams *per* MRY
- 304 *P. devoniella* (Staint.) — Dunbeath (**109**) vacated mines and spinnings on *Corylus* 23.vii.2002 — D. Williams *per* MRY
- 305 *P. scoticella* (Staint.) — Loch a'Mhuilinn (**108**) 17.viii.2002 — SEM; Ballachy (**109**) vacated fold on *Sorbus aucuparia* 13.viii.2002 — D. Williams *per* MRY
- 309 *Deltaornix torquillella* (Zell.) — Contin (**106**) mines and spinnings on *Prunus spinosa* 12.viii.2002; Altass (**107**) mines and spinnings on *Prunus spinosa* 11.viii.2002 — D. Williams *per* MRY
- 321a *Phyllonorycter platani* Staud. — Taunton (**5**) mines on *Platanus* 7.x.2002 — JAMcG; Farnborough (**12**) mines on *Platanus* 14.ix.2002 — RDE, *Ent. Rec.* **115**: 130; Stoke Holy Cross TG2301 (**27**) mine 4.ix.2002 — AM; Bangor SH5872 (**49**) mines on *Platanus* 15.xi.2002 — ST, **New to Wales**
- 323 *P. oxyacanthae* (Frey) — Watten (**109**) mines on *Crataegus monogyna* 23.vii.2002 — D. Williams *per* MRY
- 324 *P. sorbi* (Frey) — Berriedale (**109**) mines on *Sorbus aucuparia* 23.vii.2002 — D. Williams *per* MRY; Garraffin S2996 (**H14**) 23.vii.2001 — KGMB
- 328 *P. junoniella* (Zell.) — Llyn y fan Fach SN8021 (**44**) mine on *Vaccinium vitis-idaea* 2.vii.2002, moth bred — S.D.S. Bosanquet *per* JB; Greendams (**91**) mines on *Vaccinium vitis-idaea* 11.v.2002, moths bred — C.W.N. Holmes *per* RMP; Berriedale (**109**) vacated mines on *Vaccinium vitis-idaea* 23.vii.2002 — D. Williams *per* MRY
- 329 *P. spinicolella* (Zell.) — Contin (**106**) mines on *Prunus spinosa* 12.viii.2002 — D. Williams *per* MRY; Ballyseedy Wood Q865125 (**H2**) mines on *Prunus spinosa* 12.x.2002 — KGMB

- 332a *P. leucographella* (Zell.) — Cardiff (**41**) mines on *Pyracantha* 25.i.2002 — BPH; Macclesfield (58) mine on *Fagus sylvatica* 18.viii.2002, previously unrecorded foodplant — SHH; Hexham (**67**) mines on *Pyracantha* 16.vii.2002 — HEB; Edinburgh (**83**) mines on *Pyracantha coccinea* 18.i.2002, moths bred — KPB, *Ent. Rec.* **114**: 164, **New to Scotland**; La Garenne, Guernsey (**113**) very many mines on *Pyracantha coccinea* 6.x.2002 — PHS, R. Austin & P.D.M. Costen
- 333 *P. salictella* (Zell.) — Hutton Conyers (**65**) mines on *Salix* sp. 29.ix.2001, moths bred, det. HEB — CHF
- 335 *P. salicicolella* (Sirc.) — Loch a'Mhuilinn (**108**) mines on *Salix* sp. 27.ix.2002, moths bred — D. Williams per MRY; Drominboy Bog R6659 (**H8**) mine on *Salix aurita* 11.ix.2001; Cooneen Hill R9168 (**H10**) 22.vii.2001; Clare Island, L704866 (**H27**) mines 28.ix.2002 — KGMB
- 337 *P. hilarella* (Zett.) — Crwbin Quarry SN4713 (**44**) 11.v.2002 — JB & S.D.S. Bosanquet; Ballinagrosse Lake (**H10**) 16.vii.2002 — MRY
- 342 *P. coryli* (Nic.) — Dunbeath (**109**) mines on *Corylus avellana* 23.vii.2002 — D. Williams per MRY
- 343 *P. quinnata* (Geoff.) — Colesbourne SO9913 (**33**) mine on *Carpinus* 19.x.2002 — G. Meredith per RGG
- 344 *P. strigulatella* (L. & Z.) — Ashill (**5**) mines on *Alnus incana* 19.x.2002 — JAMcG; Burpham TQ0052 (**17**) mines on *Alnus incana* 19.x.2002, moths bred — JP; Pembrey Forest SN3803 (**44**) 1.v.2002 — JB
- 345 *P. rajella* (Linn.) — Berriedale (**109**) vacated mines on *Alnus glutinosa* 13.viii.2002 — D. Williams per MRY
- 348 *P. quinqueguttella* (Staint.) — Coul Links (**107**) mines on *Salix repens* 12.x.2002; Dunnet Links (**109**) mines on *Salix repens* 17.ix.2002 — D. Williams per MRY
- 351 *P. lautella* (Zell.) — Braade (**H33**) 14.vii.2002 — MRY
- 353 *P. ulmifoliella* (Hübner) — Berriedale (**109**) mines on *Betula* 23.vii.2002 — D. Williams per MRY
- 354 *P. emberizaepenella* (Bouché) — Loch Kirkaig (**105**) mines on *Lonicera* 5.x.2002; Loch Achilty (**106**) mines on *Lonicera* 12.viii.2002; Loch a'Mhuilinn (**108**) mines on *Lonicera* 27.ix.2002; Berriedale (**109**) mines on *Lonicera* 8.x.2002 — D. Williams per MRY
- 358 *P. froelichiella* (Zell.) — Strathconon (**106**) mines on *Alnus* 12.viii.2002; Berriedale (**109**) mines on *Alnus glutinosa* 17.ix.2002 — D. Williams per MRY
- 359 *P. nicellii* (Staint.) — Dunbeath (**109**) mines on *Corylus avellana* 17.ix.2002 — D. Williams per MRY
- 360 *P. kleemannella* (Fabr.) — Dowdeswell Wood SO9919 (**33**) mine on *Alnus glutinosa* 26.x.2002 — G. Meredith per RGG; Berriedale (**109**) mines on *Alnus glutinosa* 17.ix.2002 — D. Williams per MRY
- 363 *P. platanoidella* (Joann.) — Taunton (**5**) mines on *Acer platanoides* 6.x.2002 — JAMcG; Lightfoot Green (**60**) 18.ix.2002 — SMP
- 364 *P. geniculella* (Rag.) — North Kessock (**106**) mines on *Acer pseudoplatanus* 22.vii.2002 — D. Williams per MRY
- 366a *Cameraria olivella* Deschk. & Dim. — Wimbledon (**17**) imagines and mines on *Aesculus hippocastanum* 14.vii.2002 — MSP, **New to the British Isles**
- 369 *Phyllocnistis xenia* Hering — St Helen's (**10**) mines on *Populus alba* 17.viii.2002 — B. Shepard & S. Blackwells per DTB, *Ent. Rec.* **115**: 40-41

CHOREUTIDAE

- 386 *Tebenna micalis* (Mann) — West Park SU1215 (**8**) 2.x.2002 — DGG
- 387 *Prochlorentis sehestediana* (Fabr.) — Morfa Harlech SH5732 (**48**) 14.viii.2002, genitalia det. — AN&JEG
- 388 *P. myllerana* (Fabr.) — Icklesham (**14**) 30.viii.2002, genitalia det. MSP, first confirmed VC record — I. Hunter *per* MSP; Linsidmore (**107**) 16.viii.2002 — RMP & JRL

GLYPHIPTERIGIDAE

- 397 *G. thrasonella* (Scop.) — Portumna (**H15**) 16.vii.2002 — MRY

YPONOMEUTIDAE

- 405 *Argyresthia arceuthina* Zell. — Hutton Conyers (**65**) 16.v.2002, det. HEB — CHF
- 409 *A. ivella* (Haw.) — Stainton Little Wood (63) 10.vi.2002, first VC record since 1915 — HEB
- 409a *A. trifasciata* Staud. — Highworth SU2093 (**7**) 23.v.2002 — SN; Earley (**22**) 16.v.2002 — NMH & M. Calway; Gloucester (**33**) 29.v.2002 — R. Pearce *per* RGG; Whetstone (**55**) 16.v.2002 — MPS; Edinburgh (**83**) 8.vi.2002 — KPB
- 409b *A. cupressella* Wals. — Southsea SZ6598 (**11**) 19.vi.2002 — JRL; Thurston TL9165 (**26**) 16.vi.2002 — P. Bryant *per* AWP; Oadby (**55**) 25.vi.2000 — AJM & R.P. Fray
- 410 *A. brockeella* (Hübner) — Dunbeath (**109**) 12.viii.2002 — D. Williams *per* MRY; Crit Island Bog M766368 (**H17**) 28.vi.2002 — KGMB
- 415 *A. retinella* Zell. — Braade (**H33**) 12.vii.2002 — MRY
- 418 *A. conjugella* Zell. — Ballydoogan Bog M677179 (**H15**) 29.vi.2002 — KGMB
- 419 *A. semifusca* (Haw.) — Achany (**107**) ix.2002 — D. Williams *per* MRY
- 421 *A. bonnetella* (Linn.) — Morvich (**107**) 22.viii.2002 — D. Williams *per* MRY; Braade (**H33**) 12.vii.2002 — MRY
- 422 *A. albistria* (Haw.) — Ballyoughter Bridge M872866 (**H25**) 13.viii.2002 — KGMB
- 423 *A. semitestacella* (Curt.) — Hainford (**27**) 27.viii.2002 — DH
- 427 *Yponomeuta cagnagella* (Hübner) — High Batts NR, Ripon (**65**) larval webs on *Euonymus europaeus* 15.vi.2002 — HEB, CHF & J.C. Warwick
- 428 *Y. rorrella* (Hübner) — Hendre Woods (**35**) 15.vii.2002, det. DJS — M.J. White, *Ent. Rec.* **115**: 186, **New to Wales**
- 430 *Y. plumbella* ([D. & S.]) — Bishops Stortford (20) vii.2002, first county record since 1901 — A. Palmer *per* CWP
- 435 *Zelleria hepariella* Staint. — Epping Forest (**18**) 19.iii.2002 — T. Green & D. Perry *per* BG
- 437 *Swammerdamia caesiella* (Hübner) — Berriedale (**109**) larvae on *Betula* 22.viii.2002 — D. Williams *per* MRY
- 437a *S. passerella* (Zett.) — Loch Droma (**106**) larvae on *Betula nana* 18.viii.2002, moths bred — KPB; North Dalchork (**107**) larvae on *Betula nana* 26.viii.2002 moths bred — D. Williams *per* MRY
- 438 *S. pyrella* (Vill.) — Learnie (**106**) larvae on *Crataegus monogyna* 16.ix.2002; Achany (**107**) larvae and cocoon on *Malus* 12.x.2002 — D. Williams *per* MRY; Clare Island L705867 (**H27**) 22.viii.2002 — KGMB
- 439 *S. compunctella* H.-S. — Belfast (**H39**) 2.vi.2002, genitalia det. — JBH, *Ent. Rec.* **115**: 130, **New to Ireland**

- 441 *Paraswammerdamia lutarea* (Haw.) — Ballycrissane, Portumna (**H15**) 15.vii.2002 — MRY
- 444 *Ocnerostoma piniariella* Zell. — Bishops Stortford (20) 29.vi.2001, first county record since 1890 — CWP; Skelmersdale (**59**) 25.vi.2002, genitalia det. SMP — C.A. Darbyshire *per* SMP
- 445 *O. friesei* Svens. — Morfa Harlech SH5732 (**48**) 16.v.2002 — J. Clark, R. Searle & AN&JEG, **New to Wales**
- 449 *Prays fraxinella* (Bjerk.) — Inchmarlo (**91**) 6.vii.2002 — C.W.N. Holmes *per* RMP
- 452 *Ypsolopha nemorella* (Linn.) — Achany (**107**) 2.viii.2002 — D. Williams *per* MRY
- 453 *Y. dentella* (Fabr.) — Clare Island L705867 (**H27**) 22.viii.2002 — KGMB
- 459 *Y. sylvella* (Linn.) — Hutton Conyers (**65**) 30.ix.2002, det. HEB — CHF
- 460 *Y. parenthesella* (Linn.) — Dunbeath (**109**) 13.viii.2002 — D. Williams *per* MRY
- 461 *Y. ustella* (Clerck) — Nedd (**108**) vii.2002 — I. Evans *per* MRY
- 463 *Y. vittella* (Linn.) — St Anne's (**60**) 17.viii.2002 — J. Steeden *per* SMP; North Kessock (**106**) 2.ix.2002 — D. Williams *per* MRY
- 251 *Ochsenheimeria taurella* (D. & S.) — Clare Island L690844 (**H27**) 22.viii.2002 — KGMB
- 252 *O. urella* F. v. R. — Braemore Forest (**105**) 16.viii.2002 — AMD
- 468 *Rhigognostis incarnatella* (Steudel) — Achany (**107**) 2.iv.2001 — D. Williams *per* MRY; Braade (**H33**) 15.vii.2002 — MRY
- 469 *Eidophasia messingiella* (F. v. R.) — Raydon Great Wood TM0540 (**26**) 22.vi.2002 — AWP
- 473 *Acrolepiopsis assectella* (Zell.) — Kingsham (**13**) 14.viii.2002 — SJP

LYONETIDAE

- 263 *Lyonetia clerkella* (Linn.) — Ullapool (**105**) mines on *Crataegus monogyna* 27.vii.2002; Morvich (**107**) mines on *Crataegus monogyna* 24.vii.2002; Berriedale (**109**) mines on *Prunus avium* 6.ix.2002 — D. Williams *per* MRY; Drominboy Bog R6659 (**H8**) tenanted mine on *Betula pubescens* 11.ix.2001 — KGMB

COLEOPHORIDAE

- 490 *Coleophora lutipennella* (Zell.) — Walditch (**9**) 21.vii.2002, genitalia det. — MSP
- 491 *C. gryllipennella* (Hübner) — Coul Links (**107**) cases on *Rosa pimpinellifolia* 12.x.2002; Berriedale (**109**) cases on *Rosa pimpinellifolia* 7.x.2002 — D. Williams *per* MRY
- 494 *C. coracipennella* (Hübner) — Ipswich TM2043 (**25**) 23.vi.2002, genitalia det. JC — N. Sherman *per* JC; Fat Moor, Orrell (**59**) case on *Crataegus monogyna* 29.vi.2002, moth bred, genitalia det. SMP — C.A. Darbyshire *per* SMP
- 494a *C. prunifoliae* Doets — Bookham Common TQ1255 (**17**) case on *Prunus spinosa* 18.v.2001, moth bred, genitalia det. PHS — GAC
- 496 *C. milvipennis* Zell. — Sraduff Bog N006071 (**H10**) cases 19.ix.2002; Ballydoogan Bog M676179 (**H15**) mines on *Betula pubescens* 28.vi.2002 — KGMB.
- 504 *C. lusciniapennella* (Treits.) — Loch Droma (**106**) cases on *Myrica gale* 18.viii.2002 — KPB; Loch Shin (**107**) cases on *Myrica gale* 26.ix.2002 — D. Williams *per* MRY
- 511 *C. orbitella* Zell. — Dunwich Heath TM4767 (**25**) 28.vi.2002, genitalia det. — JC
- 513 *C. potentillae* Elisha — Inchnadamph (**108**) cases on *Rubus saxatilis* and *Potentilla erecta* 17.viii.2002 — SEM

- 517 *C. alcyonipennella* (Koll.) — Edith Weston, Rutland (**55**) 2.viii.2002, genitalia det. DVM — V. Arnold *per* DVM; Hutton Conyers (**65**) 16.v.2002, det. HEB — CHF
- 517a *C. frischella* (Linn.) — Batheaston (**6**) 18.vi.2002, genitalia det. — DJG, **New to the British Isles**
- 518 *C. mayrella* (Hübner) — Hutton Conyers (**65**) 8.vii.2002, det. HEB — CHF; Bundoran Dunes (**H34**) 14.vii.2002 — MRY
- 519 *C. deauratella* L. & Z. — Fat Moor, Orrell (**59**) 7.vii.2002, genitalia det. SMP — C.A. Darbyshire *per* SMP; Clare Island L712863 (**H27**) 23.vii.2002 — S. McCormack *per* KGMB
- 521 *C. conyzae* Zell. — Croxley Common Moor (**20**) cases on *Pulicaria* 17.vi.2002 — RWJU
- 532 *C. albidella* (D. & S.) — Morfa Harlech SH5732 (**48**) 25.vii.2001, genitalia det. — AN&JEG; Castlegregory Q621165 (**H1**) cases on *Salix repens* 1.vi.2002; Ballydoogan Bog M6717 (**H15**) 28.vii.2001, genitalia det.; Clare Island L705867 (**H27**) 22.viii.2002 — KGMB
- 537 *C. kuehnella* (Goeze) — Caston (**28**) case on oak v.2002, det. KS — G.M. Haggitt *per* KS
- 544 *C. albicosta* (Haw.) — Whetstone (**55**) 1.v.2002, genitalia det. JC — MPS, *Ent. Rec.* **114**: 162
- 547 *C. discordella* Zell. — Muie (**107**) cases on *Lotus corniculatus* 28.ix.2002 — D. Williams *per* MRY; Clare Island L720862 (**H27**) 22.viii.2002 — KGMB
- 553 *C. striatipennella* (Tengst.) — Hutton Conyers (**65**) 8.vi.2002, det. HEB — CHF; Inchnadamph (**108**) cases on *Stellaria* sp. 17.viii.2002 — SEM
- 556 *C. trochilella* (Dup.) — Morfa Harlech SH5732 (**48**) 14.viii.2002, genitalia det. — AN&JEG
- 557 *C. gardesanella* Toll — Lavington Down (**8**) 5.vii.2002, genitalia det. — EGS & MHS, *Ent. Rec.* **115**: 39
- 564 *C. virgaureae* Staint. — Clare Island L705867 (**H27**) 22.viii.2002 — KGMB
- 566 *C. sternipennella* (Zett.) — Markfield SK4910 (**55**) 6.viii.2002, genitalia det. — AJM
- 567 *C. adpersella* Ben. — Bullen Hill (**8**) 13.vi.2001, genitalia det. — EGS & MHS, *Ent. Rec.* **115**: 39
- 568 *C. versurella* Zell. — Markfield SK4910 (**55**) 27.vii.2002, genitalia det. — AJM
- 573 *C. atriplicis* Meyr. — The Breaches O315063 (**H20**) 16.vii.2002 — KGMB
- 577 *C. artemisicolella* Bru. — Lightfoot Green (**60**) 29.vii.2002, genitalia det. — SMP
- 581 *C. taeniipennella* (H.-S.) — Coed-y-Brenin SH7426 (**48**) cases 26.vi.2001 — AN&JEG; Sharow (**64**) 15.vii.2002, det. HEB — J.C. Warwick *per* CHF; Hutton Conyers (**65**) 28.vii.2002, det. HEB — CHF; Ballydoogan Bog M677179 (**H15**) 29.vi.2002 — KGMB
- 583 *C. tamesis* Waters — Ballydoogan Bog M676180 (**H15**) 21.vii.2002 — KGMB
- 584 *C. alticolella* Zell. — Crit Island Bog M766368 (**H17**) 28.vi.2002 — KGMB
- 587 *C. caespititiella* Zell. — Hutton Conyers (**65**) 4.vi.2002, genitalia det. HEB — CHF

ELACHISTIDAE

- 593 *Elachista regificella* Sirc. — Cooneen Hill R9168 (**H10**) 22.vii.2001 — KGMB
- 595 *E. biatomella* (Staint.) — Pembrey Forest SN3902 (**44**) 22.vii.2002 — JB
- 598 *E. kilmunella* Staint. — The Argory H8758 (**H37**) 3.vi.2001 — K. Murphy *per* KGMB
- 599 *E. alpinella* Staint. — Crit Island Bog M766368 (**H17**) 28.vi.2002 — KGMB

- 601 *E. albifrontella* (Hübner) — Fuhiry Ride W1573 (**H3**) 3-21.vii.2001; Ballinvally T2581 (**H20**) 24.vii.2001; Union Wood G6827 (**H28**) 26.vi-16.vii.2001 — KGMB
- 602 *E. apicipunctella* Staint. — Marshall's Heath (**20**) 21.iv.2002, genitalia det. CWP — J. Murray *per* CWP; Gamblingay Wood TL2453 (**31**) 21.iv.2002 — I. Dawson *per* BD; Garaffin S2996 (**H14**) 23.vii.2001 — KGMB
- 606 *E. lumilis* Zell. — Beeston Common (**27**) vii.2002, det. K. Durrant — F. Farrow *per* KS; Dooglaun R5391 (**H9**) 20.vii.2001; Garaffin S2995 (**H14**) 23.vii.2001 — KGMB
- 607 *E. canapennella* (Hübner) — Cooneen Hill R9168 (**H10**) 22.vii.2001; Garaffin S2995 (**H14**) 23.vii.2001 — KGMB
- 608 *E. rufocinerea* (Haw.) — Little Paxton TL1962 (31) 4.v.2002, first record since VCH — I. Dawson *per* BD; Glendine Quarry S5058 (**H11**) 27.v.2001 — KGMB
- 611 *E. triatomea* (Haw.) — Bundoran Dunes (**H34**) 14.vii.2002 — MRY
- 613 *E. subocellea* (Steph.) — Bloody Oaks SK9710 (**55**) 8.vi.2002 — AJM & MPS
- 619 *E. unifasciella* (Haw.) — Debdene Banks SP1430 (**33**) 17.vi.2000, genitalia det. DJG — J. Harper *per* RGG
- 621 *E. subalbidella* Schläger — Hirwaun Common (**41**) 31.v.2002 — M.J. White, *Ent. Rec.* **115**: 129
- 623 *E. bisulcella* (Dup.) — Cwmllywd Woods (**41**) 20.viii.2002 — M.J. White, *Ent. Rec.* **115**: 129, Barnadown T1454 (**H12**) 14-30.vii.2001; Garaffin S2995 (**H14**) 23.vii.2001; Donadea Demesne N8332 (**H19**) 16-30.vii.2001 — KGMB
- 626 *Biselachista serricornis* (Staint.) — Folly Bog, Lightwater SU9261 (**17**) 21.vii.2001, genitalia det. — GAC
- 630 *B. albidella* (Nyl.) — Crit Island Bog M766368 (**H17**) 28.vi.2002 — KGMB
- 631 *Cosmiotes freyerella* (Hübner) — Donadea Demesne N8332 (**H19**) 16-30.vii.2001 — KGMB
- 633 *C. stabilella* (Staint.) — Marshall's Heath (**20**) 26.vii.2002, genitalia det. CWP — J. Murray *per* CWP

OECOPHORIDAE

- 638a *Denisia albimaculea* (Haw.) — Bould Wood (**23**) 25.vi.2002, genitalia det. — MFVC; Chorlton-cum-Hardy (**59**) 28.v.2002 — B. Smart *per* SMP
- 644 *Borkhausenia fuscescens* ([D.& S.]) — Trumra S2995 (**H14**) 23.vii.2001 — KGMB
- 645 *B. minutella* (Linn.) — Northfleet (16) 17.vi.2002, genitalia det. — DJLA
- 647 *Hofmannophila pseudospretella* (Staint.) — Kindrogan NO0562 (**89**) 10.vii.2002 — SHH
- 648 *Endrosis sarcitrella* (Linn.) — Kindrogan NO0562 (**89**) 11.vii.2002 — SHH; Achany (**107**) 22.vi.2002 — D. Williams *per* MRY
- 652 *Alabonia geoffrella* (Linn.) — West Bexington (9) one larva in dead twig of *Prunus spinosa* 15.ii.2002; Puddletown (9) a few larvae in dead stems of *Rubus fruticosus* agg. 19.11.2002 — PHS
- 656 *Tachystola acroxantha* (Meyr.) — Cowes (**10**) 11.viii.2002 — DTB, *Ent. Rec.* **115**: 40-41; Swansea (**41**) 28.viii.2002 — M.J. White, **New to Wales**; Sparkbrook SP0888 (**37**) 25.vi.2002, det. ANBS — D. Grundy; Erdington, Birmingham SP0992 (**38**) 4.viii.2002 — NMH; Harborne (**39**) 29.vii.2002, det. MWH — J. & C. Chance
- 660 *Pseudatemelia josephinae* (Toll) — Achany (**107**) 22.vi.2002 — D. Williams *per* MRY

- 661 *P. flavifrontella* ([D. & S.]) — Walditch (9) 20.v.2002 — MSP; Ipswich (25) 29.v.2002 — JBH; Ketton Quarry (55) 1.vi.2002 — AJM & APR
- 663 *Diurnea fagella* ([D.& S.]) — Loch a'Mhuilinn (108) larva on *Salix aurita* 17.viii.2002 — SEM
- 666 *Senioscopis avellanella* (Hübner) — West Park SU1016 (8) 8.iii.2002 — DGG; Hackfall Woods (64) 6.iv.2002, det. HEB — CHF & J.C. Warwick
- 667 *S. steinkellneriana* ([D. & S.]) — Carmarthen (44) 20.iv.2002 — JB
- 671 *Depressaria ultimella* Staint. — Morfa Harlech SH5732 (48) 1.x.2002, genitalia det. — AN&JEG
- 674 *D. badiella* (Hübner) — Ketton Quarry SK9705 (55) 7.vii.2001, genitalia det. AJM — APR; Clare Island L661844 (H27) 28.ix.2002 — KGMB
- 682 *D. chaerophylli* Zell. — Stony Stratford (24) 23.iv.2002, det DVM — M. Killeby *per* DVM
- 692 *Agonopterix subpropinquella* (Staint.) — Wardley Wood SP8399 (55) 10.viii.2002 — MPS & AJM
- 706 *A. nervosa* (Haw.) — Monasop S2299 (H14) 23.vii.2001 — KGMB
- 713 *A. angelicella* (Hübner) — Pembrey Forest SN3604 (44) larva on *Angelica sylvestris* 11.v.2002 — JB & S.D.S. Bosanquet; Adderstonlee Moss (80) 10.viii.2002 — KPB; Ballyseedy Wood Q866124 (H2) 2.viii.2002 — KGMB
- 714 *A. yeatiana* (Fabr.) — Morfa Harlech SH5733 (48) 28.viii.2002 — AN&JEG

GELECHIIDAE

- 724 *Metzneria lappella* — St Peter's, Guernsey (113) 1.vi.2002, det. PHS — P.D.M. Costen *per* PHS
- 726 *M. metzneriella* (Staint.) — Hutton Conyers (65) 6.vi.2002, det. HEB — CHF; Hamilton NS75 (77) 6.vii.2002 — SHH
- 729 *Isophrictis striatella* ([D. & S.]) — Cheltenham SO9424 (33) 5.viii.2002 — R. Homan *per* RGG; Whetstone SP5595 (55) 28.vii.2002 — MPS
- 730 *Apodia bifractella* (Dup.) — Ketton Quarry SK9705 (55) 17.viii.2002 — AJM & MPS
- 731 *Eulamprotes atrella* ([D. & S.]) — Cloud Wood SK4121 (55) 28.vii.2002 — AJM, APR, MPS & G. Finch; Foxglove Covert, Catterick (65) 19.vii.2002, det. HEB — CHF; Tooreenmore V520767 (H1) 3.viii.2002 — KGMB
- 728 *Mouochroa cytisella* (Curt.) — Woodstown Strand S6905 (H6) 1.viii.2001 — KGMB
- 736 *M. lucidella* (Steph.) — Rushmere St Andrew (25) 5.vii.2001 — JBH; Yaxley TL1791 (31) 5.vii.2001, det. BD — A. Frost *per* BD
- 740a *M. niphognatha* (Gozm.) — Jetty Marsh, Newton Abbot (3) 5.vii.2002, genitalia det. RJH — BPH, S.H. Mitchell & W. Deakins, *Ent.Gaz.* 54: 104
- 741 *M. snffusella* (Dougl.) — Ballydoogan Bog M677179 (H15) 29.vi.2002, second Irish locality — KGMB
- 778 *Bryotrophia nubrosella* (Zell.) — Pembrey Dunes SS9941 (44) 1.vi.2002 — JB
- 780 *B. similis* (Staint.) — Scolt Head TF8046 (28) 7.viii.2002, genitalia det. — JC & G. Hibberd
- 782 *B. senectella* (Zell.) — Hutton Conyers (65) 29.vii.2002, det. HEB — CHF
- 784 *B. galbanella* (Zell.) — Invercauld (92) larva in silken tube on the moss *Dicranum scoparium* 3.ix.2001, moth bred, possibly the first larval record in Britain — RJH

- 788 *B. politella* (Staint.) — Devil's Elbow (89) larva amongst the moss *Schistidium* sp. 15.v.2002, moth bred, larva previously unknown — RJH; Corraweelis N722962 (**H30**) 18.vii.2002 — KGMB
- 789 *B. domestica* (Haw.) — Johnstown SN3919 (**44**) 22.vi.2002 — JB
- 758 *Recurvaria leucatella* (Cl.) — Cranmore (**10**) 26.vii.2002, det. RJH — SAK-J, *Ent. Rec.* **115**: 40-41
- 760 *Exoteleia dodecella* (Linn.) — Bloody Oaks SK9710 (**55**) 26.vii.2002 — AJM & MPS; Ballydoogan Bog M677179 (**H15**) 29.vi.2002 — KGMB
- 762 *Atlirips mouffetella* (Linn.) — Hutton Conyers (**65**) 2.vii.2002, det. HEB — CHF; Cronykeery (**H20**) 7.vii.2002 — A. Tyner *per* JRL
- 764 *Pseudotelphusa scalella* (Scop.) — Ipswich TM1842 (**25**) 13.vi.2002 — AWP
- 776 *Teleiopsis diffinis* (Haw.) — Clare Island L661844 (**H27**) 28.ix.2002 — KGMB
- 792 *Mirificarma mulinella* (Zell.) — Hutton Conyers (**65**) 6.viii.2002, det. HEB — CHF; Donaghmore S270797 (**H14**) 8.vii.2002; Cornamagh N740990 (**H30**) 12.viii.2002 — KGMB
- 796 *Aroga velocella* (Zell.) — Croxley Common Moor TQ09 (**20**) vi.2002 — RWJU
- 801a *Gelechia senticetella* (Staud.) — Reading (**22**) 15.viii.2002 — NMH
- 859 *Psoricoptera gibbosella* (Zell.) — Maulden Wood (**30**) 7.viii.2002, genitalia det. DVM — CWP; Charnwood Lodge NNR SK4615 (**55**) 16.viii.2002 — AJM, APR & MPS
- 819 *Scrobipalpa costella* (H. & W.) — Morfa Harlech SH5732 (**48**) 5.vi.2002 — AN&JEG & J. Clark
- 821 *S. murinella* (Dup.) — Inchnadamph (**108**) larval mines on *Antennaria* 17.viii.2002 — SEM
- 822 *S. acuminatella* (Sirc.) — Misson Carr (**56**) 17.viii.2002 — HEB
- 827 *Caryocolum alsinella* (Zell.) — Morfa Harlech SH5632 (**48**) 14.viii.2002 — AN&JEG
- 830 *C. fraternella* (Dougl.) — Shaggs (**9**) 6.viii.2002, genitalia det. — MSP; Morfa Harlech SH5732 (**48**) 6.viii.2002 — AN&JEG; Charnwood Lodge NNR SK4715 (**55**) 17.vii.2002, first record since VCH — AJM & MPS
- 832a *C. blandelloides* Karsholt — Findhorn NJ0464 (**95**) 3.ix.2002, det. MRY — NAL
- 834 *C. tricolorella* (Haw.) — Sinnott's Bog T0666 (**H12**) 24.vii.2001, second Irish locality — KGMB
- 844 *Syncopacma larseniella* (Gozm.) — Hendre Woods (**35**) 15.vii.2002 — M.J. White, *Ent. Rec.* **115**: 186
- 847 *S. taeniolella* (Zell.) — Scratch Wood (**21**) 5.vii.2001 — CWP
- 849 *S. cinctella* (Cl.) — West Park SU1116 (11) eight swept from *Lotus corniculatus* 13.vii.2002, genitalia det. — DGG
- 854 *Anacampsis blattariella* (Hübner) — Yardley Chase (**32**) larva on birch 30.v.2002, moth bred — DVM
- 797 *Neofaculta ericetella* (Geyer) — Slieve & Corbally M746685 (**H25**) 20.vii.2002 — KGMB
- 856 *Anarsia spartiella* (Schr.) — South Luffenham Heath SK9502 (**55**) 28.vi.2002, det. AJM — APR
- 855 *Acompsia cinerella* (Cl.) — Bloody Oaks SK9710 (**55**) 26.vii.2002 — AJM & MPS
- 851 *Dichomeris alacella* (Zell.) — Great Doward (36) 25.vii.2002, first county record since VCH — MWH & MRY

- 866 *Brachmia blandella* (Fabr.) — Morfa Harlech SH5732 (**48**) 30.vii.2002 — ANG & J. Clark
 868 *Helcystogramma rufescens* (Haw.) — Garaffin S2995 (**H14**) 23.vii.2001 — KGMB
 840 *Thiotricha subocellea* (Steph.) — Pembrey Forest SN3902 (**44**) 22.vii.2002, det. S.D.S. Bosanquet — JB

AUTOSTICHIDAE

- 871a *Oegoconia caradjai* Pop. & Cap. — Potton (**30**) 27.vii.2002, genitalia det. DVM — J. Childs *per* DVM

BLASTOBASIDAE

- 873 *Blastobasis lignea* Wals. — Cooneen Hill R9168 (**H10**) 22.vii.2001; Cornamagh N7499 (**H30**) 19.viii.2001 — KGMB
 874 *B. decolorella* (Woll.) — Cronykeery (**H20**) 4.x.2002 — A. Tyner *per* JRL; Tyrella J4536 (**H38**) 13.viii.2002, det. KGMB — K. Murphy *per* KGMB, **New to Ireland**

BATRACHEDRIDAE

- 878 *Batrachedra praeangusta* (Haw.) — Araghty Grange M8155 (**H25**) 18.viii.2001 — KGMB

MOMPHIDAE

- 883 *Monupa raschkiella* (Zell.) — Hutton Conyers (**65**) 22.viii.2002, det. HEB — CHF; Ross N3108 (**H14**) mines on *Chamerion angustifolium* 28.viii.2001 — KGMB
 888 *M. propinquella* (Staint.) — Icklesham (**14**) 18.viii.2002, det. MSP — I. Hunter *per* MSP; Morfa Harlech SH5732 (**48**) 6.viii.2002 — AN&JEG; Monasop S2299 (**H14**) 23.vii.2001 — KGMB; Braade (**H33**) 14.vii.2002 — MRV
 889 *M. divisella* H.-S. — Newport (**35**) iv.2002, genitalia det. DJS — R. James *per* DJS
 889a *M. bradleyi* Riedl — Yelden (**30**) 19.ii.2002, genitalia det. DVM — A. Paynter *per* DVM
 891 *M. sturnipennella* (Treits.) — Ipswich TM2043 (**25**) 12.xi.2002 — N. Sherman *per* AWP; Northwich (**58**) gall on *Chamerion* 28.vii.2002 — A. Wander; Flixton (**59**) 20.iv.2002, genitalia det. SMP — K. McCabe *per* SMP
 892 *M. subbistrigella* (Haw.) — Nosterfield NR (**65**) 30.iv.2002, genitalia det. HEB — S.P. Warwick *per* CHF; Dooglaun R5391 (**H9**) 20.vii.2001 — KGMB
 893 *M. epilobiella* ([D. & S.]) — Hutton Conyers (**65**) 16.v.2002, det. HEB — CHF; Beamish (**67**) larvae in shoots of *Epilobium litusutum* 10.vii.2002 — RMP

COSMOPTERIGIDAE

- 896 *Cosmopteryx orichalcea* Staint. — Crit Island Bog M766368 (**H17**) 28.vi.2002; Cornamagh N7499 (**H30**) 19.viii.2001 — KGMB
 896b *C. pulchriella* Chambers — Petit Bôt and La Claire Mare, Guernsey (**113**) mines on *Parietaria judaica* 6.x.2002 — PHS, R. Austin & P.D.M. Costen
 897b *Anatrachyntis simplex* (Wals.) — Saltash (**2**) pupa 2.i.2002, moth failed to emerge but fully formed, and Lee Mill (**3**) larva 22.xii.2001, moth bred, both these in calyces of pomegranates, origin India — RJH, **Adventive species new to the British Isles**
 898 *Liomaecia pluvagnitella* (Staint.) — Machynys SS5198 (**44**) larvae in heads of *Typha* 1.iv.2002 — I. Morgan & S.D.S. Bosanquet *per* JB; High Batts NR, Ripon (**65**) pupae in heads of *Typha* 15.vi.2002 — HEB, CHF & J.C. Warwick

- 899 *Pancalia leuwenhoekella* (Linn.) — Chedworth SP0512 (**33**) 19.iv.2002 — DJG
 904 *Spuleria flavicaput* (Haw.) — Bevill's Wood TL2079 (31) 11.v.2002, first record since VCH — J.N. Greatorex-Davies *per* BD
 906 *Blastodacna atra* (Haw.) — Stony Stratford (**24**) 15.vii.2002, genitalia det. DVM — M. Killeby *per* DVM
 909 *Sorhagenia lophyrella* (Dougl.) — South Luffenham (**55**) 6.vii.2002, genitalia det. — AJM & APR

SCYTHRIDIDAE

- 914 *Scythris crassiuscula* (H.-S.) — Gomshall TQ0848 (**17**) 21.vi.2002 — RMP, AMD, JRL, GAC, JP

TORTRICIDAE

- 923 *Plitheochroa sodaliana* (Haw.) — Ashwell Quarry TL2539 (**20**) 8.vi.2002 — CWP; Upton Fen (**27**) 15.vi.2002 — Norfolk Moth Group *per* KS
 926 *Phalonidia manniana* (F. v. R.) — Rutland Water (**55**) 15.vi.2002, genitalia det. AJM — APR
 937 *Agapeta huanana* (Linn.) — Cornamagh N740990 (**H30**) 19.vii.2002 — KGMB
 945 *Aethes cnicana* (Westw.) — Nedd (**108**) vii.2002 — I. Evans *per* MRY
 950 *A. francillana* (Fabr.) — Elveden TL8378 (**26**) 22.vi.2002 — S. Dumican *per* AWP
 954 *Eupoecilia angustana* (Hübner) — Abbeyleix S4383 (**H14**) 28.viii.2001; Crit Island Bog M766368 (**H17**) 28.vi.2002 — KGMB
 956 *Cochylidia implicitana* (Wocke) — Stoke Holy Cross (**27**) 26.vii.2002 — AM
 959 *C. rupicola* (Curt.) — Morfa Harlech SH5732 (**48**) 17.vii.2002 — AN&JEG, J. Clark & S.E. Stille
 971 *Pandemis cinnamomeana* (Treits.) — Kindrogan (**89**) 15.viii.2002 — G. Irving *per* MRY
 972 *P. heparana* ([D. & S.]) — Cornamagh N740990 (**H30**) 19.vii.2002 — KGMB
 976 *Archips oporana* (Linn.) — Kings Forest TL8274 (**26**) 21.vi.2002 — AWP
 977 *A. podana* (Scop.) — Kilnaboy (**H9**) 19.vii.2002; Glenmore (**H11**) 23.vii.2002 — MRY
 979 *A. crataegana* (Hübner) — Tooreenmore V520767 (**H1**) 3.viii.2002 — KGMB
 985 *Cacoecimorpha pronubana* (Hübner) — Kendal SD5290 (**69**) 5.x.2002 — NAL; Cronykeery T292989 (**H20**) 4.x.2002 — A. Tyner *per* KGMB
 988 *Aphelia viburnana* ([D. & S.]) — Cloonbony Bog M915719 (**H25**) 20.vii.2002; Corraweelis N721960 (**H30**) 18.vii.2002 — KGMB
 989 *A. paleana* (Hübner) — Cornamagh N740990 (**H30**) 19.vii.2002 — KGMB
 992 *Clepsis rurinana* (Linn.) — Ballycrissane, Portumna (**H15**) 15.vii.2002 — MRY
 998 *Epiphyas postvittana* (Walk.) — Rushmere St Andrew (**25**) 26.iv.1999 — JBH; Barmouth SH6016 (**48**) 13.viii.2002 — S. Farrell *per* ANG; Hutton Conyers (**65**) 25.x.2002, det HEB — CHF; Port Erin, Isle of Man (**71**) larvae on *Centranthus* and *Hedera* 12.iv.2002 — MRY; Edinburgh (**83**) 1.vi.2002 — KPB, **New to Scotland**
 997 *Epichoristodes acerbella* (Walk.) — Fernham SU2991 (**22**) 26.vii.2002 at MV light, det. MFVC & K.E. Tuck — SN, *Ent. Rec.* **115**: 119-121
 999 *Adoxophyes orana* (F. v. R.) — Ramsey TL2885 (**31**) ii.2002, det. BD — D. Evans *per* BD

- 1002 *Lozotaenia forsterana* (Fabr.) — Greendams (**91**) 2.vi.2002 — C.W.N. Holmes *per* RMP; Glenmore (**H11**) 23.vii.2002 — MRY; Ballycrissane, Portumna (**H15**) 15.vii.2002 — MRY
- 1008 *Pliledone gerningana* ([D. & S.]) — Beeston Common (**27**) viii.2002, det. K. Durrant — F. Farrow *per* KS; Charnwood Lodge NNR SK4714 (**55**) 12.vii.2002 — AJM
- 1010 *Ditula angustiorana* (Haw.) — Ballycrissane, Portumna (**H15**) 15.vii.2002 — MRY
- 1016 *Cneplasia longana* (Haw.) — Markfield SK4910 (**55**) 30.vii.2002, genitalia det. — AJM
- 1019 *C. conspersana* Dougl. — Donaghmore S270797 (**H14**) 8.vii.2002; Clare Island L705867 (**H27**) 22.viii.2002 — KGMB
- 1020 *C. stephensiana* (Doubled.) — Ballycrissane, Portumna (**H15**) 15.vii.2002 — MRY
- 1023 *C. genitalana* P. & M. — Ipswich TM2043 (**25**) 14.vii.2002, genitalia det. JC — N. Sherman *per* AWP; Owston Wood SK7706 (**55**) 6.viii.2002, genitalia det. — AJM, APR & MPS
- 1034 *Spatalistis bifasciana* (Hüb.) — Bentley Long Wood, Ipswich TM1039 (**25**) 30.v.2002 — AWP & G. Bull
- 1036 *Acleris forsskaleana* (Linn.) — Longniddry Bents (**82**) pupa 6.vii.2002, moth bred — KPB
- 1038 *A. laterana* (Fabr.) — Garaffin S2995 (**H14**) 23.vii.2001 — KGMB
- 1040 *A. caledoniana* (Steph.) — Haytor SX7577 (**3**) larva on *Vaccinium myrtillus* 27.vi.2001, moth bred — BPH
- 1042 *A. rhombana* ([D. & S.]) — Nedd (**108**) viii.2002 — I. Evans *per* MRY
- 1043 *A. aspersana* (Hüb.) — Donaghmore S270797 (**H14**) 8.vii.2002; Cornamagh N7499 (**H30**) 19.viii.2001 — KGMB
- 1044 *A. ferrugana* ([D. & S.]) — Inchmarlo (**91**) 6.v.2002, genitalia det. RMP — C.W.N. Holmes *per* RMP
- 1045 *A. notana* (Don.) — Llandrillo SJ0336 (**48**) 25.viii.2002, genitalia det. ANG — S.E. Stille *per* ANG; Ballydoogan Bog M677179 (**H15**) 18.ix.2002 — KGMB
- 1048 *A. variegana* ([D. & S.]) — Thurso (**109**) 20.viii.2002 — D. Williams *per* MRY; Clare Island L705864 (**H27**) 22.viii.2002; Cornamagh N7499 (**H30**) 19.viii.2001s — KGMB
- 1051 *A. logiana* (Cl.) — Rushmere St Andrew TM2043 (**25**) 23.ii.2000, genitalia det. — JBH
- 1054 *A. cristana* ([D. & S.]) — Markfield SK4910 (**55**) 4.iv.2002 — AJM
- 1058 *A. lorquiniana* (Dup.) — Weymouth (**9**) 2.viii.2002 — D. Foot *per* PHS
- 1061 *A. literana* (Linn.) — Cronykeery T292989 (**H20**) 28.x.2002 — A. Tyner *per* KGMB
- 1062 *A. emargana* (Fabr.) — Drominboy Bog R6659 (**H8**) 12.ix.2001; Ross N3108 (**H14**) 28.viii.2001; Ballydoogan Bog M677179 (**H15**) 18.ix.2002; Clare Island L704866 (**H27**) 28.ix.2002 — KGMB
- 1013 *Olindia schumacherana* (Fabr.) — Monasop S2299 (**H14**) 23.vii.2001; Union Wood G6827 (**H28**) 26.vi-16.vii.2001 — KGMB
- 1068 *Celypha rivulana* (Scop.) — Coolsnaghtig W212560 (**H3**) 4.viii.2002; Cloonbony M913732 (**H25**) 20.vii.2002 — KGMB
- 1072 *Olethreutes metallicana* (Hüb.) — Glen Saugh (**91**) vi.2002 — N.A. Littlewood *per* RMP
- 1073 *O. schulziana* (Fabr.) — Halsary (**109**) 2.vii.2001 — D. Williams *per* MRY; Annaholty Bog R6863 (**H10**) 27.viii.2001; Ballydoogan Bog M6717 (**H15**) 18.viii.2001 — KGMB
- 1083 *Hedya nubiferana* (Haw.) — Derryquay, Dingle (**H1**) 20.vii.2002 — MRY; Cornamagh N740990 (**H30**) 19.vii.2002 — KGMB

- 1087 *Orthotaenia undulana* ([D. & S.]) — Tooreenmore V520767 (**H1**) 3.viii.2002 — KGMB
- 1089 *Apotomis semifasciana* (Haw.) — Garaffin S2995 (**H14**) 23.vii.2001; Clare Island L705867 (**H27**) 22.viii.2002 — KGMB
- 1104 *Endothenia quadrimaculana* (Haw.) — Bloody Oaks SK9710 (55) 26.vii.2002, first record since VCH — AJM & MPS
- 1106 *Lobesia reliqana* (Hübner) — Clyne Wood (**41**) 4.v.2002 — M.J. White, *Ent. Rec.* **115**: 129, Moulin Huet, Guernsey (**113**) 2.vi.2002 — PHS, R. Austin & P.D.M. Costen
- 1112 *Bactra robustana* (Christ.) — The Breaches O315063 (**H20**) 16.vii.2002, second Irish locality — KGMB
- 1118 *Ancylis uncella* ([D. & S.]) — Swansea (**41**) 12.v.2002 — M.J. White, *Ent. Rec.* **115**: 129; Ballydoogan Bog M677179 (**H15**) 29.vi.2002 — KGMB
- 1134 *Epinotia ramella* (Linn.) — Annaholty Bog R6863 (**H10**) 27.viii.2001; Ballydoogan Bog M6717 (**H15**) 11.ix.2001 — KGMB
- 1135 *E. demarniana* (F. v. R.) — Rushmere St Andrew (**25**) 14.vi.2002 — JBH
- 1136 *E. immundana* (F. v. R.) — Morfa Harlech (**48**) 16.v.2002 — AN&JEG
- 1138 *E. nisella* (Cl.) — Banchory-Devenick (**91**) 17.vii.2002 — B.J. Stewart *per* RMP; Annaholty Bog R688633 (**H10**) 27.viii.2001 — KGMB
f. *cinerea* Haw. — Achany (**107**) 13.viii.2002; Dunbeath (**109**) 13.viii.2002 — D. Williams *per* MRY
- 1142 *E. tedella* (Cl.) — Marymount S2693 (**H14**) 23.vii.2001 — KGMB
- 1144 *E. signatana* (Dougl.) — Upton Fen (**27**) 15.vi.2002 — Norfolk Moth Group *per* KS
- 1145 *E. nanana* (Treits.) — Shabbington Wood (**24**) 21.vi.2002, genitalia det. DVM — P.R. Hall *per* DVM; Monasop S2299 (**H14**) 23.vii.2001 — KGMB
- 1146 *E. rubiginosana* (H.-S.) — Gight (**93**) 16.vi.2002 — MRY
- 1150 *E. abbreviana* (Fabr.) — Ballycrissane, Portumna (**H15**) 15.vii.2002 — MRY
- 1151 *E. trigonella* (Linn.) — Ballydoogan Bog M6717 (**H15**) 11.ix.2001 — KGMB
- 1153 *E. sordidana* (Hübner) — Clare Island L705864 (**H27**) 27.ix.2002 — KGMB, *Ent.Gaz.* **54**: 142, **New to Ireland**
- 1156 *E. solandriana* (Linn.) — Clare Island L705867 (**H27**) 22.viii.2002 — KGMB
- 1157 *Crociosema plebejana* Zell. — Hampstead (**21**) 7.xi.2000, genitalia det. CWP — R.A. Softly *per* CWP
- 1159 *Rhopobota naevana* (Hübner) — Achilty (**106**) 16.viii.2002 — MRY; Ballyoughter Bridge M872866 (**H25**) 13.viii.2002 — KGMB
- 1163 *Zeirophera ratzeburgiana* (Ratz.) — Lochinver (**108**) 18.viii.2002 — SEM; Fuhiry W1573 (**H3**) 3-21.vii.2001; Buffanoky R8156 (**H8**) 30.vii.2001; Corracloon R5891 (**H9**) 30.vii.2001; Cooneen Hill R9168 (**H10**) 29.vii.2001; Monasop S2299 (**H14**) 23.vii.2001 — KGMB
- 1166 *Z. griseana* (Hübner) — Achairn (**109**) 21.viii.2002 — D. Williams *per* MRY
- 1168 *Gypsonoma sociana* (Haw.) — High Batts NR, Ripon (**65**) 7.vi.2002, det. HEB — CHF, J.C. Warwick & S. Worwood
- 1169 *G. dealbana* (Fröl.) — Clare Island L705867 (**H27**) 22.viii.2002 — KGMB
- 1171 *G. minutana* (Hübner) — Oxhey (**20**) viii.2001, genitalia det. CWP — J. Thompson *per* CWP
- 1184 *Epiblema scutulana* ([D. & S.]) — Cornamagh N740990 (**H30**) 19.vii.2002 — KGMB
- 1184a *E. cirsiiana* (Zell.) — Bundoran Dunes (**H34**) 14.vii.2002 — MRY

- 1186 *E. sticticana* (Fabr.) — Crwblin Quarry SN4713 (**44**) 11.v.2002 — JB & S.D.S. Bosanquet
- 1192 *Eucosma conterniuana* (Guen.) — Rushmere St Andrew (**25**) 21.vii.2002, genitalia det. — JBH; West Melton (**63**) 1.viii.2002 — HEB
- 1197 *E. caupoliliana* ([D. & S.]) — Tooreenmore V520767 (**H1**) 3.viii.2002; Corraweelis N722962 (**H30**) 18.vii.2002 — KGMB
- 1198 *E. pauperana* Dup. — Maldon (**18**) iv. 2002 — S. Wood & BG
- 1200 *E. hohenwartiana* ([D. & S.]) — Laragh Bog M570285 (**H17**) 21.vii.2002; Tullaghanstown Bog N785662 (**H22**) 18.vii.2002 — KGMB
- 1201 *E. cana* (Haw.) — Cornamagh N740990 (**H30**) 19.vii.2002 — KGMB
- 1205 *Spilonota ocellana* ([D. & S.]) — Ballintemple W703711 (**H4**) 16.viii.2002 — KGMB
- 1206 *Clavigesta sylvestrana* (Curt.) — Dovercourt (**19**) 23.vii.2002 — C. Gibson & BG
- 1216 *Enarmouia formosana* (Scop.) — Ballycrissane, Portumna (**H15**) 15.vii.2002 — MRY
- 1221 *Strophedra weirana* (Dougl.) — Kings Forest (**26**) 17.v.2002 — JC & AWP, *Ent. Rec.* **114**: 160
- 1225 *Pannuene obscurana* (Steph.) — Mere (**58**) v.2001, genitalia det. R.I. Heppenstall — S. Blamire *per* SHH
- 1233 *P. aurita* Ratz. — Stony Stratford (**24**) 25.vii.2002, det DVM — M. Killeby *per* DVM
- 1234 *P. regiana* (Zell.) — Garaffin S2995 (**H14**) 23.vii.2001 — KGMB
- 1235 *P. traumiana* ([D. & S.]) — Ryme Intrinseca (9) 26.vii.2002, genitalia det. PHS, first county record for c.100 years — J. Astley *per* PHS
- 1237 *P. germana* (Hübner.) — Milborne Wood (9) 6.vi.2002, first county record for c.100 years — H. Wood Homer *per* PHS; Rutland Water SK9006 (**55**) 15.vi.2002, det MPS — H. Orridge *per* MPS
- 1238 *P. oxsenheimeriana* (L. & Z.) — Cefn Hill (**36**) 24.vi.2002 — MWH
- 1272 *P. aurana* (Fabr.) — High Batts NR, Ripon (**65**) 15.vi.2002 — HEB, CHF & J.C. Warwick
- 1242 *Grapholita internana* (Guen.) — Charnwood Lodge NNR SK4615 (**55**) 11.v.2002 — AJM
- 1245 *G. jauthiana* (Dup.) — Longniddry Bents (**82**) 15.vi.2002, second Scottish record — KPB
- 1250 *G. lathyrana* (Hübner.) — Burton Bradstock (9) two flying in sunshine at about midday 29.iii.2002 — PHS
- 1252 *G. lunulana* ([D. & S.]) — Red Scar, Preston (**60**) 5.vi.2002 — SMP
- 1269 *Cydia conicolana* (Heyl.) — Cheshunt TL30 (**20**) 10.v.2002, genitalia det. CWP — M. & H. Cooper *per* CWP; Northampton (**32**) bred from cones of *Pinus nigra* ssp. *laricio* 21.v.2002, genitalia det. DVM — J. Smeathers *per* DVM
- 1273 *Dichroranpha petiverella* (Linn.) — Heathlawn Bog M829108 (**H15**) 28.vi.2002 — KGMB
- 1279 *D. acuminatana* (L. & Z.) — Glendine Quarry S5058 (**H11**) 27.v.2001 — KGMB
- 1281 *D. simpliciana* (Haw.) — Lightfoot Green (**60**) 6.viii.2002, genitalia det. — SMP
- 1283 *D. montanana* (Dup.) — Heathlawn Bog M829108 (**H15**) 28.vi.2002 — KGMB
- 1284 *D. gueneana* Obraz. — Whetstone SP5595 (**55**) 24.vii.2002 — MPS

EPERMENIIDAE

- 478 *Phauleruis fulviguttella* (Zell.) — Afan Argocd CP (**41**) 26.viii.2002 — M.J. White, *Ent. Rec.* **115**: 129

- 481 *Epermenia falciformis* (Haw.) — Ammerdown ST7152 (**6**) 7.vi.2002, det. M. Bailey — Cam Valley Wildlife Group *per* SP: Morfa Harlech SH5732 (**48**) 12.ix.2002 AN&JEG; Misson Carr (**56**) 17.viii.2002 — HEB

PYRALIDAE

- 1293 *Chrysoteuchia culmiella* (Linn.) — Cornamagh N740990 (**H30**) 19.vii.2002 — KGMB; Bundoran Dunes (**H34**) 14.vii.2002 — MRY
- 1296 *Crambus silvella* (Hübner) — Plaitford (**8**) 2.viii.2002 — EGS & MHS, *Ent. Rec.* **115**: 41
- 1298 *C. ericella* (Hübner) — Braade (**H33**) 13.vii.2002 — MRY, **New to Ireland**
- 1302 *C. perlella* (Scop.) — Achnahaird Dunes (**105**) 17.viii.2002 — AMD
- 1303 *Agriplula setasella* (Hübner) — Derrybrien Commonage R578997 (**H15**) 10.vii.2002 — KGMB
- 1305 *A. tristella* ([D. & S.]) — Annaholty Bog R6863 (**H10**) 27.viii.2001; Rathkenny N893786 (**H22**) 12.viii.2002 — KGMB
- 1306 *A. inquinatella* ([D. & S.]) — Glenrevagh M353415 (**H17**) 21.vii.2002; Clare Island L705867 (**H27**) 22.viii.2002 — KGMB
- 1307 *A. latistria* (Haw.) — Barnstaple (**4**) 2001 — P. Butter, *BJENH* **15**: 162
- 1313 *Catoptria pinella* (Linn.) — Nedd (**108**) vii.2002 — I. Evans *per* MRY
- 1314 *C. margaritella* ([D. & S.]) — Coolsnaghtig V212560 (**H3**) 4.viii.2002 — KGMB
- 1330 *Donacaula mucronellus* ([D. & S.]) — Strensall Common (**62**) 27.vii.2002 — HEB; Scolty Hill (**91**) 27.vii.2002 — RMP
- 1334 *Scoparia ambigualis* (Treits.) — Cooneen Hill R9168 (**H10**) 29.vii.2001; Monasop S2299 (**H14**) 23.vii.2001 — KGMB
- 1338 *Dipleurina lacustrata* (Panz.) — Donaghmore S270797 (**H14**) 8.vii.2002 — KGMB
- 1336 *Eudonia pallida* (Curt.) — Ballydoogan Bog M677179 (**H15**) 29.vi.2002 — KGMB
- 1340 *E. truncicolella* (Staint.) — Annaholty Bog R6863 (**H10**) 27.viii.2001; Ross N3108 (**H14**) 28.viii.2001; Barberstown O1444 (**H21**) 28.viii.2001, genitalia det.; Corraweelis N720960 (**H30**) 18.vii.2002 — KGMB
- 1342 *E. angustea* (Curt.) — Struan NN7763 (**88**) 10.vii.2002 — SHH
- 1344 *E. mercurella* (Linn.) — Cooneen Hill R9168 (**H10**) 29.vii.2001; Monasop S2299 (**H14**) 23.vii.2001 — KGMB
- 1345 *Eloplula nymphaeata* (Linn.) — Abbeyleix S433833 (**H14**) 25.viii.2002; Laragh Bog M570285 (**H17**) 21.vii.2002 — KGMB
- 1354 *Cataclysta lemnata* (Linn.) — Portumna (**H15**) 16.vii.2002 — MRY
- 1356 *Evergestis forficalis* (Linn.) — Ballydoogan Bog M6717 (**H15**) 28.vii.2001 — KGMB
- 1359 *Cynaeda dentalis* ([D. & S.]) — Shingle Street TM3743 (**25**) 27.vii.2002, first confirmed VC record — AWP et al.
- 1368 *Loxostege sticticalis* (Linn.) — Rutland Water SK8808 (**55**) 7.viii.2002 — R. & G. Follows *per* MPS
- 1373 *Paratalanta pandalis* (Hübner) — Coille Levishie, Glen Moriston (**96**) 26.v.2002 — D. Barbour *per* MRY, **New to Scotland**
- 1376 *Eurrhlypara hortulata* (Linn.) — Ballycrissane, Portumna (**H15**) 15.vii.2002 — MRY
- 1380 *Phlyctaenia perlucidalis* (Hübner) — Woolston Eyes, Warrington (**59**) 13.vii.2002 — D. Taylor & K. McCabe *per* SMP; Hutton Conyers (**65**) 14.vii.2002, det. HEB — CHF
- 1381 *Anania funebris* (Ström.) — Fountainstown (**H4**) larvae on *Solidago virgaurea* 22.ix.2002 — KGMB

- 1387 *Nascia ciliaris* (Hübner) — Wood Walton Fen (31) 15.vi.2002, first record since VCH — BD, JAMeG & J.N. Greatorex-Davies
- 1390 *Udea prunalis* ([D. & S.]) — Glenmore (97) 13.viii.2002 — AMD
- 1397 *Mecyna asinalis* (Hübner) — Morfa Harlech SH5732 (48) 6.viii.2002 — AN&JEG
- 1398 *Nonnoplila noctuella* ([D. & S.]) — Sanna, Ardnamurchan, (97) 6.vi.2002 — JBH; Dary Bog M938013 (H10) 19.ix.2002 — KGMB
- 1403 *Diaseniopsis ramburialis* (Dup.) — Muswell Hill (21) 16.viii.2002 — B. Price per AMD; Morfa Harlech SH5732 (48) 6 & 20.viii.2002 — AN&JEG, **New to Wales**
- 1403a *Duponchelia fovealis* Zell. — Canterbury (15) 3.x.2001 — S. Claney, *BJENH* 15: 162; North Chingford (18) 24.ii.2002, det. B. Goodey — B. Pateman per AMD; Earley (22) 14.viii.2002 — NMH; Rendham TM3464 (25) 16.viii.2002 — M. Deans per AWP
- 1405 *Pleuroptya ruralis* (Scop.) — Glenmore (97) 12.viii.02 — AMD; Mountain Lodge H582039 (H30) 12.viii.2002 — KGMB
- 1415 *Orthopygia glaucinalis* (Linn.) — Warton Crag (60) 3.viii.2002 — JC & G. Powell per SMP
- 1426 *Achroia grisella* (Fabr.) — Barmouth SH6016 (48) 16.viii.2002 — S. Farrell per ANG
- 1428 *Aplomia sociella* (Linn.) — Glenmore (H11) 23.vii.2002 — MRY
- 1436 *Conobathra repandana* (Fabr.) — Gait Barrows NNR (60) 6.vii.2002 — SMP *et al.*
- 1437 *Acrobasis consociella* (Hübner) — Hutton Conyers (65) 31.vii.2002, det. HEB — CHF
- 1439 *Trachycera advenella* (Zinck.) — Glenmore (97) 13.viii.2002 — AMD; Donaghmore S270797 (H14) 8.vii.2002 — KGMB
- 1443 *Pempelia genistella* (Dup.) — Overton Cliff, Gower SS4584 (41) larvae on *Ulex* 3.vii.2001, moth bred — MSP & B. Stewart, **New to Wales**
- 1452 *Phycita roborella* ([D. & S.]) — Hutton Conyers (65) 7.vii.2002, det. HEB — CHF
- 1454b *Dioryctria sylvestrella* (Ratz.) — Elveden Forest (26) 12-14.viii.2002 — HEB
- 1461 *Assara terebrella* (Zinck.) — Dymchurch (15) 3.viii.2002 — D. O’Keeffe per DJLA
- 1462 *Pempeliella dilutella* ([D. & S.]) — Northfleet (16) 16.vi.2002 — DJLA
- 1469 *Euzophera cinerosella* (Zell.) — Hutton Conyers (65) 16.v.2002, det HEB — CHF
- 1474 *Ephestia parasitella* Staud. — Great Torrington SS5116 (4) 6.vii.2002 — R.F. McCormick per RJH; Bould Wood (23) 25.vi.2002, genitalia det. — MFVC
- 1475 *E. kuehniella* (Zell.) — Hutton Conyers (65) 30.ix.2002, genitalia det. HEB — CHF
- 1478b *Vitula biviella* (Zell.) — Northfleet (16) 16.vii.2002 — DJLA
- 1484 *Phycitodes saxicola* (Vaughan) — Hempsted SO8218 (33) 2.vii.2001, genitalia det. DJG — G. Avery per RGG
- 1485 *P. maritima* (Tengst.) — Brown’s Hill Quarry, Holwell (55) 15.v.2002, genitalia det. — H. Orridge & AJM; Bruar (89) larvae amongst spun flowers of *Senecio jacobaea* 1.ix.2001, moth bred, genitalia det. — RJH

PTEROPHORIDAE

- 1492 *Oxyptilus laetus* (Zell.) — Freshwater (10) 15.vi.2002, det. CH — SAK-J
- 1498 *Amblyptilia punctidactyla* (Haw.) — Dunbeath (109) 13.viii.2002 — D. Williams per MRY
- 1502 *Platyptilia isodactylus* (Zell.) — The Argory H8858 (H37) 1.vi.2002, det. KGMB — K. Murphy per KGMB; Braade (H33) 12.vii.2002 — MRY
- 1506 *Stenoptilia millieridactyla* (Bru.) — Lightfoot Green (60) 29.vii.2002 — SMP

- 1508 *S. bipunctidactyla* (Scop.) — Carrig East V8774 (**H1**) 9.ix.2001 — KGMB
- 1515 *Pterophorus spilodactylus* (Curt.) — Wall Common ST2545 (**5**) larvae and pupae on *Marrubium* 18.v.2002 — B. & J. Goater
- 1517 *Adaina microdactyla* (Hübner) — Morfa Harlech SH5732 (**48**) 17.vii.2002 — AN&JEG, J. Clark & S.E. Stille; Ballydoogan Bog M677178 (**H15**) larva & galls on *Eupatorium cannabinum* 7.iv.2002; Casana Rock O3038 (**H21**) larval galls on *Eupatorium cannabinum* 27.i.2001 — KGMB
- 1519 *Euleioptilus carphodactyla* (Hübner) — Groby SK5207 (**55**) 31.viii.2002 — AJM
- 1522 *E. tephrodactyla* Hübner. — Killarney National Park V98 (**H2**) det. KGMB — K. Murphy per KGMB; Clare Island L704866 (**H27**) larvae on *Solidago virgaurea* 28.ix.2002 — KGMB
- 1524 *Emmelina monodactyla* (Linn.) — Inchmarlo (**91**) 17.iv.2002 — C.W.N. Holmes per RMP; Loughrea M636171 (**H15**) 15.ii.2002 — KGMB

SUBSCRIBER NOTICE

England Supplement to the Guidelines for the Selection of SSSIs: Invertebrates

English Nature has initiated the process of drafting a number of English supplements to the guidelines for the selection of SSSI. One of these will detail invertebrates. Such a supplement will aim to introduce further clarity to the original guidelines by updating information and providing further explanation.

The Guidelines for the selection of biological SSSIs were published in 1989. In the invertebrate section of these guidelines there was a strong focus on butterflies and dragonflies, the best-known groups. The guidelines did however conclude that "The process of analysing species assemblages, combined with assessing the presence of rare species at localities within a major habitat type, is likely to provide a sound basis for selecting important invertebrate sites in the future".

It is expected that the new supplement will be split into two main sections: (1) invertebrate assemblages and (2) species.

A large proportion of the English supplement will deal with invertebrate assemblages. Such assemblages will be linked to specific habitats and processes (e.g. exposed riverine sediment, early successional habitats). Initially, broad assemblage classifications will be named. Further work will provide detail to each assemblage, including species lists, a scoring / ranking system and monitoring information.

The initial framework for this supplement will be drafted by English Nature within a 12-month period. Various organisations and individuals will then be invited to comment with the expectation that the framework for the supplement will be finalised within 18 months. If you require any further information then please contact Jon Webb, Invertebrate Ecologist, English Nature, Northminster House, Peterborough PE1 1UA (E-mail: jon.webb@english-nature.org.uk).

The generic names of the British Elateridae (Coleoptera) explained

- Agrypnus*: wakeful, alert, from the lack of furrows for the reception of the antennae in repose.
- Lacon*: a Laconian or Spartan (perhaps Laporte's type was from Sparta?)
- Hypnoidus*: sleep-like, apparently a reference to sluggish habits.
- Actenicerus*: having antennae (horns) without pectinations (cf. *Ctenicera*).
- Anostirus*: having a keel, or keels, above (but not readily seen).
- Ctenicera*: with comb-like antennae ("comb-horned").
- Calambus*: "beautiful rim"; must refer to the red patch at the base of the elytra.
- Aplotarsus*: for *Haplotarsus*, "with simple tarsi".
- Paraplotistus*: "brought to light alongside", with implied reference to some other species or genus.
- Prosternon*: must refer to the prosternal leaping mechanism, which however is common to the whole family.
- Selatosomus*: bright body.
- Cidnopus*: first element "spread over", second "foot"; not clear.
- Kibunea*: from some proper name, or an arbitrary formation. This and the preceding were formerly in *Limonius*, which can be rendered "of meadows".
- Limoniscus*: a diminutive of *Limonius*, though not warranted by its size.
- Denticollis*: "toothed neck", i.e. the pronotum. An example of that rare thing, a Latin generic name: our species was formerly in a genus *Caupylus*, "a bent staff."
- Athous*: harmless (presumably to crops) in contrast to *Agriotes*.
- Diacanthous*: "with two thorns, i.e. the sharp produced hind pronotal angles. A misspelling of *Diacanthus*, influenced by *Athous*."
- Hemicrepidius*: half a little shoe, from some fancied resemblance.
- Stenagostus*: narrow palm (of hand); application obscure.
- Adrastus*: not running away or escaping.
- Synaptus*: fitted together (doubtless of the prosternal structure, normal for an elaterid).
- Agriotes*: a worker in, or inhabitant of, the fields.
- Dalopius*: For *Dolopius*, "of deceptive appearance".
- Ampedus*: Greek *ana* + *pedon*, "up from the ground", from their leaping powers.
- Brachygonus*: with short (little produced) hind pronotal angles.
- Ischnodes*: of lean appearance or form; not specially apt.
- Megapenthes*: much mourning, from being wholly dull black.
- Prokraerus*: with prominent or porrected head (not an obvious feature).
- Elater*: a driver; from the leaping mechanism peculiar to the whole family.
- Sericus*: silky (cf. *Serica* in the Scarabaeidae).
- Panspaeus*
(*Panspoeus* auct.): first element "all", second obscure.
- Melanotus*: blackened, made black.
- Fleutiauxellus*: from the name of a French entomologist, plus a diminutive suffix.
- Negastrius*: hardly clear (ne = not, gaster = abdomen).
- Oedostellus*: with swollen breast, i.e. thoracic sternum.
- Zoroctros*: of pure colour.
- Cardiophorus*: bearing a heart (from shape of scutellum).
- Dicronychus*: with split claws.

— A. A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

Hazards of butterfly collecting. Butterflies and noodle soup – Bangkok, Thailand, August 2002

I was in Bangkok for ten days in August 2002, almost twenty years since my last visit to Thailand. The building boom of the “good years” really left most of the city unrecognisable, but the Sky Train was a transport boon (if not a boon for its investors). I had the chance for some tourism in town, though not for butterfly collecting; I saw only three or four species in what seems to be quite a green city.

I was reminded, though, that Bangkok is snack city of the world. From formal restaurants, less formal restaurants, to assemblages of food stalls in approved areas, to individual food stalls lining most streets, and to little grills directly on the pavement, food is simply everywhere. And even in the humblest food stall, most serving just one dish, the food is remarkably good; if your food was no good, you just would not survive. On top of that, the food is also very cheap – a nourishing noodle soup will set you back some \$0.30 – 0.40. Some people will tell you that Manila, Mexico, Hanoi or elsewhere has more food outlets, but don't you believe them. Thailand is tops!

Butterfly collecting in most of Thailand is more difficult, at least in the Bangkok area. On my first visit to Thailand I hired a car with driver and headed in the direction of Kanchanaburi, the site of the “Bridge over the River Kwai” in the hope of finding some useful butterfly collecting. It was not to be. Areas of any type of natural habitat were as rare as in Bangladesh and a whole day's driving resulted in the capture of some 35 species, most common and widespread species – scoring very low on the cost-efficiency index.

However, I was going to be back in Thailand shortly with another free day, so on the advice of a colleague I went to see a friend of his in the forest department. Being a friend of a friend goes a long way in Thailand and pretty soon I had been pointed in the direction of Sam Lan Forest Park, apparently the only good forest within easy one-day reach of Bangkok.

A few months later I was back, a day before my official programme. I hired a self-drive car and matched what the forestry department had said with my own map. It looked like an easy run, well before the notorious morning rush-hour.

My departure was somewhat slowed down by being crowded by three doddering Austrians in *Lederhosen* asking me for a lowdown on and a lift to Pat Pong, the notorious red light district. They had arrived the night before, spoke no English, and their German was a rural Austrian dialect that was hard to understand. I had to disengage in less than a polite manner. Septuagenarian Austrians looking for commercial sex at 06.30 in the morning ... I ask you!

Sam Lan was easily found and all around the small parking lot food and drinks stalls were being erected. So I plunged straight into the forest. After two minutes I spotted a large, white triangle on a piece of monkey dung. It soon revealed itself as one of my prime objectives, a perfect Jewelled Nawab *Polyura delphis* Doubleday, with its silvery-white underside ornamented with yellow, blue, and red ... one of the most elegant butterflies of the region. I took about ten pictures, gradually moving so close that the entire frame was filled. A little later, while following a small stream,

another of my prime objectives came into sight: The Clipper *Parthenos sylvia* Cramer – possibly possessed of the most elegant flight of any butterfly. In his volume on Oriental butterflies D’Abrera writes: “In flight, the species is a grand sight. It can truly be described as aristocratic or noble. ... Its effortless sailing with the wings held dead flat, movement being afforded by imperceptible little flicks and unpredictably sharp deviations and turns, makes one gasp in awe. I have seen experienced collectors, especially those that have seen everything but never before a *Parthenos*, merely stand and stare, hypnotised – before they realise they have a net in their hands.” The lovely Knight *Lebadea martha* Fabricius was another first.

A bit further up the stream there was a huge mud-puddling patch with hundreds of white, yellows, and swallowtails, mostly uninteresting. Dotted among them were a number of small blues and some interesting skippers, including the wet season form of the Spotted Angle *Caprona agama* Moore, looking like a giant Grizzled Skipper *Pyrgus*. However, before turning my attention to the smaller fry, something else needed checking; four or five dragonfly-sized insects were flying at great speed and quite erratically just an inch above the wet sand. They did not really have the flight of a dragonfly but then looked like no butterfly that I knew; and they did not settle. Finally, I decided to catch one in flight and had a very lucky sweep from behind. It was only when I flattened the net that I realized what it was, namely one of the two dragontails, in this case *Lamproptera meges* Zinken. The dragontails are among the most curious of butterflies. The wings are small compared to the thorax, the forewing especially so; in addition the outer third of the wing is transparent, making it look even smaller when on the wing. The hind wing is dominated by the huge tail, many time larger than any other tail among the butterflies. However, when closely studied it is obviously close to *Graphium*, as are the early stages. Eventually they did settle with wings quivering as usual, but they would not allow me to approach with the camera.

All told I caught some seventy butterfly species that day, pretty good by oriental standards, and after getting mildly lost for an hour or so, I approached the parking lot for a well-deserved drink and a bit to eat. A cold Singha beer was easily obtainable, but the food stalls were closed or taken away – Thailand without food? I asked the drinks vendor; he let out a yell, and an old lady down the road turned and came towards us. She took the little bundle off her shoulders and retrieved some foodstuffs, a one-portion wok, and a primitive kerosene cooker. Soon I was having an absolutely delicious dish of fried noodles with pork and vegetables, but the place was essentially lunch only. Thai conditions were restored. I tipped her generously – not onerous when the bill comes to \$0.50!– TORBEN B. LARSEN, UNDP Vietnam, c/o Palais des Nations, 1211 Geneva 10, Switzerland. (E-mail: torbenlarsen@compuserve.com).

Northern Rustic *Standfussiana lucerneae* (L.) (Lep.: Noctuidae) in Dumfries and Galloway, south-west Scotland

Although the Northern Rustic is not shown as occurring in Dumfries and Galloway in Heath and Emmet (1979. *The Moths and Butterflies of Great Britain and Ireland* 9: 154-155) there are a significant number of records for the area. In Wigtownshire, we have recorded it as follows:

Float Bay, on the coast at O. S. grid reference NX 061472, three on 16 July 1999; Mull of Galloway NX157306, two on 17 July 1999; Burrow Head NX 445343, one on 23 July 1999); Monreith NX 372393, one on 24 July 1999; Dally Bay NW 967687, one on 25 July 1999; Dunskey Castle NX 005533, five on 27 July 1999, seven on 21 July 2000; Garheugh Rocks NX264504, one on 22 July 2000; Port Kale, Portpatrick NW 991553, twelve on 11 July 2003 and Barsalloch Point NX 346411 one on 23 August 2003.

Two of these sites are also mentioned in the early literature. Northern Rustic was found at Monreith in 1899 (Morton, K. J. 1900. Notes on Wigtownshire Lepidoptera. *Annals of Scottish Natural History*, pp. 156-159) and elsewhere on the shores of Luce Bay where the species was reported as "local, not uncommon below rocky cliffs; plentiful on rough boulder-clad slopes below Garheugh Rocks, Luce Bay, 13/7/[19]05, 14/7/[19]05, 18/4/[19]06." (Gordon, R.S. 1913. A List of the Macro-Lepidoptera of Wigtownshire. *Transactions of the Dumfries and Galloway Natural History and Antiquarian Society, 1912-14*, pp. 168-188, see p. 181). There is also a record only 1.5km north of Port Kale, at Killantringan, NW 982564 (Evans, W. 1916. Lepidoptera and other insects at Scottish lighthouses in 1915. *Scottish Naturalist*, pp. 129-133, see p. 132).

In Dumfriesshire we have recorded it inland on a rocky slope on Corserig Hill, Kelloholm (one on 26 July 2003 and one on 19 September 2003). The only other recent county records are all from the National Trust for Scotland nature reserve at the Grey Mare's Tail, near Moffat (in the vicinity of NT 184148), one on 6 August 1993 and in 1995 (numbers and date not available). There is an old report for lowland Dumfriesshire, from the Crichton Institution, Dumfries, with the general comment that it was "not common" (Lenonn [= Lennon], W. 1864. List of Lepidoptera taken near Dumfries. *Transactions of the Dumfries and Galloway Natural History and Antiquarian Society, 1862-1869*, pp. 53-61, see p. 57.).

Although it is likely to occur on both coastal and inland cliffs in Kirkcudbrightshire it has not so far been recorded in that county.

We would like to thank Keith Bland for comments on an earlier draft of this note and Peter Norman for supplying the additional Dumfries and Galloway records.—
RICHARD AND BARBARA MEARNES, Connansknowe, Kirkton, Dumfries DG1 1SX.

Parasitoid wasp *Hyposoter dolosus* (Gravenhorst) (Hym.: Ichneumonidae) reared from post-hibernation larva of Garden Tiger moth *Arctia caja* (L.) (Lep.: Arctiidae)

A small post-hibernation larva of the Garden Tiger moth *Arctia caja* (L.) was collected on 6 April 2002 basking on a fragment of open coastal grassland by a fence on the strandline near Sunderland Point, Lancashire. The larva fed on Dandelion *Taraxacum officinale* agg. during the next few days and grew visibly larger, then ceased all movement. On 29 April 2002, an adult wasp emerged from the corpse of the larva, which had been kept in a plastic box indoors and had remained attached to the newspaper lining. There was no separate cocoon formed outside the host. Both wasp and host were photographed and sent via Mark Shaw to Dr Klaus Horstmann of the University of Wurzburg, Germany. He identified it as a male of the parasitoid *Hyposoter dolosus* (Campopleginae). Dr Shaw reports that he has at least two specimens of this species which, like me, he has reared from Garden Tiger on the Lancashire coast.

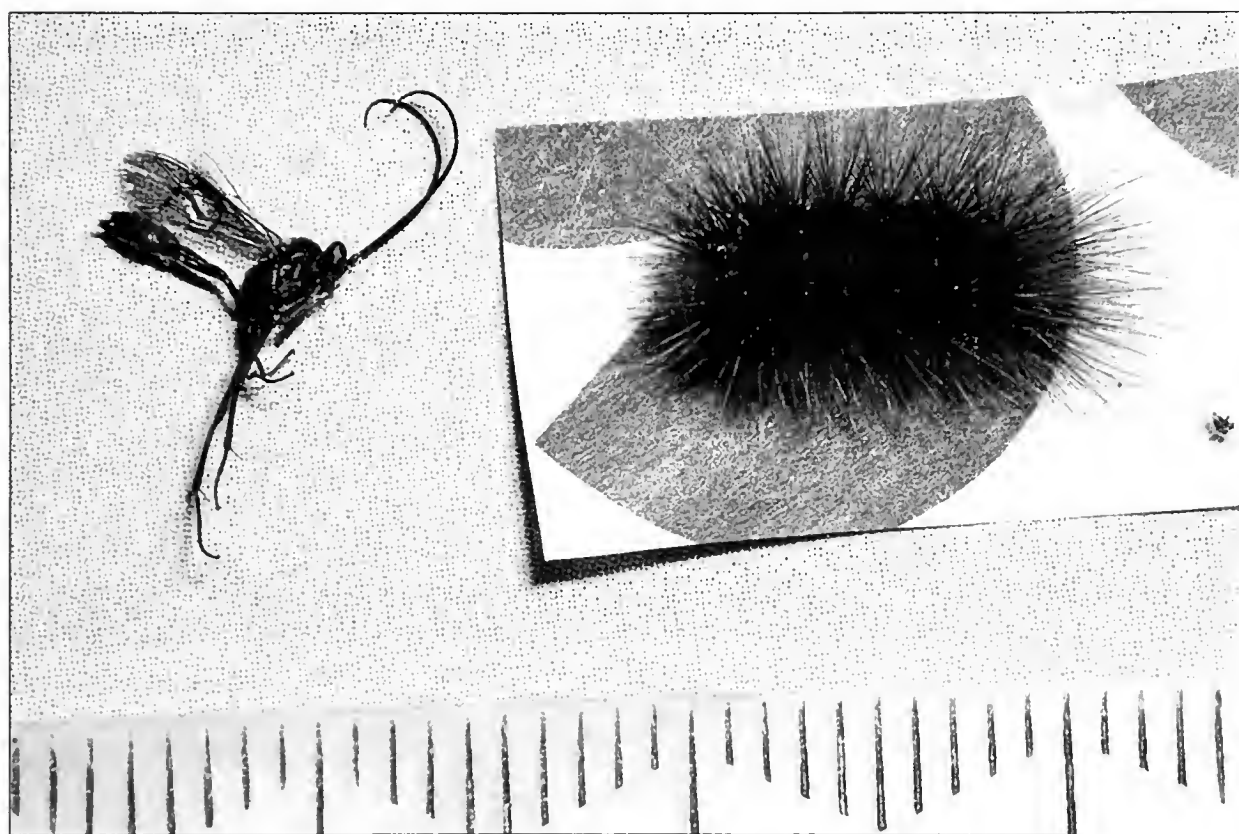


Plate K. *Hyposoter dolosus* ex *Arctia caja*.

I thank Klaus Horstmann and Mark Shaw for the determination of the parasitoid. The larva was collected during a joint field meeting of the Lancashire Moth Group, Butterfly Conservation and the British Entomological & Natural History, for which the author received financial support as part of Butterfly Conservation's "Action for Threatened Moths" project.— PAUL WARING, 1366 Lincoln Road, Werrington, Peterborough PE4 6LS.

Reminiscences of Mont Ventoux

From the late sixties until the mid-eighties I was extremely fortunate to live with my family in the Department of the Vaucluse, Upper Provence, France. I must admit that I was drawn to the region, not only by my work in agricultural research, but also for the sunshine, food and wine, the possibility of being able to raise a family in a rural village, and last but not least, because of Fabre's Mountain, Mont Ventoux. Here were insects in abundance, and I was at the spot where the great French entomologist had lived observed the insects, and written about them in such a perfect literary style (Fabre, 1879. *Souvenirs Entomologiques*).

For the majority of the sixteen years spent in the Vaucluse we lived in a large, provencale farmhouse, three stories high, the top floor having been constructed for the purpose of breeding silkworms. It was soon converted into bedrooms and as well as having a bedroom each for my four daughters, there was plenty of accommodation for visitors. Entomologists, particularly British lepidopterists, were frequent visitors, and many well-known individuals came to stay. In the summer months we were always very active on and around Mont Ventoux. Even on workdays I often went up the south-facing slope at the end of the day when butterflies could be examined and photographed at rest, clinging to stems of grasses. I also regularly sampled seed pods of *Colutea arborescens* the False Senna, as part of my studies of the associated insect fauna. Many an evening was spent sorting through the day's catch, setting butterflies and examining the contents of seed pods, while liberally imbibing the local wines and consuming bowls of freshly-picked cherries with friends such as Alan Bond (of Ely Cambs.) and Roger Charman (of Villes sur Auzon).

Some of my collecting experiences were recorded in a few short papers (*Ent. Rec.* **84**: 156 – 163; **85**: 211 – 214; **90**: 69 – 74) and also by others (e.g., de Worms, *Ent. Rec.* **88** : 12-13; **89**:108-112; **90** : 4-6). During this time I became acquainted with Prof. Mike Claridge, who came annually to the area with members of the Entomology Department, of University College Cardiff. I later registered at Cardiff for a PhD for my work on insects associated with the False Senna. Mike Claridge has recently been President of the Royal Entomological Society of London and Mike Wilson, who came out to Provence with other entomologists from Cardiff was recently editor of the British Journal of Entomology & Natural History and works in the National Museum of Wales.

Another acquaintance who visited us at St. Pierre de Vassols was Gerard Luquet, editor of *Alexanor*. He worked at the National Museum of Natural History in Paris and came annually to Mont Ventoux, publishing many papers about its insects between 1974 and the present time. His work culminated in the publication "Biocoenotique des Lépidoptères du Mont Ventoux (Vaucluse) (Luquet, 2000. Biocoenotique des Lepidoptères du Mont Ventoux (Vaucluse). *Alexanor* - supplement). This book is of major importance and of superb quality and will undoubtedly remain the definitive work on the Lepidoptera of Mont Ventoux. Apart from the exhaustive information on butterflies and moths, the flora vegetation is given extensive cover and localities on the mountain are described and numbered, with several pages of maps enabling the reader to locate precisely the given localities. I can only praise this monumental work.

Despite the praise which this book merits. I have one very small criticism. Luquet has a tendency to refute or ignore those records of butterflies which he and his friends have not personally seen in the field. This is unusual and requires some elaboration. I will give one or two examples to illustrate my point, and at the same time enlarge upon the appropriate site locations. He also criticises one or two details of classification. My own translations of parts of his text are given below together with a brief reply.

Coenonympha darwiniana Stdgr.

“Curiously cited as a subspecies of *C. arcania*”

It is certainly curious that Luquet does not remember that in Higgins & Riley (1970. *A Field guide to the Butterflies of Britain and Europe*. Collins) *darwiniana* was given as a subspecies of *C. arcania*. The classification may have changed since then, but at that time the Field Guide by Higgins & Riley was the only book available to me. This subject matter has been dealt with extremely well by Heres (2000. *Alexandor* **21**: 499-508) who confirms that identification of this species is still a major problem for French entomologists. Following extensive study he concludes that it is preferable to consider that the taxon *darwiniana* is a good species.

Aricia artaxerxes allous Geyer

Again there is some confusion with classification here. Higgins & Riley listed *artaxerxes* as a subspecies of *A. agestis* with a distribution limited to Scotland and Scandinavia and *A. allous* is given as a separate species “in spite of the fact that it has not been possible to find satisfactory specific characters by which to distinguish them” (Higgins & Riley, *op. cit.*). If I recall correctly, there was certainly some confusion in my mind concerning the specimens which I had collected at high and low altitudes on Mont Ventoux and elsewhere in France, but this was also the case with other workers in this field. Some specimens do not readily fit into either category. “Unfortunately there is no fully reliable specific character by which to distinguish *A. allous* from *A. agestis* and *Kretania eurypilus*” (Higgins & Riley, *op. cit.*).

Polyommatus dolus Hb.

“This indication was probably inspired from those published by Dufay (1966) [Contribution à la Connaissance du Peuplement en Lépidoptères de la Haute-Provence. *Bull. Mens. Soc. Linn. Lyon*] who cited *dolus* at Gigondas, on the southern side of the Dentelles de Montmirail”.

Following our wedding in 1969 my wife Susan and I went to live in Gigondas, in a house called “ Le Rouvis” situated just below the church and ruined chateau. We collected extensively in the hills behind the village and around the Dentelles de Montmirail. It was here in 1971 that we found a few individuals of *P. dolus* feeding on wild lavender. The title of my 1972 paper did include the Dentelles de Montmirail and considered these to be foothills of Mont Ventoux. Whether or not they should be considered part of Mont Ventoux is a personal decision (as is the inclusion by Luquet

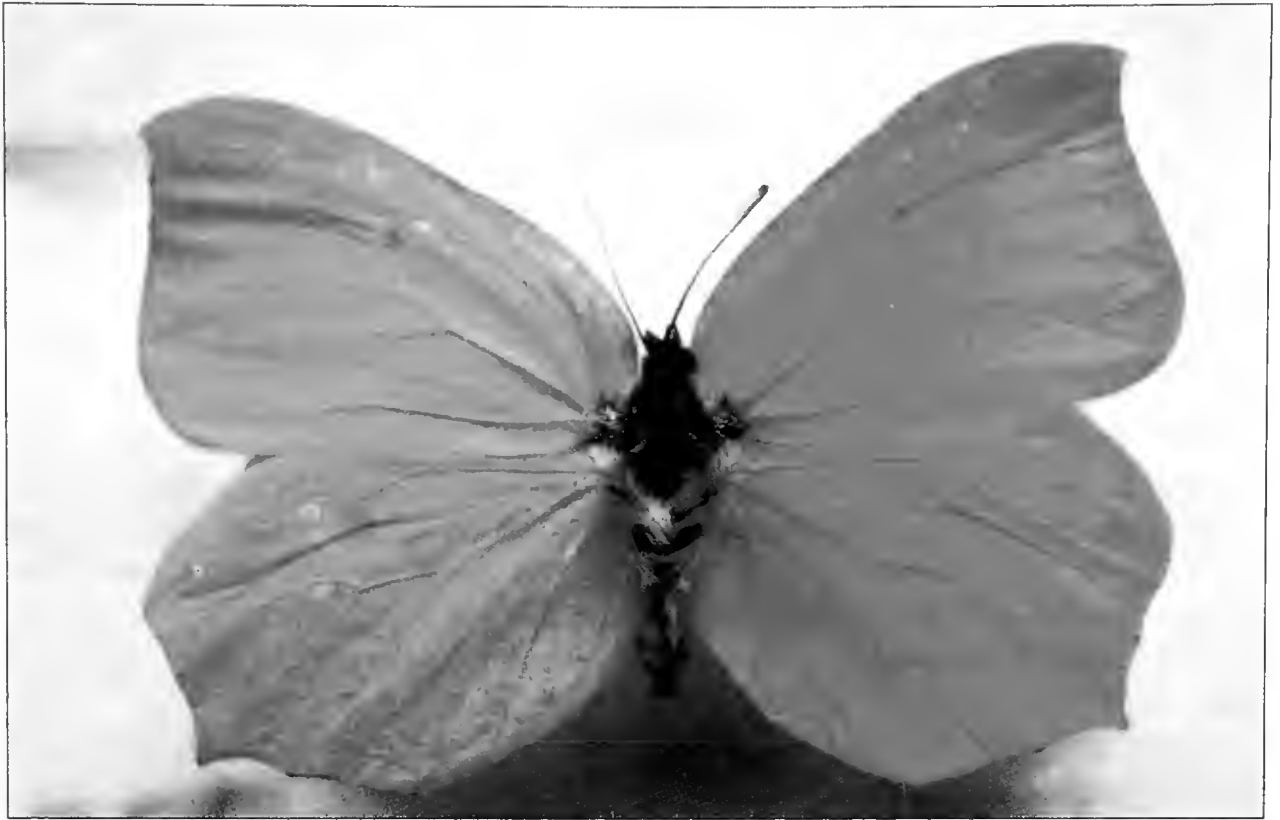


Plate L. *Gonepteryx cleopatra* gynandromorph. St. Pierre de Vassols, Vaucluse, June 1984. (L. McLeod).



Plate M. *Gonepteryx cleopatra* gynandromorph. Charleval, Bouches-du-Rhône 5 July 1966 (B. Agius).

of the village Brantes). This area has changed dramatically since then, mostly as a result of land clearance for the planting of grape vines. However, large areas remain unaltered and I imagine that *P. dolus* might still be found there.

Polyommatus damon D.& S.

“... its presence on Mont Ventoux seems to be doubtful, in any case currently.”

“... it is perhaps in referring to this last reference (Dufay, 1966) that McLeod includes this species in his inventory of Lepidoptera of Mont Ventoux”.

The presence of this species on Mont Ventoux was reported to me by Alan Bond in July 1973. He collected *P. damon* feeding on lavender adjacent to the D153 at Les Alazards, at the bottom of the north face of Mont Ventoux. I visited the site one week later and also collected this species at the same location. The cul-de-sac valley at the end of the D153 became a favourite spot and was also found to be frequented by *Polyommatus daphnis* D.& S. Alan Bond was also the first to collect *Scolitantides orion* Pall, in the Gorges of the Nesque in 1974.

Melanargia russiae cleanthe Bsdv.

“Perhaps they were limited to merely recopying the records of De Lesse. Despite abundant searches on the massif of the mountain by numerous entomologists during the last forty years, *Melanargia russiae* has apparently been taken only once, by H. Marker, on 28th July 1957”.

White driving with my wife and children on the D164 road from Sault to Chalet Reynard on 30 June 1974. I stopped the car on the roadside at both meadows of La Ferme Pascal, Sites 134 and 135. *M. russiae* were freshly emerged and in fair numbers. I captured several examples, both male and female, the latter being surprisingly large. Since that year, I have not managed to be at this location at the correct time for this species and I have not seen it anywhere else on the mountain.

Erebia montana de Prunn.

“In fact, it is very unlikely that *Erebia montana* exists on Mont Ventoux”.

“The reduction of the fauna of Mont Serein during the last fifty years has been caused by the cessation of sheep grazing and the development of a winter sports station”.

This species was collected in the early seventies, albeit only one or two individuals. Certain boxes of my specimens were lost or destroyed during my later travels to and from Africa, thus I am unable to quote exact dates. *E. montana* was almost certainly taken on Mont Serein while collecting *Erebia* spp. perhaps with the Bartholomew family in 1973. In the early seventies a favourite spot for collecting *Erebia* spp. was on the grassy slopes just above the houses and chalets of Mont Serein. Since then, this location has changed enormously and is the main area for tobogganing. When under snow it is trampled by large numbers of people.

It is surprising and perhaps illogical that Luquet includes *Erebia aethiops* Esper in his list of species recorded on Mont Ventoux but does not include *E. montana*. Only

one specimen has ever been taken of *E. aethiops* and that was by P. Acheray in 1911, yet *E. montana* was recorded by Testout, Mouterde in 1946 and later by myself. Are there any other collectors who have taken *E. montana* on Mont Ventoux? I would be pleased to hear from them. There has been other confusing information concerning the *Erebia* spp., eg., *E. ligea* was not recorded on Mont Ventoux before 1966. Five authors. Chobaut, Riel, Testout, Bigot, and Gauthier failed to record this species (Luquet, *op. cit.*). The first record of *E. ligea* was by Dufay (*op. cit.*) and it is now perhaps the commonest member of the genus on the mountain.

Surely this indicates that perhaps some species can exist on the mountain from time to time and then disappear for long periods. Apart from some species becoming extinct on the mountain (c.f., *Brenthis hecate* D.& S.) there is also the possibility of small populations existing in isolated, restricted areas. Whatever the causes of the appearance, disappearance and reappearance of certain species, it is surely not scientific to reject observations however unlikely they may seem. Unfortunately Luquet's text includes many insinuations and pointed remarks concerning the records of several authors. Perhaps an occasional query is necessary, for example for *Gegenes pumilio* Hfmsg. (page.330) and *Minois dryas* Scop. (page 335); I cannot remember where on Mont Ventoux I captured these species, because at the time of capture I did not record exact sites on the mountain. The same applies to some other species, but I definitely captured them on Mont Ventoux. They were certainly not at high altitude, as reported by Luquet, but at low altitude. To say that because Luquet and friends have never seen an example it could not exist there, is to my mind rather arrogant and non-scientific. It should be obvious from the numerous examples of species listed by myself, which were never previously recorded on Mont Ventoux, that my investigations were extensive and all records were actual captures and witnessed by others. Two of these lepidopterists are illustrated in the accompanying photograph (**Plate N**) which was taken on Mont Ventoux. Hopefully, I will soon once again be spending a lot of time on Fabre's Mountain during my retirement, and several of the queries will be confirmed.

There have been many highlights in my collecting experiences in this area. One of them which comes to mind occurred when driving with my family in the village of St.Pierre de Vassols in June 1984. We unfortunately struck a *Gonepteryx cleopatra* which was flying across the road. I stopped the car briefly in order to retrieve the specimen, to find that it was a fine example of a gynandromorph, which now has pride of place in my collection. It is predominantly female with partial male characters on both forewings. This was the second example of a gynandromorph of *G. cleopatra* which I know of from Provence. The other was taken by Beatrice Agius in Charleval, Bouches du Rhône in 1966 (Agius, 1968. *Alexanor* 5: 330). Her specimen was bilateral with the right side being entirely male and the left side almost entirely female. Across the left forewing was a narrow streak of male colouration. It was briefly mentioned in *Alexanor* but unfortunately has since been destroyed by museum beetles.

The accompanying photograph of this specimen, which I took in 1969, may be of interest. Miss Agius and I collected together in the area around Gigondas in the late 1960s. I believe that she also collected *P. dolus* in the Dentelles de Montmirail. Three other French examples of *G. cleopatra* gynandromorphs are illustrated in Dujardin (1976. *Entomops* 40: 259-262).



Plate N. Alan Bond and Charles de Worms collecting *Erebia scipio* near to the summit of Mont Ventoux, August 1975.

I have continued to visit Mont Ventoux for short periods, mainly because my eldest daughter returned there to live and raise a family. There have been many changes around the villages particularly those of Bedoin and Flassan, where residential properties have spread into areas below 500m where I used to collect and carry out studies. Luquet also records some changes to the butterfly fauna. It is quite likely that in the future there will be further alterations to the fauna resulting from the changes in global climate. I have, in recent years, witnessed sub-zero temperatures at and below the summit during July, the normal flight period of *E. scipio*. These extremely low temperatures may be the cause of the reduction in population of *E. scipio* recorded by Luquet.

It was with some surprise that in late October 2001 I first recorded the Geranium Bronze *Cacyreus marshalli* Butler in the back garden of my daughter's house in Mormoiron, and then during the same week at Bedoin in the region of B el zy and also not far along the road to Flassan. Thus, this species can be added to the list for Mont Ventoux, at site 100 Bedoin-B el zy and site 85 Chapelle Becaras de Bedoin. I had seen reports of this incomer occurring along the Mediterranean coastal strip, but

I did not know that it had spread so far inland. Its presence on the Carpentras Plain is not really surprising if one considers the strong focus on horticulture in this area. Both *Geranium* and *Pelargonium* are cultivated extensively in the region for commercial purposes.

In past years the mayor and town council of Bedoin had refused to sign the necessary documents for Mont Ventoux to become a Regional Natural Park. Of the villages concerned, Bedoin was the only one which had refused to sign, thus preventing any progress of the project. However, a recently elected mayor has eventually "given in" to outside pressures and Fabre's Mountain is soon to become one of a chain of Regional Natural Parks. The current committee of the "Parc Naturel Regional du Ventoux" consists of the mayor of Sault as president, aided by the mayors of Bedoin, Beaumont du Ventoux, Malaucène, and Villes sur Auzon. What effect this will have on the commercial utilisation of the forests and on winter sports is not known. There is quite a lot of opposition to the project from local people, mainly because of the probable entry charges. Already one has to pay to enter the Luberon Natural Park. Hunters of wild boar, deer, hares, rabbits and wild birds, also those who collect wild fungi, are particularly enraged by the decision, but apparently they will be able to continue these activities. It is unlikely that the entomological fauna will be affected by such a change and it may possibly be beneficial in preventing any further development. Only time will tell.— LEONARD MCLEOD, 22 Maris Green, Great Shelford, Cambridge CB2 5EE.

Queen of Spain Fritillary *Issoria lathonia* (L.) (Lep.: Nymphalidae) in Staffordshire

During the afternoon of 30 August 2003 I noticed a butterfly land on the outside of my lounge window, here at my home address, at around 3.30pm. Looking rather more closely I was astonished to observe the distinctive under-wing "mirror" pattern of a Queen of Spain Fritillary butterfly. I immediately went out to the garden and was able to obtain sufficient views to confirm that it was in fact this species. According to David Emley, the Staffordshire Recorder for Butterflies and Moths, there have not, as yet, been any other reports of this species in Staffordshire during the year 2003. Of course, this could be a released or escaped example, since this species is sometimes popular with amateur butterfly breeders. However, the weather during July and August 2003 has been exceptionally fine and hot, and immigrant activity has been high in both months, albeit in the main affecting the southern half of the country. Clearly, this observation is worthy of placing on record and it will be interesting to see if any other sightings are reported.— JAN KORYSZKO, 3 Dudley Place, Meir, Stoke-on-Trent, Staffordshire, ST3 7AY.

Peyerimhoffina gracilis (Schneider) (Neur.: Chrysopidae) in Hampshire and Surrey

Peyerimhoffina gracilis is a green lacewing with a circum-Mediterranean and eastern European distribution, but was reported as well established at Silwood Park, near Ascot, Berkshire from collections made 1999-2001 (Donato *et al.*, 2001. *Peyerimhoffina gracilis* (Schneider, 1851) (Neur.: Chrysopidae): a green lacewing new to Britain. *Ent. Rec.* **113**: 131-135). A total of 39 specimens had been collected during 1999 in water-traps releasing aphid sex-pheromone compounds, and trapping in 2000 and 2001 produced further specimens, although it was not recorded from Malaise traps in the area then (or in earlier studies).

This year two specimens have been recorded from Farnborough, Hampshire. On 12 January 2003, JAM found a hibernating female inside a hollow metal pole (part of a squirrel-proof peanut holder), the specimen was clearly smaller than the usual *Chrysoperla* species and a bluish-green colour, whereas hibernating green lacewings usually assume a pinkish or buff tinge. Steve Brooks identified the specimen as *Peyerimhoffina gracilis*.

Although no specimens of this species were seen during the summer, a male of the same distinctive appearance came to a lighted window on the evening of 20 September 2003, and the identification was confirmed by Steve Brooks. One, or more likely two, examples were also taken in a moth trap run by GAC at South Croydon, Surrey. The night of the 4 August 2003 was remarkable for the number of green lacewings attracted to a mercury-vapour trap. This first became apparent during the night when an examination of the trap revealed several dozen lacewings sitting on the transparent cone. When going through the trap the following morning one of the lacewings on the funnel was immediately and obviously different from the others, but was carelessly lost. Fortunately, a second example was found inside the trap and proved to be *P. gracilis*. Like the Farnborough specimen it was slightly smaller than most other chrysopids and, with its darker than usual body and faintly patterned wings resembled a chrysopid that had been scorched by the bulb. In addition to the *P. gracilis*, approximately 200 specimens of other chrysopids were present. The following night this had increased to nearer 500 examples, comprising mainly *Chrysoperla carnea* agg, with smaller numbers of *Nineta vittata*, *N. flava*, *Dichochrysa ventralis*, *D. prasina*, *D. flavifrons*, and *Cunctochrysa albolineata*, but with no further examples of *P. gracilis*.

The species is clearly resident, or at least temporarily resident at Silwood Park, and the Farnborough records also suggest residency. The sudden appearance of large numbers of chrysopid in South Croydon might suggest a mass immigration, although the phenomenon was not observed by fellow lepidopterists running traps in other parts of Surrey. No further specimens were observed either before or after, despite regular trapping, nor were any reported by moth trappers who had been advised to keep an eye out for it. The photograph in Donato *et al.* (*op. cit.*) should assist identification. The green stigma of the forewing and milky-white membrane towards the wing base immediately distinguish it from other British chrysopids, as does the

darkish-green abdomen with a pale lateral stripe. Further specimens are likely to be discovered by lepidopterists who have the foresight to realise that there are insects other than moths.

Peyerimhoffina gracilis is apparently typically associated with pine forests with fir *Abies* spp., spruce *Picea abies*, Scots pine *Pinus sylvestris* and also holly *Ilex aquifolium*; at Silwood, specimens were collected in sheltered but open areas close to mature deciduous woodland of mainly oak *Quercus robur*, but including hawthorn *Crataegus monogyna*, field maple *Acer campestre* and spindle *Euonymus europaeus* as well as Scots pine and *Cupressocyparis leylandii*. The Farnborough site comprises largish gardens and many trees: western red cedar *Thuja plicata*, Lawson's cypress *Chamaecyperis lawsoniana* and holly, with laurel *Prunus laurocerasus*, privet *Ligustrum vulgare*, rowan *Sorbus aucuparia*, walnut *Juglans regia* and yew *Taxus baccata* with oak *Quercus* spp. in adjacent gardens. There are also Japanese maples *Acer palmatum* imported from Italy - a possible importation area for *P. gracilis*. The South Croydon site is similarly suburban, consisting of fairly large gardens containing more traditional conifers such as Scots pine and Lawson's cypress as well as oaks, ash *Fraxinus excelsior*, and sycamore *Acer pseudoplatanus*. Within a few hundred metres of the garden is a row of limes *Tilia cordata* × *platyphyllos* and a mature wood with a range of deciduous and coniferous trees. A suburban evergreen and deciduous tree mixture is clearly acceptable to *P. gracilis*, and perhaps this pretty and distinctively coloured little lacewing is on the way to becoming widely established in the south-east.— JUDITH A. MARSHALL, Department of Entomology, The Natural History Museum, Cromwell Road, London SW7 5BD and GRAHAM A. COLLINS, 15 Hurst Way, South Croydon, Surrey CR2 7AP.

***Rivula sericealis* (Scop.) (Lep.: Noctuidae): Apparent substantial third generation in north-west Kent**

It seems that until quite recently it was not recognised that *Rivula sericealis* was bivoltine in parts of southern England, textbooks echoing Barrett, 1900 (*The Lepidoptera of the British Islands*), "from the end of June till August". My garden m.v. light records since 1969 at Dartford firmly indicate that the moth here is bivoltine, the two broods of moth being readily recognized by a substantial gap of three to four weeks every year except 1988 and 1989, years of abundance of *sericealis* here with more than one hundred specimens being noted at the trap in each year. However, in 1988, there was a gap of five days from 31 July to 4 August, with records from 14 June to 10 September, to be followed by two probable third generation specimens on 26 September and 4 October. In 1989, records were from 24 May until 24 August, with the largest break occurring for the four days from 30 July until 2 August.

During 2003, the weather in north-west Kent from the second half of May until about 20 September was generally warm and sunny by day and warm by night. *Rivula sericealis* first appeared at my garden light on 30 May continuing until 27 June. The light was operated virtually every night from before mid-May until late

September. In June, *R. sericealis* was recorded every night except the 22nd, 24th and 26th. After 27 June, the next example was recorded on 18 July and, with a slight faltering at the start and end of the sequence, appeared nightly until 24 August. Then, after a gap of 25 days, on 17 September a further specimen was noted, followed by others on the next four nights and 26 September producing a total of 14 moths, a figure that may not accurately reflect the true strength of this probable third brood. After 11 September, only one m.v. light was operated, instead of two, while 19 September initiated a long period of cold, clear nights on which species numbers fell from 20 by 25% to 40% with a corresponding fall in numbers of individuals. Also, after 11 September, the light was operated only from 17 to 21 September inclusive, 26 and 30 September, 1 October and then 8 October to the end of that month. The year 2003, like 1988 and 1989, was a year of comparative abundance for *R. sericealis*, while over the 34 years since 1969 this species has, in general, been erratic in appearance; 2003 is the fifth year in succession with recordings being well above average.

Probable third generation moths have occurred as singletons well after the second brood appeared to have ended. These are listed below together with their last previous appearance in that year.

Date in year	Year	last preceding record in that year
10 October	1971	29 August
13 September	1984	21 August
12 September	1987	23 August
26 September	1988	10 September*
4 October	1988	26 September*
10 October	1997	27 August
11 October	2001	27 August
1 October	2002	29 August

* = same year

A number of moths appear to produce occasional specimens to be recorded long after the second brood seems over. Examples includes *Ectropis bistortata*, (Goeze), *Selenia dentaria* (Fabr.) and *Idaea seriata* Schrank. In 2003, *R. sericealis* may have improved on this at Dartford.— B. K. WEST, 36 Briar Road, Dartford, Kent DA5 2HN.

Two new butterfly records from the Greek island of Corfu in May 2003

During our stay on Corfu from 25 to 31 May 2003, we recorded 51 species of butterfly. Based on the checklist in Parker (1996, *Bull. Amat. Ent. Soc.* **55**: 175-183, 254-255), in which he listed the 78 species recorded from Corfu, it would appear that two of our species are new for the island. The first of these was *Satyrium acaciae* (Fabr.), of which we found two fresh males – one at Episkepsi at 275 metres above

sea level on 26 May and another at Lafki, at 400 metres on 28 May. These were both taken flying among many *S. ilicis* (Esper) and the fact that two were *acaciae* was not realised until they were set on returning home. The second species *Cyathitis semiargus* Rott., of which a single worn female was taken 480 metres above sea level at Santa on 27 May. These localities are in the Pantokrator Massif, where another 49 species were also recorded.— D. HALL, 5 Curborough Road, Lichfield, Staffordshire WS13 TNG, P. J. C. RUSSELL, Oakmeadow, Wessex Avenue, East Wittering, West Sussex PO20 8NP and R. MANDZIEJEWICZ, 12 Charlemont Road, Walsall, West Midlands WS5 3NG.

Vanessids in 2003

What a season it has been for Vanessids. I do not recall anything like it since the end of the 2nd World War, when I began observing butterflies. Five vanessid species have been regular visitors to my garden over the summer and four of them were in large numbers, namely Red Admiral *Vanessa atalanta*, Painted Lady *V. cardui*, Peacock *Inachis io* and Small Tortoiseshell *Aglais urticae*. Only the Comma *Polygonia c-album* occurred in low numbers, one or two each day. Previous worries about the population decline of the Small Tortoiseshell have been “knocked on the head”. There have been thousands of adult butterflies and uncountable numbers of larvae of this species throughout Cambridgeshire.

The Painted Lady was possibly the commonest butterfly of the year. They were everywhere. On most sunny days one could find approximately 20 in my small back garden and about 10 in my front garden. Apart from feeding on *Buddleia* flowers, they were often sunning themselves on the concrete paths. The large *Buddleia* bushes growing in the sidings of Cambridge Railway Station were shimmering with thousands of butterflies, mainly Painted Ladies, as were bushes in the centre of the city.

The season was made memorable for me by the capture, on 14 July, in my front garden of a fine example of *V. cardui* ab. *rogeri* Meilhan. The weather had been excessively hot and one must assume that this individual had been positioned as a chrysalis in direct sunlight, thus causing it to overheat. It will be interesting to learn if other unusual forms have been taken by readers during this exceptionally hot summer.— L. McLEOD, 22 Maris Green, Great Shelford, Cambridge CB2 5EE.

Crambus silvella (Hb.) (Lep. Pyralidae) new to Devon

During a visit by the Devon Moth Group to Offwell Woodland and Wildlife Trust site on 5 August 2003, a single example of the pyralid moth *Crambus silvella* came to the light-trap that was being operated by Brian Bewsher. The following day he brought the moth to me and it was soon identified as *C. silvella* after pinning and spreading the wings. Bernard Skinner, who was visiting me at the time, verified my identification.

Several subsequent visits both to the Offwell Woodland and Wildlife Trust site and to other likely sites around the immediate area proved negative for this species. This appears to be the first time the species has been seen in Devon.— ROY MCCORMICK, 36 Paradise Road, Teignmouth, Devon.

***Dorytomus salicinus* (Gyllenhal) (Col.:Curculionidae) in Dorset**

On 30 May 1990, I tapped a teneral example of a small *Dorytomus* species from a mature willow bush at the base of the land-slipped cliffs at Great Ebb, Eype's Mouth, Dorset (O. S. grid reference SY 4491). Subsequent examination indicated that the beetle was either *D. salicinus* (Gyll.) or *D. salicis* Walton. Distributional data made me suspect that it was probably *salicis* as *salicinus* is only securely known from central and northern England and Scotland. As I did not have access to any *salicinus* for comparison, I sent the specimen to Dr. M. G. Morris who kindly identified the beetle as that species.

This record extends the known range of *salicinus* considerably and makes the unconfirmed record for North Wilts cited in Morris (Morris, M. G., 2002. True Weevils (Part 1). *Handbk. Ident. Br. Insects* 5, part 17b. Royal Entomological Society/Field Studies Council) appear more credible.

I thank Dr. Morris for naming the beetle for me.— DAVID R. NASH, 3 Church Lane, Branham, Suffolk CO11 1PU.

***Crambus uliginosellus* Zell. (Lep.: Pyralidae), a further larval foodplant and correction of an earlier misidentification**

In late May and early June 1999, and in late May 2000, at Colaton Raleigh Common, Devon (VC 3) I found larvae of *Crambus uliginosellus* in silken tubes amongst *Sphagnum capillifolium* and *Campylium stellatum* var. *stellatum*, feeding on an unidentified grass and two species of sedge, one of which I determined as *Carex flacca* (Heckford, 1999. *Entomologist's Gaz.* 50: 223-237; Heckford, 2000. *Entomologist's Gaz.* 51: 80-81). In captivity all the larvae ate what I had identified as *Carex flacca*. Prior to this, the larva was unknown in the British Isles.

On 23 May 2003, at the same locality, I found several larvae of this species (moths were reared to confirm identification), in silken tubes at the base of *Eriophorum angustifolium* growing amongst *Sphagnum* spp. Each plant had only one larva and the mouth of each tube was slightly below the surface of the *Sphagnum*, the remainder of the tube descending into it.

There were signs of feeding at the base of the *Eriophorum* and in captivity the larvae ate only parts of the stem and lower parts of the leaves of this plant.

As a result of revisiting this locality I had an opportunity to reconsider my identification of the sedge as *Carex flacca*. As a result of closer examination of the

plants growing where the larvae occurred I have now found that in fact they are the very similar *Carex panicea*.— R. J. HECKFORD, 67 Newnham Road, Plympton, Plymouth, Devon PL7 4AW.

New records of *Vanessa cardui* (L.) and *V. virginiensis* (Drury) (Lep.: Nymphalidae) from the island of Corvo

Corvo consists of one large extinct volcanic crater just over 700m in height and forms part of the Azores archipelago, which is situated almost in the middle of the North Atlantic Ocean, some 1500 km due west of Lisbon (Portugal).

Vanessa cardui is a well-known migrant and has been recorded from many of the islands in the Azores archipelago (Vieira, V., 1997. *Bol. Mus. Mun. Funchal*, **49**: 5-76). However, the sightings of several individuals on 13 and 14 August 2003 between 100 and 400m on the southern slopes of the crater would appear to be the first records for the island of Corvo.

Vanessa virginiensis is also a migrant but has in general been reported with far less frequency, due possibly to its resemblance to the former species, but more probably because it is a less frequent visitor to the eastern side of the Atlantic Ocean (Leestmans, R., 1975. *Linn. Belg.*, **VI** (4): 88-96). It was recorded for the first time from the Azores archipelago by Marc Meyer in July 1990 on the slopes of Barossa in the Serra de Agua de Pau, Sao Miguel between 850 and 900m (Meyer, M., 1991. *Linn. Belg.*, **XII** (3): 99-116). One further record, also from Sao Miguel, was that of a specimen seen by V. Sbordoni in August 1996 in the University garden at Ponta Delgada (Vieira, 1997. *op. cit.*). It is odd that the only two previous sightings of this species should be from the most easterly island in the archipelago, since their origins were probably from the USA. The sighting of this species on Corvo, which with its near neighbour Flores forms the western group of the Azores archipelago, was at 460m on the south western slope of the crater on 13 August 2003. Although the larval foodplant known to be used by this species on the Canary Islands, Jersey Cudweed *Gnaphalium luteoalbum* (Hall, D. and P. J. C. Russell, 2000. *Ent. Rec.*, **112**: 210) was seen growing in gravel between the cobblestones of the main road leading out of Vila Nova up to the crater, the plants were very small and trampled and it would seem very unlikely that this individual was of resident stock. However, the weather for at least the previous four days had been characterised by strong NW winds, so strong that it delayed landings on Corvo until the 13 August. Although the specimen did not appear markedly worn, it was considered that this individual had probably been carried on the wind from America.

The only other species of butterfly recorded during the two day visit to Corvo were: *Pieris brassicae azorensis* (Rebel), the endemic subspecies of the Large White confined to the Azores, was extremely common, with both ova and larvae on cabbages growing in the Vila Nova residents' gardens, and seen up to 600m around the crater rim. *Vanessa atalanta* (L.), two individuals were seen on 14 August,

nectaring in gardens in Vila Nova. *Hipparchia occidentalis minima* (De Sousa), the subspecies of the Western Azores Grayling endemic to Corvo, was abundant on part of the south western slope of the crater at 450-480m but sparse on the eastern side of the crater rim, where in 1999 I had found it to be quite common. This could be the result of "improvement" to the impoverished native grassland by grazing cattle, of which there are many around the slopes of the crater; there certainly appeared to be less fine leaved grasses, such as *Festuca jubata* (the-larval foodplant) and more of the coarser varieties.— P. J. C. RUSSELL, Oakmeadow, Wessex Avenue, East Wittering, West Sussex PO20 8NP.

Crescent Dart *Agrotis trux lunigera* Stephens (Lep.: Noctuidae): well established on Galloway coast, south west Scotland

Light trapping on the coasts of Wigtownshire and Kirkcudbrightshire between 1999 and 2003 has shown that the Crescent Dart is widely distributed and sometimes abundant. Indeed, the moth was present at the majority of rocky coastal sites where trapping was attempted during the July-August flight period:

In Wigtownshire we have found it as follows: Float Bay, O. S. grid reference NX 061472, one on 16 July 1999; Mull of Galloway, 75 on 17 July 1999; Burrow Head, NX 445343, one on 23 July 1999; Barsalloch Point, NX 346412, 7 on 24 July 1999; Monreith, NX 372393, six on 24 July 1999; Dunskey Castle, NX 005533, three on 27 July 1999, four on 21 July 2000 and Port Kale, Portpatrick, NW 991553, one on 11 July 2003.

In Kirkcudbrightshire we have found it at Torrs Heughs, Sandyhills, NX 886543, one on 30 July 1999; Meikle Ross, NX 653434, six on 3 August 2002.

According to Heath and Emmet (1979. *The Moths and Butterflies of Great Britain and Ireland* 9: 142-143) the Crescent Dart has a westerly distribution, being chiefly confined to coastal areas of southwest England, Wales and the Isle of Man. No records are shown for Scotland apart from an isolated 10km square (NJ 06) on the Moray coast, north of Forres. The Scottish Insects Record Index at the Royal Museum of Scotland, Edinburgh, contains records only from the Moray coast, dated between 1853 and 1979, and a few additional 19th century records from the south east coast.

Now that the Crescent Dart appears to be firmly established on the Galloway coast it is interesting to consider whether it has simply been overlooked in the past or whether or not it might be a case of recent northward expansion. The earliest comprehensive moth records for the area are by R. S. and J. G. M. Gordon but they make no mention of Crescent Dart (R. S. Gordon. 1913. A List of the Macro-Lepidoptera of Wigtownshire. *Transactions of the Dumfries and Galloway Natural History and Antiquarian and Society*, 1912-13, pp. 168-188; J.G.M. Gordon. 1919. The Lepidoptera of Wigtownshire, *Transactions of the Dumfries and Galloway Natural History and Antiquarian Society*, 1918-19, pp. 156-167). It would be surprising if the Gordons and their correspondents overlooked the

presence of this species because it readily comes to sugar and light, as well as being attracted to nectar sources such as the flower heads of ragwort. Unfortunately, the absence of any regular monitoring on the Wigtownshire and Kirkcudbrightshire coasts means that it is impossible to say when northward expansion occurred. It could have happened at any time during the 20th century and cannot therefore be linked to any recent climatic changes. However, if the moth is looked for further northwards, for example along the coast of Ayrshire, on Ailsa Craig, Arran and the Mull of Kintyre, it may be possible to track its range expansion, if it is happening.

With thanks to Keith Bland for details from the Scottish Insects Record Index and for comments on an earlier draft of this short note.— RICHARD AND BARBARA MEARNS, Connansknowe, Kirkton, Dumfries DG1 1SX.

***Mythimna albipuncta* D. & S. (Lep.; Noctuidae); an unusual migrant to north-west Kent, and a comment on *Cryphia algae* Fabr.**

There appear to be no more than three records of *Mythimna albipuncta* in north-west Kent in more than a century and a half. Chalmers-Hunt (1964. *Butterflies and Moths of Kent*), notes only three examples, for West Wickham in 1875, at Finden in 1959 and at Lee in 1969, and I can find no reference to more recent specimens. Records for the rest of the London Area (Plant, 1993. *Larger Moths of the London Area*) are similarly meagre.

On 12 August 2003, what I thought might be *M. albipuncta* was attracted to my garden m.v. light but *M. ferrago* (Fabr.) had been noted only two nights previously; Bernard Skinner kindly confirmed the identity as *albipuncta*, two more of which arrived on 13 August and another on 22 August. These occurred during a spell of considerable migratory activity, and on 11 August a male and female *Agrius convolvuli* L. were seen in my garden, one flying at dusk in my lean-to greenhouse and the other at rest on the door.

Agrotis ipsilon Hufn. and *Autographa gamma* (L.) appeared in ones or twos nightly. However, the two *Cryphia algae* Pab., noted on 28 July and 10 August were probably local residents – this being the fourth consecutive year the species has been noted in my garden in a locality far removed and isolated from the coastal and near coastal locations where *algae* has been observed.— B. K. WEST, 36 Briar Road, Dartford, Kent. DA5 2HN.

EDITORIAL COMMENT: It may be of relevance to the comments contained in the last paragraph of Brian West's note, above, that the Tree Lichen Beauty *Cryphia algae* was also noted during 2003 at Regent's Park in central London (Middlesex) by Tim Freed, with examples on 8 July (one), 20 July (one) and on 12 August (two). Mr Freed comments in his telephone message to me that the first example appeared before the main wave of immigrants to Britain this year and he wonders if the species is breeding in Regent's Park. This journal would welcome notes for

publication and incidental comments on this species in Britain and in Europe at the editorial address given inside the front cover.

Playing possum as an alternative to mate-refusal posture in *Pararge aegeria* (L.) (Lep.: Nymphalidae)

Playing possum is a behaviour previously recognised among nymphalids (e.g., *Inachis io* L.) and pierids (e.g., *Gonepteryx rhamni* L.) as a predator escape mechanism (Dennis, R. L. H. 1984 *Entomologist's Gazette* **35**: 6-7; 1998 *Entomologist's Rec. J. Var.*, **110**: 115-116). This behaviour can be extended to *Pararge aegeria* but in response to a prolonged attempted courtship. The behaviour was recorded during observations along a transect on Alderley Edge (Cheshire) during September 17, 2003 13.40pm. The female lay flat on a nettle leaf, inert, as if completely dead. The male harassed it for a minimum of two sessions - lasting two and three minutes - separated by a short basking period 10cm away, the initial contact and attempted courtship having been missed. This involved much wing flapping and shaking and running about over the female and nettle leaves. During the second period, the female fell off the leaf landed on another low down in shade of the plant, in the process hanging briefly from a third by a single tarsal claw, all the time apparently limp and dead. Even so, the male followed it to this lower level and continued to molest it. Eventually, the male broke off and moved 25cm away to bask. On inspecting the female to determine its condition, it burst into flight and moved away strongly through the shade of the wood.

Dr Tim Shreeve informs me that he has described this behaviour - commonly observed by him during his research on the behaviour and ecology of the speckled wood - in his thesis (Shreeve, T.G. 1985 *The population biology of the speckled wood butterfly Pararge aegeria* (L.) *Satyrinae*. Ph.D. Thesis (CNAA), Oxford Polytechnic), that it is part of normal female mate refusal behaviour in this species if harassed by a male. He has also observed it in all three *Pararge* species (*P. xiphia* (Fabricius), *P. xiphioides* (Staudinger)), as well as in other Satyrines including *Lasiommata megera* (L.), *L. maera* (L.), *L. petropolitana* (Fabricius), *Lopinga achine* (Scopoli) and even *Maniola jurtina* (L.).- R. L. H. DENNIS, 4 Fairfax Drive, Wilmslow, Cheshire SK9 6EY.

An unusually late date for a Garden Tiger *Arctia caja* L. (Lep.: Arctiidae) in Devon

On 25 October 2003, Brian Bewsher found a fresh specimen of a Garden Tiger moth outside his trap at Hennock, near Bovey Tracey, Devon. We can only assume that this was a second brood specimen or a migrant.- ROY MCCORMICK, 36 Paradise Road, Teignmouth, Devon.

Buff Arches *Habrosyne pyritoides* (Hufn.) (Lep.: Thyatiridae) in Dumfries and Galloway

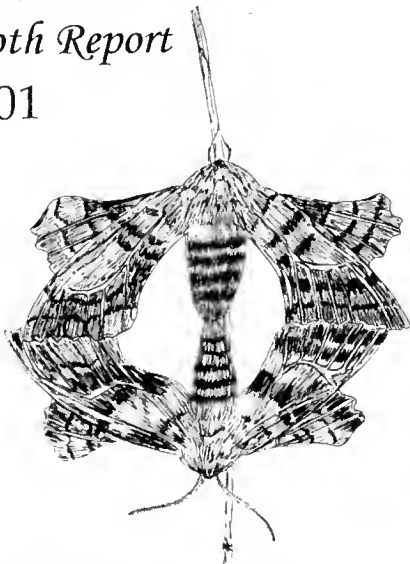
The Buff Arches was rediscovered in Dumfries and Galloway on 9 July 1999 after an interval of sixty-four years. Three were trapped at light at Kirkdale Bank (O. S. grid reference NX 514529), near Gatehouse of Fleet, Kirkcudbrightshire, by members of the Dumfries and Galloway Group of Entomological Recorders (Grey Daggers); the same or different individuals were seen on nearby wine ropes. On the same night another Buff Arches was trapped at light 1.3 kilometres to the east at Ravenshall, NX 523523. Both sites are on the coast with much low bramble and it may be significant that these sites are directly north of the Isle of Man where Buff Arches is known to be present. Despite frequent light trapping at similar sites along the Galloway coast these remain the only recent records.

The only 20th century records for this species in Dumfries and Galloway are a series collected by the late Sir Arthur Duncan in July 1935, some 30 miles inland at Gilchristland, near Closeburn, Dumfriesshire (D. Cunningham. 1951. Butterflies and Moths of the Solway Area. Further additions and notes. *Transactions of the Dumfries and Galloway Natural History and Antiquarian Society 1949-50*, pp. 150-156, see p. 153). It is very scarce elsewhere in Scotland with most of the records based on singletons that are probably vagrants.

With thanks to Keith Bland and Peter Norman for examining the databases for previous records of Buff Arches in Scotland.— RICHARD and BARBARA MEARNs, Connansknowe, Kirkton, Dumfries DG1 1SX.

BOOK REVIEWS

North West Wales Moth Report 2001



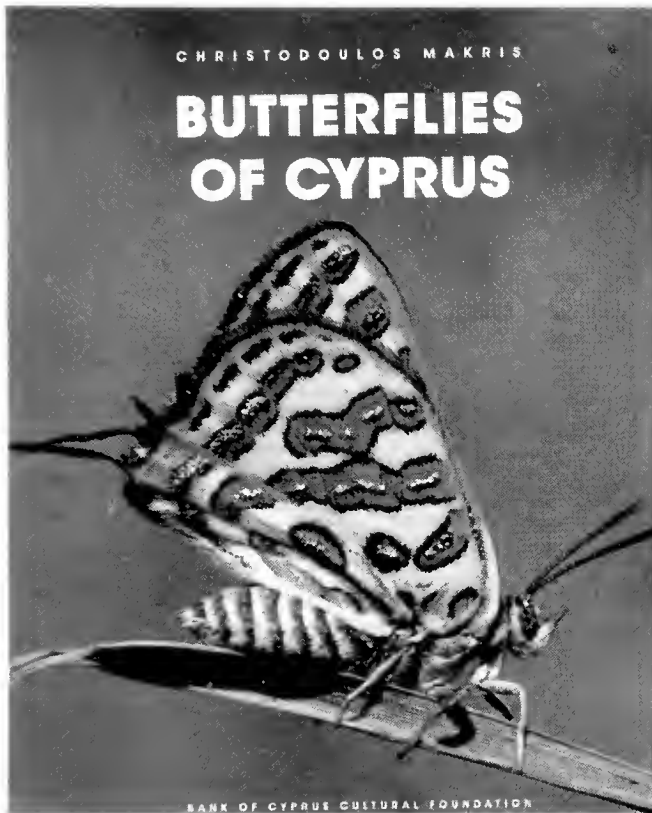
Adroddiad Gwyfynod Gogledd Orllewin Cymru

North west Wales moth report 2001 (Adroddiad Gwyfynod Gogledd Orllewin Cymru) compiled by **John Harold**. 114 pp., A4 – comb bound. No ISBN. Privately distributed by the compiler, from Hen Ardd, Carreg yGarth, Rhiwlas, Bangor LL57 4HD. Price not stated.

As a whole, the north-west of Wales is a relatively poorly recorded area and so this latest in a series of regional moth reports is a welcome addition to the list. It has been produced as a result of financial support from the European Union, Gwynedd Council, the British Entomological and Natural History Society, Snowdonia National Park, Conwy County Bough Council and Biota/Bioquip. The area covered includes all of Merionethshire (VC 48) Caernarvonshire (VC 49) and Anglesey (VC 52). There are no maps – this is an annual summary. Sadly, only 39 recorders are acknowledged ... surely

more than that many of us went to Wales that year? Did we leave the traps at home? The compiler will, I am sure, look forward to all presently un-submitted records from the three vice-counties. It is hoped that a report on 2002 will be ready by early 2004 so that, thereafter, reports can be produced the year after that to which they relate.

Butterflies of Cyprus by **Christodoulos Makris**. Translated by Roger White; distribution maps and editing by Eddie John. 332 pp., hardbound, 242 x 291 mm., ISBN 9963-42-815-0 (softbound version also available, ISBN 9963-42-817-7). Bank of Cyprus cultural Foundation, 2003. Harbound £29.50 (€42.85); softbound £25.80 (€37.72). Available in the UK from NHBS Mail Order Bookstore, 2-3 Wills Road, Totnes, Devon TQ9 5XN.



Given the number and lavish quality of the photographic plates in this work one could almost be forgiven for regarding it, at least on first glance, as a coffee-table publication. However, there is also a scientific content – and one that is of equally high quality.

The one occasion when I visited Cyprus myself was so early in the year (March) that I saw only one butterfly species, but those other invertebrates that I did encounter awakened me to the reality of the hugely important contribution that the island of Cyprus makes to biodiversity, supporting species characteristic of Europe, others more typical of the Middle East and, in addition, a host of endemic taxa. The butterfly fauna in particular is strikingly large and important, given the relatively small size of the island (it is only 226 kilometres long and 97 kilometres wide at

its widest point). Within its 9,251 square kilometres are to be found 53 taxa, of which nine are endemic.

Cyprus is a popular holiday venue and so it is pleasing to see that this book is aimed at a slightly wider audience than the seasoned butterfly enthusiast. Introductory material includes sections of text (all fully illustrated in colour) concerning geology, morphology, climate, flora and vegetation types. There is then a section which introduces butterflies as a group, explaining their position in the animal kingdom before embarking upon a full-colour photographic tour of butterfly life-cycles – a bit like the obligatory chapter in British butterfly books except that this is done thoroughly, with the layman in mind and illustrated with photographs of different kinds of eggs, caterpillars, chrysalides and adults – all from living material. There are further heavily illustrated chapters on butterfly external morphology, variation, behaviour, enemies and defence tactics.

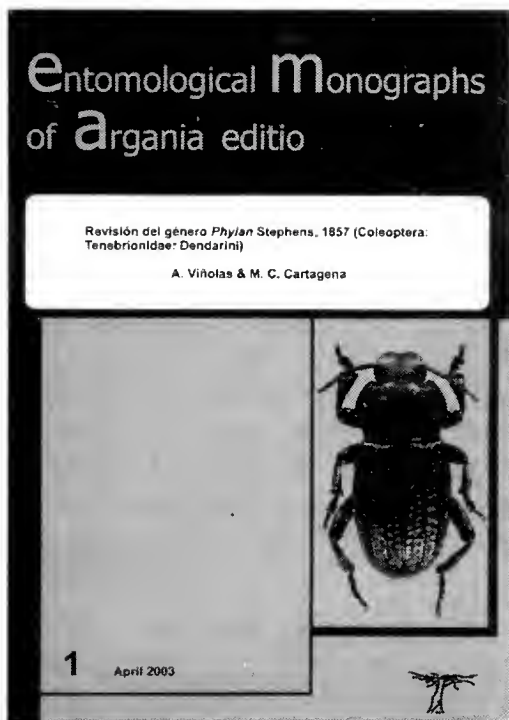
Not until page 79 do we come to the treatment of individual species. Most species are dealt with over four pages of the book, some occupying rather more. There are colour photos of living adults and, in most cases, of larvae and pupae. A distribution map of the species on Cyprus accompanies a bar indicating the time of year when adults are on the wing. Text covers

Identification, Range, Phenology, Larval host-plant and Geographical distribution and habitat. After the treatment of the individual species, a concluding chapter discusses the fauna as a whole.

Amazingly after this bonanza of colour plates, we now encounter something called "Section B: Plates". This is in fact a series of superbly reproduced colour plates of set specimens, depicting upper and under surfaces of males and females, covering each brood where there is more than one. This latter section forms, in itself, an identification guide to Cyprus butterflies.

I have no idea how many colour pictures there actually are – but suffice to say that it would truly be faster to count the pages that do not have any. Any entomologist visiting Cyprus will surely want this book; it is essential reading. At the incredibly low price (British publishers please take note), it surely becomes worth buying this book just on the off chance that perhaps, one day, maybe, one might go there!

Révision del género *Phylan* Stephens, 1857 (Coleoptera: Tenebrionidae: Dendarini) by A. Viñolas and M. C. Cartagena. Number 1 in the series Entomological monographs of Argania Editio, ISSN 1696-100X. 94pp., paperback, 170 x 240 mm. Published by Argania Editio, Balmes 63, Pral. 3, 08007 Barcelona, Spain at €36 plus postage (£24.75 at 11 November 2003 exchange rate).



This important monograph presents a complete revision of the tenebrionid genus *Phylan* which is divided in eight subgenera and contains 63 western Mediterranean species or subspecies (Maghreb, Iberian Peninsula, France, Italy and Great Britain) and a unique Atlantic species. Only one species *Phylan gibbus* (Fabricius) is present in the British Isles. Identification keys are presented for of all the taxa, synonymies are given and there are also species descriptions. Geographical distribution is illustrated rather innovatively by lines drawn around black and white (satellite?) photographs of the countries affected. Though the lines are necessarily vague, the detail on the map allows for useful interpretation. All species affecting the western part of Europe are included and are illustrated by black and white photographs of 57 (four per page). There is also a bibliography in which 56 literature references are included.

CORRIGENDA

The following correction to volume 115 has been communicated to the editor:

Page 16: In the Note concerning "An unlikely Sutherland crambid" the grid references NO 2622 and NO 2621, given on line 2, should read NC 2622 and NC 2621.

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