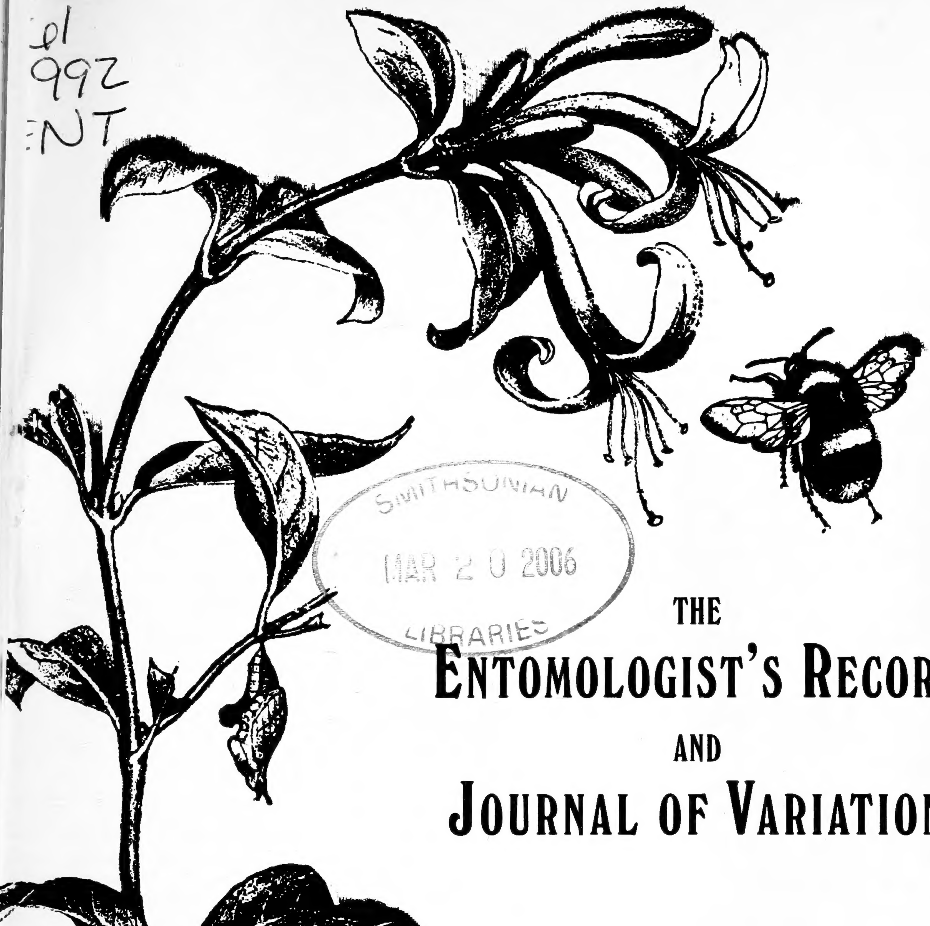

THE ENTOMOLOGIST'S RECORD AND JOURNAL OF VARIATION

Edited by

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

CONTENTS AND SPECIAL INDEX

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CONTENTS

compiled by Colin W. Plant

1: PEER-REVIEWED PAPERS

A

C

D

E

I

M

N

O

R

S

T

2: NOTES

A

B

C

D

E

F

G

H

I

M

N

O

P

R

S

T

U

V

3: BOOK REVIEWS

4: OBITUARIES

5: SUBSCRIBERS' NOTICES AND ANNOUNCEMENTS

CONTRIBUTORS

Page number entries in **bold** refer to peer-reviewed papers; entries in ordinary type refer to Notes and other communications that have been refereed internally by the Editor and his colleagues. Where an author is not the first named of multiple authors, the page number entry is printed in *italic* type.

Agassiz, David J. L. 27-29, **95-96,** ***143-147***
Alexander Keith A. *35-39*
Allen, A. A. 32
Bailey, M. A. 140-141
Baker, Pam *47-48*
Barrington, Rupert **51-61**
Bennett, Fred D. **159-163**
Bond K. G. M. *44*
Brown, D. C. G. *140-141*
Burrows, Dennis S. 30-31
Burton, John F. 186
Clancy, Sean 76, 206
Collins, Andrew R. ***221-227***
Collins, G. A. **133-137**
Cooper, Mark 83-84
Dennis, R. L. H. 150, 175
Dickerson, Barry 93-94, 268-269
Dolling, William R. *35*-39, 124
Easterbrook, Michael 64
Edmunds, Rob 169
Eeles, Bob *252*
Everett, C. M. 64
Field, R. G. **197-203, 253-262**
Field, Robin 271-273
Fox, Richard ***65-75***, 127-128
Gardiner, Michelle ***263-266***
Gardiner, Tim **263-266,** ***197-203***
Goater, Barry 32-33
Goodey, Brian 149
Gould, Philip J. L. 91, 139-140, 148, 165, 173-174, 176, 177
Halstead, A. J. 48
Hancock, E.G. *49-50*
Hatch, Steve *175-176*
Heckford, R. J. *47*, **97-105**
Henwood, Barry 175-176
Homan, Robert 79
Hunt, Steve *107-109*
Hutchins, D. 49-50
Kaila, Lauri **187-193**
Kirby, Peter *35-39*
Knill-Jones, Sam 64, 79, 96, 106
Koryszko, Jan 220
Langmaid, John R. **143-147,** ***187-193,*** **231-251**
Larsen, Torben B. 39-42, 77-78, 109-111, 130-131, 171-173, 194-196, 267-268
Leverton, Roy 150, 163-165, 185-186, 229
Lewis, Dafydd 48-49
Lewis, Owen T. 47-48
Liston, Andrew D. **183-185**
Lord, Alex M. *47-48*
Luckens, Christopher 29-30
Mabbott, Paul 176-177
Manning, David V. 147
Marney ,Michael 62-63
McCormick, Roy *175-176*
Morris, M. G. 43
Nash, David R. 167-168
Nash, Steven **1-27**
Nau, Bernard S. ***221-227***
O'Connor, J. P. 44, 266
Ormerod, Paul 125-127
Parsons, Mark ***65-75***
Paul, John 166-167
Pennington, M. G. 76, 84
Pickles, A. J. 131-132, **207-220**
Plant, Colin W. 33-34, 42-43, 44, 88, 177-180, 206
Porter, J. ***133-137***
Prichard, Tony 128-129
Salmon, Michael A. 88-90, 138
Saville, Bob 35-39
Shaw, Mark R. **85-87**
Sims, Ian 151-158
Skelton Michael J. 148, 168-169
Skinner, Bernard ***1-27***
Slade, David **221-227**
Smart, Ben *48-49*
Spalding, Adrian ***65-75***, 268-271, 271
Sterling, P. H. 47
Townsend, Martin C. 252
Tunmore, Mark **65-75**
Waddell, Jeff 107-109
Waring, Paul 80-83, 87, 111-124, 204-205, *252*, 273-275
Watkins, G. ***197-203, 253-262***
West, B. K. 91-92, 92-93, 158, 105-106, 168, 174-175, 227-228
Williams, K. F. 196
Wilson, David 84, 90, 93, 137-138
Woiwood, Ian P. *147*
Wolfe, Keith 275
Young, M. R. ***231-251***

SPECIAL INDEX

Compiled by William Wellings and Catherine Wellings

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

Taxa new to, or newly recognised in, the British Isles and mentioned first in this volume are denoted by an asterisk.

COLEOPTERA

DERMAPTERA

DICTYOPTERA

DIPTERA

HEMIPTERA

HYMENOPTERA

NEUROPTERA

ODONATA

ORTHOPTERA

PSOCOPTERA

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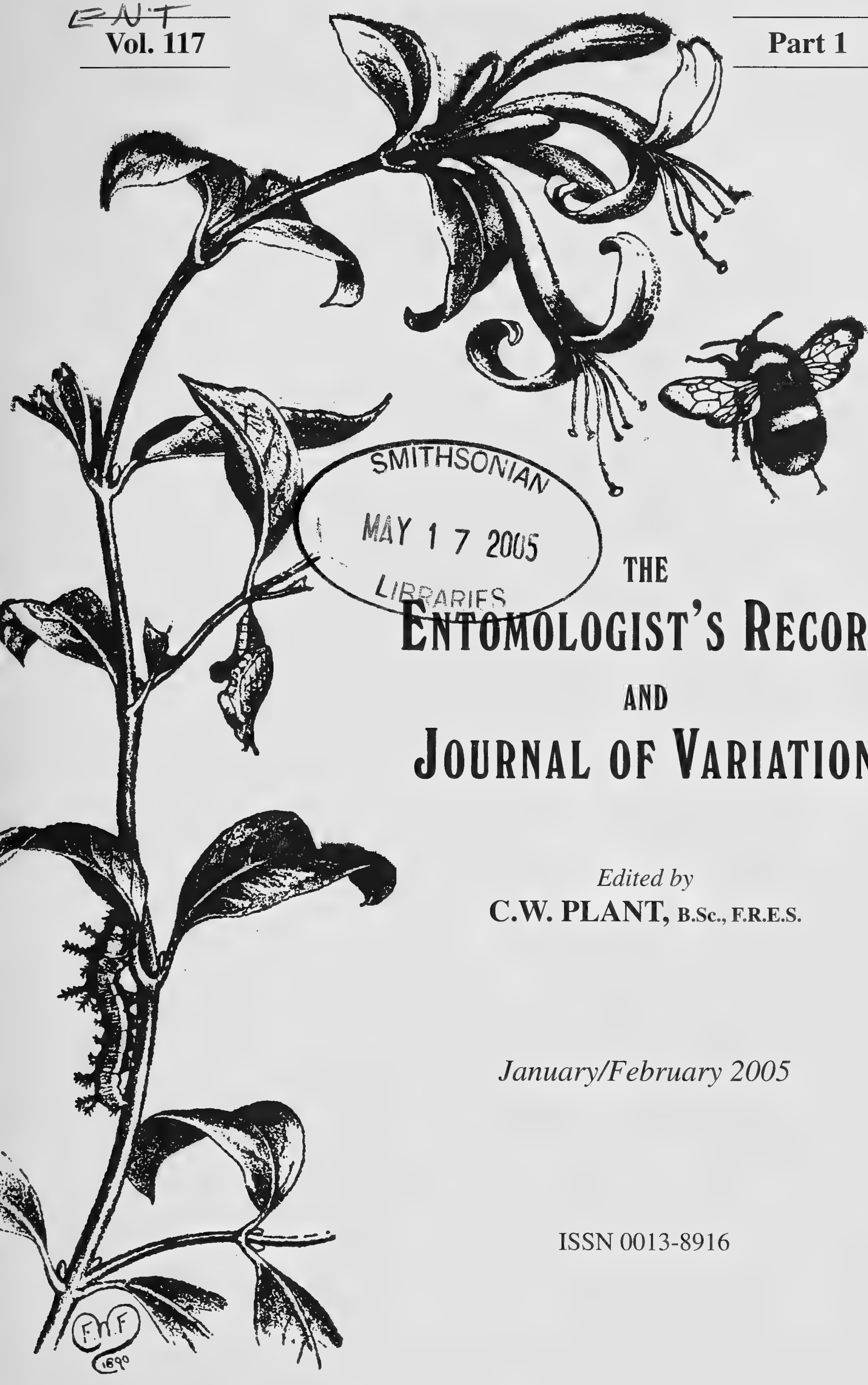

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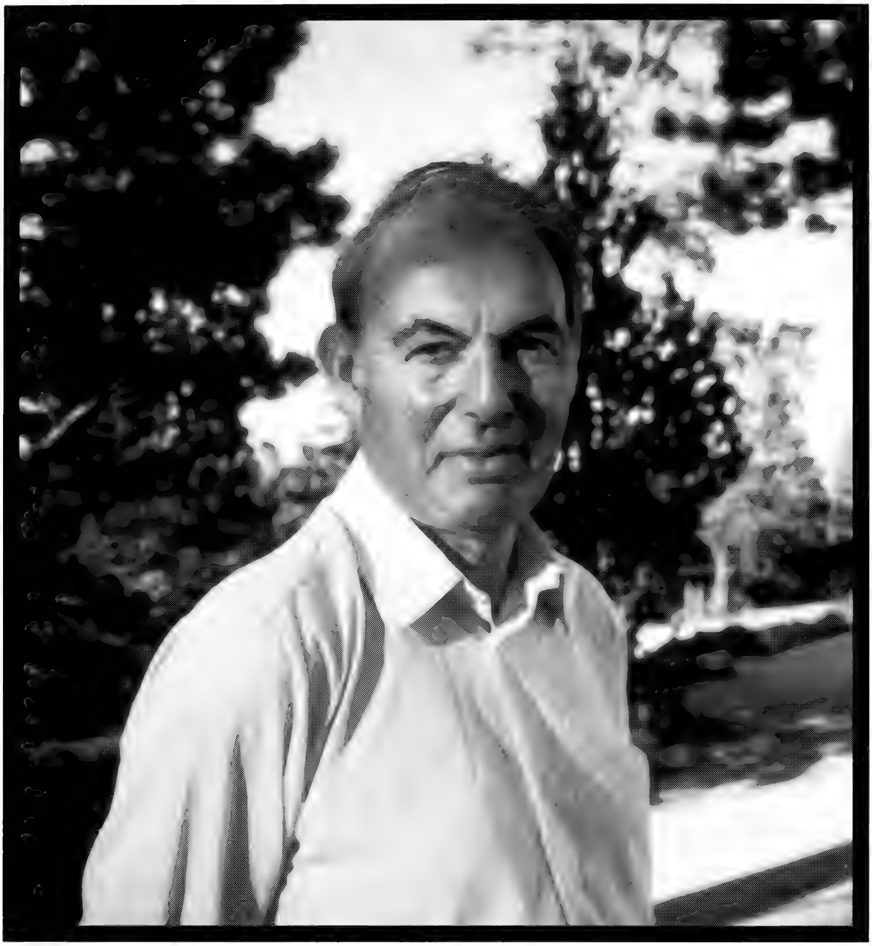

John Michael Arthur Blake Chalmers-Hunt, 1920 – 2004,
Editor, *Entomologist's Record & Journal of Variation*, 1973 – 1985

THE IMMIGRATION OF LEPIDOPTERA TO THE BRITISH ISLES IN 2001

Steven Nash[1] and Bernard Skinner[2]

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Abstract

Formally accepted records of immigrant Lepidoptera occurring in the British Isles during the year 2001 are listed and discussed. For less frequently encountered species full information is given; for common immigrants a selection of the more important records is presented.

Introduction

2001 was considered by many to be fairly average year for immigrant Lepidoptera. This was indeed the case for several regular species, including *Nomophila noctuella* (D. & S.), Clouded Yellow *Colias croceus* (Geoff.), Painted Lady *Vanessa cardui* (L.), White-speck *Mythimna unipuncta* (Haw.), Bordered Straw *Heliothis peltigera* (D. & S.), and Silver Y *Autographa gamma* (L.). However it was not all doom and gloom with *Loxostege sticticalis* (L.), Red Admiral *Vanessa atalanta* (L.), Monarch *Danaus plexippus* (L.), Vestal *Rhodometra sacraria* (L.), and the Gem *Orthonama obstipata* (Fab.) all recorded in above average numbers. The number of scarce and new species captured was anything but average, with four macros and three micros added to the British list.

There was very little activity during the first half of the year. A single specimen of *Euchromius ocellea* (Haw.) was found in Cornwall, in February. In May, a specimen of *Zophodia grossulariella* (Hb.) was taken in Kent, and a Camberwell Beauty *Aglais antiopa* (L.) was observed in Suffolk. Two specimens of *Sclerocona acutellus* (Evers.) were captured in Dorset and Sussex during June, perhaps having emerged from imported reeds on a newly thatched roof. Other June highlights included single specimens of Large Tortoiseshell *Aglais polychloros* (L.) in Suffolk, and European Map *Araschinia levana* (L.) in Essex. A single specimen of Sussex Emerald *Thalera fimbrialis* (Scop.), captured on the Isle of Wight during the end of June, was likely to have been an immigrant.

Severe thunder storms during the first week of July heralded the arrival of several unusual vagrants from the near Continent. Highlights from this influx included a Splendid Brocade *Lacanobia splendens* (Hb.) on Guernsey *[this species was not added to the British list until 2003, however specimens identified from 2001 are included in this report]*; a second British record of Jubilee Fan-foot *Zanclognatha lunalis* (Scop.) in Dorset; the third British record of the Latin *Callopistria juventina* (Stoll), also from Dorset; and the third recent record of the Crambid, *Chrysocrambus linetella* (Fab.) on the Channel Islands. Other notable records included *Catoptria verellus* (Zinck.) in Kent and Hampshire, *Dioryctia schuetzeela* (Fuchs.) in Sussex, Dotted Footman *Pelosia muscerda* (Hufn.) in Kent, and Scarce Black Arches *Nola aerugula* (Hb.) in Norfolk. Langmaid's Yellow Underwing *Noctua janthina* (D. & S.)

was added to the British list when a single specimen was taken in South Hampshire. This species appears to be a recent colonist of the south coast as no specimens were found in previous collections. Other rarities captured during July included two Plumed Fan-foot *Pechipogo plumigeralis* (Hb.) in Sussex, and a single specimen of Egyptian Bollworm *Earias insulana* (Boisd.) in Bristol. The later may have flown from the Avonmouth docks nearby.

A new Pyralid moth was added to the British list in August when a specimen of *Dioryctria sylvestrella* (Ratz.) was captured in Dorset, followed closely by four further specimens in West Sussex, and one in East Suffolk. Collection specimens were also identified dating back to 1999. Woods Dart *Agrotis graslini* (Ramb.) became the third new macro of the year when eight moths were captured at one locality on Jersey, in August. The discovery of two specimens taken at the same locality in 1995 suggests that *A. graslini* may be resident on the island. Intriguingly, two Stephen's Gem *Megalographa biloba* (Steph.) were taken on Guernsey during August, and one in Hampshire, during October. Backtracking of meteorological charts by Peter Davey (*Atropos*, 2002) point to the Azores, rather than North America as being the most likely source of wind-assisted migrants on all three capture dates. Accidental importation with the food-plant is another possibility. Other rare species captured during the month included an Orache Moth *Trachea atriplicis* (L.) in Hampshire, Pale Shoulder *Acontia lucida* (Hufn.) in Sussex, and on Guernsey, and a Passenger *Dysgonia algira* (L.) in Dorset.

Softly's Shoulder-knot *Lithophane consocia* (Borkh.) became the fourth new macro of the year when a single specimen was taken in Middlesex, in September. The specimen had been tentatively identified as the Conformist *Lithophane furcifera*, and was captioned as such in Atropos **16**, figure 16, before Michael Fibiger, author of *Noctuidae Europaeae* discovered the 'mistake' whilst glancing through back issues of the magazine. Large numbers of *Loxostege sticticalis* (L.) were also noted on the east coast during the month.

A single specimen of *Cosmopterix pulcherimella* (Chamb.) was taken in Dorset during October, as new to Britain. It has since been found to be established on the south coast. During mid-October, a specimen of the tropical Pyralid *Diplopseustis perieresalis* (?) was captured at a light-trap on the Isles of Scilly, it being a new adventive species to Britain. The second British record of *Herpetogramma licarsisalis* (Walk.) was also taken on the Scillies during the month. An impressive list of rare immigrants recorded included *Hellula undalis* (Fab.), Long-tailed Blue *Lampides boeticus* (L.), Radford's Flame Shoulder *Ochropleura leucogaster* (Frey.), Oak Rustic *Dryobota labecula* (Esp.), Red-headed Chestnut *Conistra erythrocephala* (D. & S.), Porter's Rustic *Athetis hospes* (Frey.), and a Scar Bank Gem *Ctenoplusia limbirena* (Guen.). Monarch butterflies *Danaus plexippus* (L.) were noted in good numbers on the south and west coasts during October and early November, although not in the same numbers as in 1999. Many recorders throughout England witnessed a large migration of Red Admiral *Vanessa atalanta* (L.), flying south on October 13th. This coincided with a record number of night-flying butterflies captured at light-traps in Cornwall, however these butterflies appear to have been moving in the opposite direction, with a large influx of immigrant moths.

Finally the authors would like to thank Graham Collins for his considerable time and effort in compiling the previous three reports, and for his help and advice with this paper.

Guidelines for contributors

To avoid unnecessary delays in publishing future reports, it would help us greatly if contributors adhere to the following guidelines: Data should include the vice-county, recorder, stage (if not an adult), number observed, and the date. For light-trap records list the date the trap was switched on, not the date it was inspected. This is a universally accepted convention to avoid the possible duplication of records. County recorders, or those submitting large volumes of data are asked to sort their data by vice-county, species name, and then by date order. Finally, contributions are particularly welcome in electronic format (MS Word or Excel etc.) to the following e-mail address: steve@migrantmoth.com. Records may also be submitted via the Immigration of Lepidoptera web site: www.migrantmoth.com. Paper copies may also be submitted to either postal address.

Abbreviations

E	Exotic introduction/escape
I	Primary immigrant
In	Introduction (including importations)
R	Resident
R(t)	Temporary resident?
MC	Migrant colonist
V	Vagrant/wanderer

ANNEX 1: RECORDS OF SCARCER SPECIES

YPONOMEUTIDAE

0424 *Yponomeuta evonymella* (L.) [R][I]
DORSET [9] Durlston Country Park, Swanage, 4.7 (10) (SN); Portland Bird Observatory, 4.7 (6) (MC); Puddletown, 27.6 – 8.7 (93) (HWH per PHS). S. HANTS [11] Southsea, 4-26.7 (16) (JRL). S. ESSEX [18] Watt Tyler Country Park, Pitsea, 16.7 (2000) (P. Harris). E. YORKS [61] Kilnsea, 9.7 – 16.8 (27) (PAC); Spurn NNR, 9.7 (8), then almost daily 5.7 – 1.8 (BRS).

0428 *Yponomeuta rorrella* (Hb.) [R][I]
DORSET [9] Durlston Country Park, 4.7 (SN); Swanage, 28.7 (W. Teagle per PHS); Walditch, 21.7 (MSP per PHS); West Bexington, 30.7, 3.8 (RE per PHS). S. HANTS [11] Southsea, 26.7, 30.7, 31.7, 1.8 (JRL). BERKS [22] Fernham, 14.7 (SN). E. NORFOLK [27] Eccles on Sea, 21.7 (2), 4.8 (N. Bowman per DH[3]).

GELECHIIDAE

0745 *Monochroa divisella* (Doug.) [R][V/I?]
DORSET [9] Portland Bird Observatory, 7.7 (MC per PHS).

0857 *Anarsia lineatella* (Zel.) [In]
WILTS [7] Swindon, 17.10 - bred from an organic peach, purchased at a Tescos superstore (SN).

COSMOPTERIGIDAE

896b *Cosmopterix pulcherimella* (Chamb.) [?R]
DORSET [9] Walditch, 13.10 (MSP) – New to Britain.

897b *Anatrachyntis simplex* (Wals.) [In]
S. DEVON [3] Lee Mill, 22.12 – larva found in pomegranate, origin India (RJH *in* Langmaid, 2003). An adventive species new to Britain.

TORTRICIDAE

1157 *Crocidosema plebejana* (Zel.) [I][MC]
W. CORNWALL [1] IOS: St Mary's, 20-31.10 (15) (MS^2). IOW [10] Freshwater, 14-17.10 (3) (SAK-J).

1181 *Epiblema grandaevana* (L. & Z.) [I/R/In?]
LEICS/RUT [55] Seaton Meadows, 22.7 (MS). E. YORKS [61] Spurn NNR, 23.7 (BRS).

1249 *Grapholita lobarzewskii* (Now.) [R][I/V?]
DORSET [9] Weymouth, 4.7, 7.7 (PHS).

1262 *Cydia amplana* (Hb.) [I]
DORSET [9] Shapwick, 29.8 (PD per PHS). S. HANTS [11] Hurn, 15.8 (MJ per PHS).

PYRALIDAE

1289 *Euchromius ocellea* (Haw.) [I]
W. CORNWALL [1] Lizard Point, 13.10 (DB); Marazion marsh, 22.2 (S. Barron *in* Tumore, 2002). DORSET [9] Upwey, 24.8 (PH^2). E. KENT [15] Lydd, 23.8 (KR per SPC); New Romney, 25.8 (KR per SPC).

1297 *Crambus uliginosellus* (Zel.) [R][I/V?]
DORSET [9] Portland Bird Observatory, 6.7 (MC per PHS).

1291 *Haimbachia cicatricella* (Hb.) [I][MC]
E. KENT [15] Dymchurch, 27.7 (J. Owen per SPC).

1317 *Catoptria verellus* (Zinck.) [I]
S. HANTS [11] Southsea, 4.7 (JRL). E. KENT [15] Lydd, 5.7 (KR per SPC).

1319 *Chrysocrambus linetella* (Fab.) [I]
CHANNEL ISLANDS [113] Guernsey: St Sampsons, 4.7 (ML).

1328 *Schoenobius gigantella* (D. & S.) [R][?I/V]
DORSET [9] Durlston Country Park, 4.7 (SN); Puddletown, 28.6 (HWH per PH^2). E. KENT [15] Ham Street, 4.7 (JAC).

1356a *Evergestis limbata* (L.) [I][MC]
W. SUSSEX [13] Ferring-by-Sea, 29.6, 1.7, 3.7 (2) (THF). E. KENT [15] Lydd, 6.7 (KR per SPC).

1357 *Evergestis extimalis* (Scop.) [I][MC]
W. CORNWALL [1] IOS: St Mary's, 12.10 (S. Bosanquet per JB). S. DEVON [3] Teignmouth, 28.6 (RFM). DORSET [9] Durlston Country Park, 4.7 (SN); Portland Bird Observatory, 2.8, 23.8 (MC); Upwey, 29.7 (PH^2); West Bexington, 4.7 (RE per PHS). W. SUSSEX [13] Ferring-by-Sea, 2.8 (THF). E. SUSSEX [14] Icklesham, 22.8, 23.8 (Hunter, 2002). SUFFOLK [25] Shingle Street, 25.7 (T. Prichard).
CHANNEL ISLANDS [113] Guernsey, 6.7 – 21.8 (42 recorded from 4 sites) (Austin, 2002).

1360 *Hellula undalis* (Fab.) [I]
W. CORNWALL [1] IOS: St Agnes, 13.10 (Hicks, 2002). DORSET [9] Walditch, 18.10 (MSP). S. HANTS [11] Hurn, 16.10 (MJ per PHS).

1368 *Loxostege sticticalis* (L.) [I]
IOW [10] Freshwater, 27.9 (SAK-J). S. HANTS [11] Hurn, 15.8 (MJ per PHS). W. SUSSEX [13] Walberton, 23.9 (JR per CP). E. SUSSEX [14] Northiam, 26.9, 17.10 (D. Burrows per CP); Rye Harbour, 29.7, 21.9, 1.10 (PT per CP). E. KENT [15] Dungeness, 21.9 (D. Lyons per SPC); Dymchurch, 21-30.9 (6) (J. Owen per SPC); 21.9, 22.9 (D. O'Keeffe per SPC); Dymchurch, 21.9, 22.9 (DOK); Great Farthingloe farm, Dover, 25.9 (TR); Greatstone, 30.7, 26.9 (B. Banson per SPC); Kingsgate, 23.9, 24.9 (2), 28.9 (Solly et al., 2002); Lydd, 28.9 (KR per SPC); West Kingsdown, 23.9 (N. Jarman per SPC). SURREY [17] Milford Common, 17.8 (by day) (A. Foster). S. ESSEX [18] Epping Forest, 25.9 (TG per BG). N. ESSEX [19] Dovercourt, 24.9 (C. Gibson per BG); Langenhoe, 21.9 (H. Owen per BG). MIDDLESEX [21] Hampstead, 23.9 (RAS). BERKS [22] Appleford, 4.10 (RL). E. SUFFOLK [25] Copperas Wood, 20.9 (P. Smith & G. Slater per BG); Minsmere, 23.9 (Parfitt, 2002). W. SUFFOLK [26] Barnham Cross, 21.9 (by day) (A. Musgrove per DH^3). E. NORFOLK [27] Beeston Regis, 20.9 (5) (F. Farrow per DH^3); Catfield, 26.9 (A. Beaumont per DH^3); Eccles on Sea, 19.9, 21.9 (2), 23.9, 24.9, 25.9 (2), 28.9 (Bowman, 2002); 19.9 (2 by day) (P. Heath per DH^3); Honing, 19.9, 20.9, 26.9 (P. Heath per DH^3); Neatishead, 25.9 (J. Simpson per DH^3); Scole, 19.9 (M. Hall per DH^3); Sea Palling, 19.9 (2 by day) (P. Heath per DH^3); Waxham, 19.9 (2 by day) (P. Heath per DH^3); Weybourne, 26.9 (M. Preston per DH^3). W. NORFOLK [28] Stiffkey, 21.9 (by day) (JM). HUNTS [31] Raveley Wood, 28.9 (BD). N. LINCS [54] Goxhill, 20.9 (by day) (C. Potts). S. LANCS [59] St Helens, 28.9 (RB). E. YORKS [61] Spurn NNR, 18.9, 21.9, 22.9, 25.9 (2), all daytime sightings (BRS). N.W. YORKS [64] Sharow (SE328717), 26.9 (J. Warwick). N.W. YORKS [65] Hutton Conyers, 19.9, 5.10 (C. Fletcher).

1369 *Uresiphita polygonalis* (D. & S.) [I]
W. CORNWALL [1] IOS: St Agnes, 12.10, 20.10 (Hicks, 2002); Playing Place, Truro, 13.10 (W. Tremewan *in* Tunmore, 2002). DORSET [9] Dorchester, 13.10 (JD per PHS); Durlston Country Park, 13.10 (P. Sharpe *in* Tunmore, 2002); Puddletown, 19.10 (HWH per PH^2); West Bexington, 13.10 (RE per PH^2). IOW [10] Bonchurch, 22.10 (J. Halsey *in* Knill-Jones, 2002). S. HANTS [11] Fareham, 23.10 (RD). GLAMORGAN [41] Glenmoor, Gower, 12.10 (D. Painter *in* Tunmore, 2002).

1370 *Sitochroa palealis* (D. & S.) [I][MC]
DORSET [9] Cashmoor, 1.8 (MJ per PHS); Durlston Country Park, 4.7 (SN); Portland Bird Observatory, 24.7 – 2.8 (12) (MC). E. KENT [15] Dungeness, 23.7 (D. Lyons per SPC); 13.8 (KR per SPC). N. ESSEX [19] Layer-de-la-Haye, 16.8 (P. Pyke per BG). BERKS [22] Fernham, 14.8 (SN).

1374a *Sclerocona acutellus* (Evers.) [In][R(t)?]
DORSET [9] Milton-on-Stour, 26.6 (J. Burge per PHS). W. SUSSEX [13] Wittering, 25.6 (Patton, 2002).

1375 *Ostrinia nubilalis* (Hb.) [I][MC]
S. SOMERSET [5] West Sedge Moor, 26.6 (T. Bantock). N. SOMERSET [6] Berrow Dunes, 13.6 (2) (JM). DORSET [9] Dorchester, 4.7 (JD per PHS); Durlston Country Park, 4.7 (SN); Langton Matravers, 6.7 (MJ per PHS); Portland Bird Observatory, 6.7 (MC); Preston, 27.6 (P. Knight per PHD); Puddletown, 27.6 (2) (HWH per PHS); Upwey, 5.7 (PH^2 per PHS); West Bexington, 5.7, 6.7 (2), 23.8 (RE per PHS). IOW [10] Binstead, 26.6, 27.6 (BJW); Freshwater, 30.7 (SAK-J). S. HANTS [11] Hengistbury Head, 27.6 – 4.7 (3) (MJ per PHS); Hurn 26-27.6 (10) (MJ per PHS); Iford, 7.7, 8.7 (R. Cook & D. Humphrey per PHS); Portswood, 11.6, 25.6 (2) (A. Dawson); Sparsholt, 21.10 (RB). N. HANTS [12] Selborne, 4.7 (AA). W. SUSSEX [13] Atherington, 29.9 (2) (DB); Donnington, 10 recorded in 2001 (M. Perry *in* Patton, 2002); Kingsham, 24.6, 25.6, 26.6, 1.7, 2.7 (SP); 5 further records to 29.8 (Patton, 2002). E. SUSSEX [14] Icklesham, 5.7 (4), 6.7, 28.7, 25.8 (Hunter, 2002). W. KENT [16] Barnehurst, 26.6-18.7 (6) (T. Steele). BERKS [22] Dry Sandford, 29.6, 7.7 (MT); Fernham, 23.6, 9.7 (SN); Pucketty Farm, 27.6 (MC). E. GLOUCS [33] Hempsted, 20.6 (G. Avery per RGG). E. YORKS [61] Kilnsea, 9.7 (2) (PAC).

1389 *Udea fulvalis* (Hb.) [I][MC]
DORSET [9] Durlston Country Park, 17.8 (SN); Merley, 28.7 (J. Hammick per PHS); Swanage, 29.7 – 20.8 (6) (T. Pratt per PHS); Trigon, 16.7 (CM per PHS). S. HANTS [11] Hengistbury Head, 29.7 – 24.8 (6) (MJ per PHS); Jumpers Common, 21.8 (MJ per PHS).

1396 *Mecyna flavalis* (D. & S.) [R][V/I?]
E. SUSSEX [14] Rye, 30.7 (PT).

1397a *Diplopseustis perieresalis* (Walk.) [E]
W. CORNWALL [1] IOS: Borough Farm, Tresco, 19.10 (AM & RF) – It seems likely that this SE Asian species was imported on plants destined for Abbey Gardens, Tresco. An adventive species new to Britain.

1403 *Diasemiopsis ramburialis* (Dup.) [I]
W. CORNWALL [1] IOS: St Agnes, 19.10 (Hicks, 2002). W. SUSSEX [13] Walberton, 17.10 (JR per CP).

1403a *Duponchella fovealis* Zell. [?I][In][MC?]
E. CORNWALL [2], Pontsmill, 20.6. P. Boggis Smiths suppl. P.14. N. SOMERSET [6] Burnham-on-Sea, 27.12 – found indoors, and thought to have emerged from a foreign orchid plant (B. Slade). W. SUSSEX [13] Kingsham, 22.8 (SP); Laughton, 11.9 (J. Shaughnessy per CP); Walberton, 4.8, 11.8, 15.8 (2), 22.8 (2), 30.8, 5.9, 7.9, 27.9 (2), 3.10. 4.10, 6.10., 10.10, 12.10, 14.10, 25.10 (JR per CP). E. KENT [15] Canterbury, 3.10 – found at a flower arranging class (J. Beeching per SPC). HERTS [20] Hexton Chalk Pit, 20.10 (CWP). NORTHANTS [32], Northampton, 19.10, P. Sharpe BENHS 15:166.

1406a *Herpetogramma licarsisalis* (Walk.) [I]
W. CORNWALL [1] IOS: Borough Farm, Tresco, 12.10 (MS) – second British record.

1408 *Palpita vitrealis* (Rossi) [I]
W. CORNWALL [1] IOS: St Agnes, 1.10 (by day), 2.10 (2 by day), 8.10, 19.10 (5) (Hicks, 2002); IOS: St Mary's, Church Road, 27-30.10 (7) (MS^2); St Mary's, Lower Moors, 31.10 (MS^2); St Mary's, Old Town, 26.10 (MS^2); IOS: Borough Farm, Tresco, 8.10, 10.10, 12.10 (3), 13.10 (2) (AM/RF/MS); The Lizard, 13.10 (31), 14.10 (7) (DB & MT); 17.10 (MT per DB); September (2), October (27 - may include some of the previous records) (Tunmore, 2002); Marazion Marsh, 28.10 (S. Barron *in* Tunmore, 2002). S. DEVON [3] Dawlish, 13.10 (P. Franghiadi per RFM); Kingskerswell, '2001' (B. Deakins per RFM); Teignmouth, 27.10 (RFM). DORSET [9] Dorchester, 12.10, 13.10 (JD); Durlston Country Park, 13.10 (RB); 19.10 (12) (PD per PHS); 12.10 (5), 29.10 (SN); 16.6 (TR); Portland Bird Observatory, 4.8, 11–29.10 (12) (MC); Puddletown, 13.10 – 8.11 (10) (HWH per PHS); Walditch, 10.10, 14.10 (2), 15.10 (2), 17.10 (MSP); Weymouth, 17.10 (B. Spencer per PH^2); Wyke Regis, 12.10 (2), 19.10 (2), 20.10 (DF). IOW [10] Afton Down, 29.9 (SAK-J); Binstead, 17.10, 20.10 (BJW); Freshwater, 14.10, 19.10 (3), 23-27.10 (3) (SAK-J); 22.10 (3) (DB); at least 14 others recorded on the island (Knill-Jones, 2002). S. HANTS [11] Fareham, 14.0 (RD); Hayling Island, 9.10 (Phillips & Durnell, 2002); Hengistbury Head, 18.10 (MJ per PHS); Southsea, 20.10, 27.10 (JRL). N. HANTS [12] Selborne, 20.10 (AA). W. SUSSEX [13] Donnington, 24.10 (M. Perry per CP); Ferring-on-Sea, 16.10, 19.10 (3), 26.10, 27.10 (2); Kingsham, 19.10, 20.10, 27.10 (SP); Walberton, 20.10 (JR per CP). E. SUSSEX [14] Icklesham, 13.10 (I. Hunter per CP); Northiam, 17.10, 20.10 (3) (D. Burrows per SPC); Old Heathfield, 12.10 (D. Long); Rolvenden Layne, 20.10 (A. Bradshaw per SPC), Rye, 28.7 (PT). E. KENT [15] Dungeness, 13.10, 27.10 (D. Walker per SPC); Dymchurch, 17.10 (DOK); Greatstone, 9-13.10 (3), 20.10 B. Banson per SPC); Kingsgate, 14.10 (2), 20.10, 30.10 (Solly et al., 2002); Lydd, 28.9 (KR per SPC); Ramsgate, 20.10, 31.10 (Solly et al., 2002). SURREY [17] Reigate, 22.10 (RAC). N. ESSEX [19] Lawford, 5.9, 11.9 (A. Lansdown per BG). NORTHANTS [32], Welingborough, 22.10 D. Larkin per D. V. Manning BENHS 15:165. W. GLOUCS [34] Whitchurch (ST607675), 28.7 (R. Andrews). HEREFORD [36] locallity not given, 19.10 (R. Birchenough per NG-D). S. LANCS [59] Flixton, 16.10 (KM). IOM [71] Malew, 21.10 (GDC).
CHANNEL ISLANDS [113] Guernsey: St Peter's, 19.10 (2) (PC).

1435 *Conobathra tumidana* (D. & S.) [I][MC/R?]
S. SOMERSET [5] Taunton, 3.7 (JM). DORSET [9] Durlston Country Park, 4.7 (SN); Portland Bird Observatory, 4.7 (2), 8.7 (MC). W. SUSSEX [13] Pagham Harbour, 25.8 (SN/SP); Walberton, 21.7, 26.7, 21.8 (JR per CP). E. KENT [15] Dungeness, 15.8 (D. Walker per SPC); Dymchurch, 24.7 (DOK); Littlestone, 21.8 (KR per SCP); Lydd, 18.8 (KR per SPC).

1447a *Sciota adelphella* (Fisch.) [I][R]
E. SUSSEX [14] Rye Harbour, 4.7 (Troake, 2002). E. SUFFOLK [25] Landguard, 4.7 (2), 5.7 (Odin, 2002). HUNTS [31] Hemingford Grey, 5.7 (NG-D).

1454 *Dioryctria abietella* (D. & S.) [I][R]
DORSET [9] Durlston Country Park, 4.7 (5) (SN); Portland Bird Observatory, 4-6.7 (4), 22.7 (MC); Walditch, 7-9.7 (3) (MSP). S. HANTS [11] Brownwich, 1.8 (RD). S. HANTS [11] Portsmouth, 28.6 I. R. Thirlwell First Hampshire record BENHS 15: 167 and Ent. Gaz. 52: 226. N. HANTS [12] Castle Bottom NNR, 4.7 (T. Davis). W. SUSSEX [13] Ferring-by-Sea, 14.7 (THF). E. SUSSEX [14] Icklesham, 29.7 (Hunter,

2002). W. KENT [16] Barnehurst, 7.7 (T. Steele). SURREY [17] South Croydon, 15.7 (GAC). BERKS [22] Fernham, 19.7 (SN). E. NORFOLK [27] Eccles on Sea, 7.7 (2) (N. Bowman per DH[3]). S. LANCS [59] Chorley, 5.7 (HB[1]/GJ); Parr, St Helens, 6.7 (2) (RB); Worsthorne, Burnley, 22.7 (GG). W. LANCS [60] Gait Barrows, 3.7 (RP-J); Heysham, 6.7 (JH); Lightfoot Green, 16.7 (SMP). E. YORKS [61] Spurn NNR, 7.7 (3), 9.7 (4) (BRS). DURHAM [66] Skelton, 7.7 (T .Barker).
CHANNEL ISLANDS [113] Guernsey: Dell Nursery, 21.7 (RA *in* Austin, 2002); Le Chen, 3.8 (TNDP *in* Austin, 2002).

1454a *Dioryctia schuetzeela* (Fuchs.) [I][MC]
E. SUSSEX [14] Crawley, 6.7 (JAC).

1454b *Dioryctria sylvestrella* (Ratz.) [I][MC]
DORSET [9] East Lulworth, 1.8 (MSP). W. SUSSEX [13] Walberton, 11.8, 15.8, 23.8, 30.8 (JR per CP). E. SUFFOLK [25] Tunstall Forest, 18.8 (A. Butcher *in* Atropos, 2002) – New to Britain.

1464a *Zophodia grossulariella* (Hb.) [I/?In]
E. KENT [15] West Kingsdown, 21.5 (N. Jarman per SPC).

1465 *Nephopterix angustella* (Hb.) [I][R]
DORSET [9] Durlston Country Park, 4.7 (SN). S. HANTS [11] Hengistbury Head, 22.11 (3) (MJ per PHS).

1478b *Vitula biviella* (Zel.) [I][MC?]
E. KENT [15] Greatstone, 30.7 (B. Banson per SPC); Littlestone, 29.7 (KR per SPC).

PTOROPHORIDAE

1496 *Cnaedimophorus rhododactyla* (D. & S.) [R][I/V?]
DORSET [9] Trigon, 4.7 (CM per PHS).

PAPILIONINAE

1539 *Papilio machaon ssp. gorganus* Continental Swallowtail (Fruhs.) [I][E?]
W. CORNWALL [1] Marazion, 27.8 (S. Barron *in* Tunmore, 2002); 6.9 (M. Reynolds per J. Worth). IOW [10] Shanklin, 27.7 (SAK-J). S. ESSEX [18] Corringham, 29.7 (L. King).

PIERIDAE

1545 *Colias croceus* (Geoff.) Clouded Yellow [I][R(t)?]
W. CORNWALL [1] Bedruthan Steps, 12.10 (2) (D. Carp); Gunwalloe, 21.10 (6) (N. Armfelt per NB); The Lizard, 3.10 onwards, with a max. of 15 on 21.10 (Tunmore, 2002); Mousehole, 4.11 (G. Hocking); Nanquidno, 15.10 (A. Palmer); Porthgwarra, 12.10 (2) (B. Urwin); Rinsey (SW5927), 20.10 (J. Wacher per J. Worth); Treen, 15.10 (2) (A. Palmer). E. CORNWALL [2] Polperro, 17.8 (J. Makeham). S. DEVON [3] Beeson, 17.10 (ovae & larvae on lucerne) (M. Catt); Bolt Head, 12.10 (7) (V. Tucker per S. Coombes); Branscombe beach, 8.7 (SN); Buddleigh Salterton, 3.11 (G. Durbin); East Prawle, 18.6, 31.10 (larvae on lucerne) (M. Catt); Kingsteignston, 21.10 (J. Knott); Plymouth, 6 or 7.5, 13.10 (S. Coombes); Salcombe, 4.11 (M. Catt); no locality given, 1.11, 5.11, 20.11 (larvae) (M. Catt). DORSET [9] Boscombe, Bournemouth, '10 larvae in early January' (M. Skelton); 13.10 (M.Gibbons); Honeycombe Chine, '6 larvae in

early January' (M. Skelton); Kingston, Corfe, 9.9 (P. Hack); Portland Bird Observatory, 29.4-5.6 (several), 12-30.7 (6), 19.8, 6.9-14.11 (c10 on many dates) (MC); 13.10 (A. Pickles); 1.11 (P. Fletcher & K. Vickery); Seatown, 21.10 (MSP). Southbourne, Bournemouth, 15.5, 24.5 (larvae & adults), 2.11 (M. Gibbons); 19.4, 2.5, 3.5 (2), 4.5 (5), 7.5, 8.5, 10.5 (2), 21.6 (3 larvae), 1.7, 3.7 (6), 6.7 (1 pupa), 8.7 (4), 15.7 (4) (M. Skelton); 4.5, 6.5 (ovae) (NB pers. comm.); Studland, 9.9 (D. Howson); Winspit, 21.10 (M. Gibbons). IOW [10] Wheelers Bay, 'early May' (2) (Knill-Jones, 2002); 21.5 (Hill, 2002); 'a handful seen during the Autumn' (Knill-Jones, 2002). S. HANTS [11] Avon, 4.7 (M.Gibbons); Browndown, 11.9 (L. Marshall per R. Hollins); Dibden Bay, Hythe, 24.8 (2) (P. Budd per R. Hollins); Fernycrofts, Beaulieu, 18.7 (C. Cuthbert per R. Hollins); Gosport, 23.9 (L. Marshall); Martin Down, 15.9 (C. Holt); mouth of the River Beaulieu, 1.9 (M. Litjens). N. HANTS [12] Noar Hill, Alton, 25.8 (T. Hotten). W. SUSSEX [13] Chichester, 3.11 (SP); Pagham, 18.10 (C. & P. Watkins & B. James); 18.10 (2), 3.11 (SP); Selsey Bill, 3.11 (E. Urquhart); Thorney Island, 21.8, 24.8 (B. Collins per CP); 15.7 (T. Carpenter per R. Hollins); Cissbury Ring, Worthing, 13.10 (2) (C. Moore). E. SUSSEX [14] Beachy Head, 27.8, 13.10 (T. Whitcombe pers. comm.); 1.11 (G. Champion per CP); Eastbourne, 30.5 (R. Meller per CP); Saltdean, 'Sept. 2001' (J. Franks per CP); Willingdon, 21.8 (J. Steedman per CP). E. KENT [15] Crundale Downs, Wye, 29.8 (GAC); Dungeness, 27.10 (D. Walker per SPC). HERTS [20] St Albans, 28.9 (L. Smith). E. SUFFOLK [25] Landguard, 22.10 (Odin, 2002). CAERNARVON [49] Bardsey Island, 20.9 (Stansfield, 2002). N. LINCS [54] near Louth, 1.9 (R. Goy pers. comm.). CHESHIRE [58] near Northwich, 3.6 (Hill, 2002). IOM [71] Calf of Man, 30.8 (Bagworth, 2002). FIFE [85] Fifeness, 10.8 (D.Spooner per NB).
CHANNEL ISLANDS [113] Guernsey: Lihou Island, 22.7 (L. Thomson *in* Austin, 2002).
W. CORK [H3] Dursey Island, 2.10, 3.10 (2), 5.10, 16.10 (D. Scott per IR); Old Head of Kinsale, 3.10 (6) (H. Hussey per IR).
DOWN [H38] St John's Point, 21.9 (D. Hatrick per IR).

LYCAENIDAE

1567 *Lampides boeticus* (L.) Long-tailed Blue [I][In]
W. CORNWALL [1] Chuch Cove, The Lizard, 3.10 (Tunmore, 2002); Predannack, 21.10 – 'a blue with tails, almost certainly relating to this species' (Hill, 2002). E. CORNWALL [2] Pentewan, 31.10 (R. Lane). DORSET [9] Winspit 20.10 (M. Gibbons). IOW [10] Afton Down, 31.10 (SAK-J); Ventnor, 3.11 (A. Butler per SAK-J). E. NORFOLK [27] Caistor St Edmund, 27-29.8 (R. Rogers *in* Hill, 2002).

1567a *Cacyreus marshalli* (Butler) Geranium Bronze [In]
DORSET [9] Portland, 28.8 – thought to have been imported on *Pelargonium* (J. Lucus). HUNTS [31] Little Paxton, 22.12 (larva) (ID).

NYMPHALIDAE

1594 *Aglais polychloros* (L.) Large Tortoiseshell [I][E?[
N. HANTS [12] Farnborough, 23.7 (Hill, 2002). E. SUFFOLK [25] Felixstowe, 20.6 – captured and photographed, then released at Landguard (G. Megson pers. comm.).

1596 *Aglais antiopa* (L.) Camberwell Beauty [I][E?]
E. SUFFOLK [25] Minsmere, 23.5 (Hill, 2002). GLAMORGAN [41] Nantgarw, near Cardiff, 24.6 (N. Jones pers. comm.).

1599 *Araschinia levana* (L.) European Map [E][I/V?]
S. ESSEX [18] Hainault Forest, 23.6 (Hill, 2002).

1603 *Issoria lathonia* (L.) Queen of Spain Fritillary [I][E?]
CHANNEL ISLANDS [113] Guernsey: L'Eree headland, 30.7 (L. Thomson *in* Austin, 2002); Damouettes Lane, 11.8 (W. Angell *in* Austin, 2002).

DANAIDAE

1630 *Danaus plexippus* (L.) Monarch [I][E?]
W. CORNWALL [1] Bass Point, Lizard, 9.10, 15.10 (K. Rylands *in* Hill, 2002); Beagles Point, Lizard, 2.11 (A. Pay pers. comm.); Cadgwith, Lizard, 8.10 (K. Rylands *in* Hill, 2002); Church Cove, Lizard, 2.10, 3.10, 4.10 (MT^{2}); Cot Valley, St Just, 1.10 (M. Litjens); 3.10 (Hill, 2002); Coverack, 'mid-October' (Tunmore, 2002); Cury Cross Lanes, Lizard, 9.10 (MT^{2}); Gunwalloe, 21.10 (P. Armfelt per NB); IOS: St Agnes, 15.10 (Hill, 2002); IOS: St Martin's, 3.10 (2) (Hill, 2002); IOS: St Mary's, Giants Castle, 1.10 (V. Smith pers. comm.); IOS: St Mary's, 3.10, 6.10, 8.10, 9.10, 12.10, 15.10, 20.10, 21.10 (Hill, 2002); IOS: Tresco, 1.10 (Hill, 2002); Kynance Cove, Lizard, 3.10 (MT^{2} pers. comm.); Lamorna, 9.10 (V. Smith pers. comm.); Nanquidno, 1.10 (V. Smith pers. comm.); Pendower (SW3622), 21.10 (S. Capple per J. Worth); Pistil Meadow, Lizard, 10.10 (K. Rylands *in* Hill, 2002); Porthgwarra, 12.10 (3) (B. Urwin); 12.10 (J. Stokes); 13.10, 20.10 (Hill, 2002); Rinsey (SW5927), 20.10 (2) (J. Wacher per J. Worth); Ruan Minor, Lizard, 3.11 (F. Johns pers. comm.); St Leven, 12.10 (Hill, 2002). E. CORNWALL [2] Clicker, Sheviock, 4.10 (D. Stevenson *in* Hill, 2002); Par, 17.10 (Hill, 2002); Porthpean, 11.10 (D. Eva); Rame Head, 9.10 (V. Tucker pers. comm.). S. DEVON [3] Bigbury, 6.10 (D. Owlett per NB); 9.10 (P. Reay per NB); Bolberry, 12.10 (2) (P. Sanders & V. Tucker); Berry Head, Torbay, 2.10 (M. Catt); Branscombe, 12.10 (Hill, 2002); HMS Cambridge, Wembury, 3.10 (Hill, 2002); Prawle Point, 9.10 (several reported on previous days) (M. Catt & S. Coombes); 11.10, 12.10 (2), 13.10 (4), 15.10 (Hill, 2002); Seaton, 9.10 (Hill, 2002); Start Point (SX830372), 3.10 (3+) (Hill, 2002); 4.10 (P. Reay & W. Rees per NB). N. WILTS [7] Bradford-on-Avon, 21.8 (Hill, 2002); Trowbridge, 21.8 (M. Fuller pers. comm.) – possibly the same individual. DORSET [9] Durlston Country Park, 2.10 (K. Black per BS^{2}); 3.10 (3) (H. Murray per BS^{2}); 13.10 (P. Grey per BS^{2}); East Lulworth, 2.10 (D. Green per MSP); Langton Matravers, 2.10 (P. Grey per BS^{2}); Lulworth Cove, 12.10 (J. Campbell per BS^{2}); near Poole (SZ009931), 9.10 (PD per BS^{2}); Portland, 1.10, 9.10 (4), 10-12.10 (1), 13.10 (3), 14.10 (2), 16.10, 20.10 (2), 1.11, 4.11 – several other reported sightings on the island (MC); Studland, 20.10 (Hill, 2002); Swanage, 6.10 (Hill, 2002); Swineham, 31.10 (P. Grey per BS^{2}); Weymouth, around 24.8 (NB pers. comm.); 12.10 (Hill, 2002); Winspit, 4.10 (P. Williams per BS^{2}); 10.10 (J. & O. Hamblett per BS^{2}); 20.10 (M. Gibbons); 21.10 (M. Gibbons pers. comm.). IOW [10] Alverstone, 2.10 (J. Ralph); Carisbrooke Castle, 6.10 (D. Yendell); St Helens, 21.8 (SAK-J); Totland Bay, 21.8 (SAK-J); Ventnor, 10.10 (M. Edmunds); Yarmouth, 21.8 (SAK-J); 1 further sighting on the island during October (SAK-J). S. HANTS [11] Barton on Sea, 3.10 (S. Keen per R. Hollins); the Kench, Hayling Island, 14.10 (K. Turner pers. comm.); Cosham, Portsmouth (SU647057) 4.10 (G. Roberts per NB). W. SUSSEX [13] Bognor Regis, 3.10 (P. May per CP); Ferring-on-Sea, 3.10 (M. Ford per CP); Littlehampton, 2.10 (W. Taylor per SP); 8.10 (J. & W. Porter per CP); Pagham Harbour, 2.10 (L. Holloway pers. comm.); Sidlesham Ferry, 5.10 (SP); 14.10 (Hill, 2002); Worthing, 3.10 (J. Gay pers. comm.). E. SUSSEX [14] Beachy Head, 2.10, 5.10 (Hill, 2002); 13.10, 2.11 (T.

Whitcombe pers. comm.); Blackboys, 5.10 (Hill, 2002); Brighton, 3.10, 6.10, 8.10 (P. Whitcombe et al); 9.10 (J. Paul); Hailsham, 3.10 (W. Walters per CP); Hastings, 2.11 (K. Ruff per CP); Needs Ore, 16.10 (B. Goater et al.); Rottingdean, 3.10, 4.10 (J. Franks per CP); Sheepcote Valley, Brighton, 18.8 (P. Whitcomb). E. KENT [15] Dungeness, 13.10 (A. Reynolds). SURREY [17] Farncombe, 5.10 (I. & C. Hacker per NB). W. GLOUCS [34] Chalford, 19.8 (R. Scales per NB). WORCS [37] near Bewdley, 20.8 (NB pers. comm.). GLAMORGAN [41] Nash Point, 12.10 (E. & M. Cram); Severn Down, 12.10 (Hill, 2002). CAERNARVON [49] Bardsey Island, 20.8 (S. Stansfield). IOM [71] Dhoon Maughold, 24.8; Calf of Man, 9.10; College to Airport, 10.10; Rushen, 23.8, 6.11 (GDC).

W. CORK [H3] Baltimore, 8.10 (O. O'Sullivan pers. comm.); Barleycove, 6.10 (2) (P. Wolsteholme & P. Leonard per IR); Clear Island, 1.10, 2.10, 3.10, 5.10. 8.10 (3), 9.10 (S. Wing et al. per IR); Firkeel Glen, 8.10 (K. Grace & T. LANCS per IR); Garinish Cross (2), 5.10 (K. Grace & T. LANCS per IR); Gortbrack (V750283), 6.10 (K. Corcoran per IR).

WATERFORD [H6] Ardmore Head, 8.10 (P. Walsh per IR).

GEOMETRIDAE

1664 *Aplasta ononaria* (Fues.) Rest Harrow [R][I]
E. KENT [15] Dungeness, 26.6 (D. Walker & A .Bradshaw per SPC); 17.8 (KR per SPC); 20.8 (D. Walker per SPC). W. KENT [16] Grain, 25.8 F. Butcher BENHS 15:157.

1672 *Thalera fimbrialis* (Scop.) Sussex Emerald [MC?][I/V?]
IOW [10] Binstead, 25.6 (BJW).

1676 *Cyclophora annularia* (Fab.) Mocha [R][I/V?]
DORSET [9] Portland Bird Observatory, 22.8 (MC).

1678 *Cyclophora puppillaria* (Hb.) Blair's Mocha [I]
S. DEVON [3] West Hill, 15.10 (P. Baker). DORSET [9] Portland Bird Obsevatory, 22.10 (MC); Puddletown, 24.10, 28.10 (HWH); Walditch, 19.10 (MSP). IOW [10] Freshwater, 14.10, 16.10 (SAK-J). S. HANTS [11] Fareham, 19.10 (RD). W SUSSEX [13] Walberton, 16.10 (JR per CP). E. SUSSEX [14] Heathfield, 27.10 (D. Long). E. KENT [15] Newington, 27.10 (R. Lane); Sevington, 17.10 (T. Button per SPC). S. ESSEX [18] Thundersley, 18.10 (DGD).

1684 *Scopula nigropunctata* (Hufn.) Sub-angled Wave [R][I]
E. KENT [15] Greatstone, 7.7 (B. Banson per SPC).

1688 *Scopula rubiginata* (Hufn.) Tawny Wave [R][I]
E. SUFFOLK [25] Landguard, July (3), August (2) (Odin, 2002).

1716 *Rhodometra sacraria* (L.) Vestal [I]
W. CORNWALL [1] Buryas Bridge, 14.10 (2), 20.10 (2), 21.10 (3), 30.10 (L.Oakes); IOS: St Agnes, 11.10 (Hicks, 2002); IOS: St Mary's, Church Road, 22.10, 23.10, 28.10, 31.10 (MS^2); IOS: Borough Farm, Tresco, 11-19.10 (23) (AM/RF/MS); The Lizard, 13.10 (38), 14.10 (10), 15.10 (4), 16.10 (7) (DB/MT); September (1), October (19 - may include some of the previous records) (Tunmore, 2002); 17-19.10 (1) (RB); Marazion marsh – abundant as roadside casualties in the Autumn (S. Barron *in* Tunmore, 2002); Sennen, 1.11 (G. Hocking); 12.10 (2) (JS); 13.10, 14.10 (AP). E. CORNWALL [2] Hatt, 12.10 (5) (M. & R. Parfitt). S. DEVON [3] Abbotskerwell, 12-29.10 (5) (BH); Dawlish,

13-16.10 (3) (P. Franghiadi per RFM); Dawlish Warren, 13.10 (BH and RFM); Exmouth, '2001' (H. Wooltorton per RFM); Kingskerswell, '2001' (3) (B. Deakins per RFM); Paignton, 13.10 (K. Brown per RFM); Plymouth, '2001' (J. Randall per RFM); Plymstock, 21.10, 22.10 (JAC); Poundsgate, 29.9 (A. George); Sore, 4.11 (M. Catt); Starcross, 2-4.11 (1) (T. Dobson per RFM); Stover Park, 16.10 (2) (DB); Strete Gate, 1.11 (M. Catt); Widdon Down, (several) (P. Butter and B. and L. Bewsher per RFM). S. SOMERSET [5] Churchinford, 13.10 (H. Papworth); Taunton, 12.10 (JM); West Sedge Moor, 14.8 (T. Bantock & S. Croft). N. SOMERSET [6] Midford, 14.10 (B. Briggs). N. WILTS [7] Crudwell, 19.10 (A. Foster). DORSET [9] Bridport, 22.10 (MSP); Dorchester, 13.10 (2), 28.10 (JD); Durlston Country Park, 13.10 (RB); 16.10 (2) (SN); Portland Bird Observatory, 11-27.10 (15) (MC); Freshwater Bay, Portland, 14.10 (2), 21.10; Puddletown, 2-28.10 (25) (HWH per PH^2); Studland Heath, 20.10 (A. Foster); Upwey, 16.10, 3.11 (PH^2); Walditch, 28.9, 29.9, 12-21.10 (23); Winfrith Newburgh, 13.10 (DF); Wyke Regis, 31.8 (DF). IOW [10] Binstead, 28.7, 30.7, 1.8, 12-18.10 (5) (BJW); Cranmore, 26.10 (IF); Freshwater, 12.10 (2), 16.10 (DW); 3-19.10 (9) (SAK-J); 22.10, 23.10, 24.10 (DB). S. HANTS [11] Fareham, 13.10, 19.10, 28.10 (RD); Hayling Island, 13.10 (Phillips & Durnell, 2002); Lymington, 14.10 (T. Pickles); Portchester, 14.10, 24.10, 30.10 (J. Stokes); Portswood, 12.10 (A. Dawson); Sparsholt, 2.10, 5.10, 14.10 (2), 25.10 (RB); St Leonards, 14.10 (A. Dawson). N. HANTS [12] Selborne, 29.9, 12-20.10 (5) (AA). W. SUSSEX [13] Kingsham, 25.8, 28.9, 19-29.10 (8) (SP); Pagham Harbour, 28.10 (DB); Walberton, 3.8, 10-29.10 (16), 5.11 (JR per CP). E. SUSSEX [14] Crawley Down, 16.10, 18.10 (JAC); Icklesham, 24.10 (I. Hunter); Northiam, 12-13.10 (3), 23.10 (2), 6.11 (D. Burrows per SPC); Peacehaven, 16.10, 22.10, 29.10 (CP); Ringmer, 23.8 (A. Batten per CP); Rye, 12.10, 29.10 (PT per CP); 13.10 (JAC). E. KENT [15] Dungeness, 20.8, 18.10 (D. Walker per SPC); 24.8 (KR per SPC); Dymchurch, 12.8, 16.10 (DOK); Greatstone, 29.8 (B. Banson per SPC); Kingsgate, 15.10, 19.10 (Solly et al., 2002); Lydd, 17.8, 22.10 (KR per SPC); Newington, 21.8 (R. Lane); New Romney, 13.10, 18.10 (KR per SPC). W. KENT [16] Halstead (TQ490624), 25.8 (J. East). SURREY [17] Buckland, 17.10 (3) (C. Hart); South Croydon, 23.8 (GAC). S. ESSEX [18] Magdalen Laver, 13.10 (TG per BG); Theydon Bois, 13.10, 30.10 (JG). N. ESSEX [19] Brightlingsea, 12.10 (2) (D. Scott); Felsted, 13.10 (G. Green per BG); Langenhoe, 21.9 (H. Owen per BG); Lawford, 14.8 (A. Lansdown per BG). HERTS [20] Rickmansworth, 2001 (AM^2); Bishops Stortford, 9.10 (CW); Hertford, 22.10 (AW). MIDDLESEX [21] Hampstead, 12.10 (RAS). BERKS [22] Dry Sandford, 5-27.10 (4) (MT); Faringdon, 13.10, 14.10 (MFC); Fernham, 1-29.10 (17) (SN). BUCKS [24] Fenny Stratford, 12.10, 20.10, 31.10 (L. Hill); Langley, 14.10, 17.10 (R. Hayward); Walter's Ash (SU841978), 13.10 (N. Fletcher). HUNTS [31] Stonely, 12.10; St Ives, 12.10 (BD). E. GLOUCS [33] Cainscross, 13.10 (C. Attaway per RGG); Pool Hill, 13.10 (M. Bradley per RGG); Ringhill Farm, 13.10 (R. & S. Pearce per RGG). W. GLOUCS [34] Firtree Cottage, 18.10 (RGG) MONMOUTH [35] Whitelye, 18.10, 19.10 (NG-D). CARDIGAN [46] Coedmor, 1.10 (MSP/AS). CAERNARVON [49] Bardsey Island, 24.5, 31.5 (2) (Stansfield, 2002). FLINT [51] Hawarden, 19.10 (G. Neal). LEICS/RUT [55] Barrowden, 2.11 (R. Follows per MS); South Wigston, 22.10 (MS). CHESHIRE [58] Anderton (SJ645754S), 14.10 (A. Wander); Marbury Country Park (SJ651764), ?.10, 13.10 (A. Wander pers. comm.). S. LANCS [59] Billinge, 30.9 (CD); Orrell, 12.10 (2), 15.10 (PA); St Helens, 20.10 (RB). W. LANCS [60] Carr House Green, 2.11 (HB^2). N. YORKS [65] Hutton Conyers, 17.10 (C. Fletcher). WESTMORLAND [69] Witherslack, 13.10, 21.10, 2.11 (SB). IOM [71], Knocksharry German, 14.10 (2); Orrisdale, Michael, 1.10, 13.10 (GDC).

CHANNEL ISLANDS [113] Guernsey: L'Ancresse, 19.10, 20.10 (2) (Austin, 2002); Le Chene, 14.10 (Austin, 2002); Mont D'Aval, 12.10, 16.10 (Austin, 2002); St Peter's, 25.8, 27.9 (4), 19.10, 21.10 (PC); St Sampsons, 18.10 (ML). Jersey: Grouville, 11.8 (2) (R. Long).

1720 *Orthonama obstipata* (Fab.) Gem [I]
W. CORNWALL [1] Coverack, 16.10 (DB); IOS: St Agnes, 31.1, 13.4 (6) (Hicks, 2002); IOS: St Mary's, Church Road, 26.10, 27.10, 29.10 (2) (MS[2]); St Mary's, Old Town, 24.10 (2), 26.10 (2) (MS[2]); St Mary's, The Strand, 29.10, 30.10 (MS[2]); IOS: Borough Farm, Tresco, 7-19.10 (8) (AM/RF/MS); The Lizard, 13.10 (7), 14.10 (2) (DB & MT); September (2), October (17 - may include some of the previous records), November (3) (Tunmore, 2002). S. DEVON [3] Abbotskerwell, 29.10 (BH); Branscombe, 20.10 (4) (RFM); Dawlish, 14.10 (P. Franghiadi per RFM); Exeter, 19.10 (2) (P. Butter per RFM); Starcross, 30.9 and 25.10 (5) (T. Dobson per RFM). DORSET [9] Bridport, 20.10 (MSP); Dorchester, 3.9 (JD); Durlston Country Park, 13.10 (RB); 12.10, 29.10 (SN); 16.10 (TR); Portland Bird Observatory, 27.8-29.10 (21) (MC); Puddletown, 18.10 (2), 19.10 (HWH per PH[2]); Studland heath, 20.10 (A. Foster); Upwey, 12.10 (PH[2]); Walditch, 13-21.10 (11); Wyke Regis, 1.11 (DF). IOW [10] Binstead, 30.10 (BJW); Cranmore, 28.6 (IF); Freshwater, 13.10 (2), 20.10 (2) (DW); 24.8, 19-28.10 (13) (SAK-J); at least 2 others recorded on the island (Knill-Jones, 2002). S. HANTS [11] Fareham, 19-20.10 (2) (RD); Hayling Island, 5.10, 12.10, 20.10 (4) (Phillips & Durnell, 2002); Portchester, 23.10 (JS); Sparsholt, 21.10 (RB). N. HANTS [12] Selborne, 20.10, 21.10 (2) (AA). W. SUSSEX [13] Ferring-by-Sea, 14.8, 16.10, 19.10 (3), 20.10 (THF); Kingsham, 16.10, 18.10 (2), 20.10, 26.10, 29.10 (SP); Pagham Harbour, 28.10 (DB); Walberton, 3.7, 31.7, 15.8, 20.8, 17-26.10 (12), 6.11 (JR per CP). E. SUSSEX [14] Burwash, 19.10 (D. Burrows per CP); Icklesham, 15.8, 13.10 (2), 25.10 (Hunter, 2002); Old Heathfield, 19.10 (D. Long per CP); Peacehaven, 12.10, 16-22.10 (5) (CP); Rye Harbour, 23.8, 24.8 (DB); 13.10 (JAC); 22.8, 23.8, 13-29.10 (8) (PT per CP). E. KENT [15] Densole, 19.10 (2), 22.10 (TR); Dumpton, 19.5, 17.10 (Solly et al., 2002); Dungeness, 12.10, 18-20.10 (4), 27.10 (5) (D. Walker per SPC); 22.8, October (7) (G. Lyons per SPC); Dymchurch, 10.6, 26.8 (2), 12.10 (DOK); Great Farthingloe farm, Dover, 19.10, 27.10 (2) (TR); Greatstone, 19.10 (B. Banson per SPC); Icklesham, 15.8, 13.10, 25.10 (I. Hunter per CP); Kingsgate, 29.6 – 26.10 (17) (Solly et al., 2002); Littlestone, 25.8, 14-20.10 (4) (KR per SPC); Lydd, 18-27.10 (5) KR per SPC); New Romney, 20.8, 28.8, 13-27.10 (8), 3.11 (SPC); 12-20.10 (9) (KR per SPC). Ramsgate, singles on 6 dates in October (Solly et al., 2002). S. ESSEX [18] Thundersley, 14.10 (DGD). HERTS [20] Hexton Chalk Pit, 20.10 (CWP). E. SUFFOLK [25] Eye, 3.11 (P. Kitchener); Landguard, 18.10, 21.10, 27.10 (2) (Odin, 2002). E. NORFOLK [27] Catfield, 13.10 (A. Beaumont per DH[3]); Hainford, 16.11 (DH[3]); North Walsham, 20.10 (PH); Scole, 19.10 (M. Hall per DH[3]); Stoke Holy Cross, 17.10 (A. Musgrove). HUNTS [31] Little Paxton, 17.8 (ID); Yaxley, ?.10, 22.10 (AF). W. GLOUCS [34] Whitchurch (ST607675), 21.8, 22.8 (R. Andrews). CHESHIRE [58] Cheadle Hulme, 20.8 (Tunmore, 2002). S. LANCS [59] Worsthorne, Burnley, 2.7 (GG). EAST YORKS [61] Kilnsea, 21.8 (PAC); Spurn NNR, 21.10 (BRS). IOM [71] Orrisale Michael, 21.10 (GDC).
CHANNEL ISLANDS [113] Guernsey: L'Ancresse, 12.10, 2.11 (RA); Le Chene, 27.10 (Austin, 2002); Mont D'Aval, 17.10 (Austin, 2002); St John, 23.10, 25.10 (Austin, 2002); St Peters, 19.9 (PC); St Sampsons, 25.8, 19.10 (ML). Two specimens were also taken on the islands on National Moth Night (11.8) (Tunmore, 2002).

1771a *Thera cupressata* (Geyer) Cypress Carpet [I][MC]
S. DEVON [3] Dawlish, 28.10 (2), 11.11 (2), 23.11, 24.11 (McCormick, 2002). S. HANTS [11] Hayling Island, 25.6, 26.6, 27.6 (3), 20.9 (Phillips & Durnell); W. SUSSEX [13] Donnington, 17.9, 12-28.10 (4) (M. Perry *in* Patton, 2002); Ferring-by-Sea, 19.6, 25.6, 1.7 (5), 3.7 (3), 6.7 (THF); Kingsham, 3.7 (SP); 3-20.10 (4) (Patton, 2002).

1815 *Eupithecia abietaria* (Goeze) Cloaked Pug [I][R]
DORSET [9] Higher Hyde, 7.7 (2) (M. Forster, PH^{2}, JD et al). W. SUSSEX [14] Gravetye Forest, East Grinstead, 5.7 (JAC); Walberton, 4.7, 5.7, 23.7 (JR per SP). E. KENT [15] Birchett Wood, Ham Street, 4.7 (2) (JAC). HERTS [20] Oxhey, 7.7 (J. Thompson); Whippendell Wood, 7.7 (2) (CWP). S. LANCS [59] Briercliffe, 4.7, 18.7 (TL).

1861 *Pasiphila debiliata* (Hb.) Bilberry Pug [R][I/V?]
DORSET [9] Trigon, 4.7 (C. Manley per PD).

1862 *Gymnoscelis rufifasciata* (Haw.) Double-striped Pug [R][?I/V]
DORSET [9] Walditch, 18-21.10 (4) (MSP) – large, grey examples in a period of much migrant activity.

1864 *Chesias legatella* (D. & S.) Streak [R][I/V?]
DORSET [9] Durlston Country Park, 19.10 (2) (PD); Portland Bird Observatory, 27.10 (MC). S. HANTS [11] Hengistbury Head, 26.10 (MJ).

1894 *Chiasmia clathrata* (L.) Latticed Heath [R][I/V?]
DORSET [9] Portland Bird Observatory, 15.8, 16.8 (MC); Weymouth, 19.8 (R. Lambert). IOM [71] Calf of Man, 19.7 (Bagworth, 2002).

1911 *Ennomos autumnaria* (Werne.) Large Thorn [R][I/V?]
E. YORKS [61] Spurn NNR, 23.8 (BRS).

SPHINGIDAE

1972 *Agrius convolvuli* (L.) Convolvulus Hawk-moth [I]
[1] W. CORNWALL Higher Kenneggy, 16.10 (AP); IOS: St Agnes, 29.8, 1.9, 5.10 (Hicks, 2002); IOS: St Mary's, Carn Gwarvel, 6.10 (via Birdguides web site); IOS: St Mary's, Church Road, 25.10 (MS^{2}); IOS: Borough Farm, Tresco, 18.10 (AM/RF/MS); The Lizard, 22.8 (2), 4.10, 10.10, 13.10, 14.10 (2), 16.10 18.10 (Tunmore, 2002); 17.10 (DB). S. DEVON [3] Ashburton, 20.10 (J. Barkham per MSP); Dawlish, 13.10 (P. Franghiadi per RFM); Exmouth, '2001' (H. Wooltorton per RFM). DORSET [9] Durlston Country Park, 13.10 (RB); Portland Bird Observatory, 9.10, 19.10 (2) (MC); Portland, Tout Quary, 17.10 (larva) (MC); Puddletown, 13.8, 29.8, 13.10 (HWH per PH^{2}); Walditch, 10.10, 19.10 (MSP). IOW [10] two records in 2001 (Knill-Jones, 2002). W. SUSSEX [13] Ferring-on-Sea, 31.10 (THF per CP). E. SUSSEX [14] Peacehaven, 11.9, 25.10 (CP); Rye Harbour, 23.8 (DB). E. KENT [15] Dumpton, 12.10 (Solly et al., 2002); Kingsgate, 30.8, 5.9 (2), 22.10, (Solly et al., 2002); Lydd, 10.9 (KR per SPC). S. ESSEX [18] Theydon Bois, 29.10 (JG). N. ESSEX [19] Feering, 20.9 (T. Barritt & C. Gibson per BG). HERTS [20] Quickswood, 31.8, 22.9 (DH). E. NORFOLK [27] Caister, 11.9 (R. Dyble per DH^{3}); Oulton, 9.8 (S. Hall per DH^{3}); Overstand, 6.8 (Mr Ladzrie per DH^{3}); Weybourne, 5.8 (M. Preston per DH^{3}). W. NORFOLK [28] Holme-next-the-Sea, 27.7, 30.7 (P. Tilley per DH^{3}). S. LINCS [53] Potterhamworth

station, 25.8 (via P. Goy). N. LINCS [54] Goxhill, 30.8 (C. Potts). S. LANCS [59] St Helens, 4.10 (RB); Mere Sands Wood, 8.10 (GF/IK/DR). W. LANCS [60] Gait Barrows, 16.10 (RP-J). E. YORKS [61] Kilnsea, 31.8, 2.9 (PAC); Spurn NNR, 21.9 (BRS). IOM [71] Eary Farm, Michael, 2.10 (GDC). BERWICK [81] Eyemouth, 28.8 (Tunmore, 2002). ZETLAND [112] Bressay, 24.8 (via MP); Eswick, 24.8 (T. Rogers per MP); Fetlar, 5.9 (via MP); Mid Yell, 5.9 (via MP); Vow, 20.8 (T. Gerrard per MP).
CHANNEL ISLANDS [113] Guernsey: Icart, 13.8, 21.8, 24.8, 15.10 (Austin, 2002); L'Ancresse,13.10 (RA); Le Chene, 15.10 (Austin, 2002); St Peters, 25.8, 27.9 (PC *in* Austin, 2002).

1973 *Acherontia atropos* (L.) Death's-head Hawk-moth [I]
IOW [10] Carisbrooke, 17.10 (A. Holbrook per SAK-J). E. KENT [15] Dungeness, 22.8 (A. Blake per SPC). E. NORFOLK [27] Mundesley, 1.10 (per PH). GLAMORGAN [41] Dinas Powys, 20.9 (D. Gilmore pers. comm. *in* Tunmore, 2002); Ewenny, 1.11 (D. Gilmore pers. comm. *in* Tunmore, 2002). W. LANCS [60] Morecambe, 5.11, found by Refuse Collector, per Julian Whittle (via SMP).
CHANNEL ISLANDS [113] Guernsey, 24.8 (larval) (RA).
ARMAGH [H37] Peatlands Park, 5.9 (via IR).

1985 *Daphnis nerii* (L.) Oleander Hawk-moth [I][E/In?]
W. GLOUCS [34] MOD Abbey Wood, 8.11 (C. Brandon).

1987 *Hyles gallii* (Rott.) Bedstraw Hawk-moth [I][R(t)?]
[1] W. CORNWALL Breage, 16.8, 30.8 (R. Howard *in* Tunmore, 2002). N. SOMERSET [6] Tickenham Ridge, 27.7 (J. Martin per R. Andrews). DORSET [9] Portland Bird Observatory, 27.7 (MC). N. ESSEX [19] Mashbury, 27.7 (M. Tarrant). BERKS [22] Fernham, 13.7 (SN). BUCKS [24] Fenny Stratford (SP879334), 19.7 (L. Hill); Langley, 25.6 (R. Hayward). E. SUFFOLK [25] Southwold, 28.6 (DGD). E. NORFOLK [27] Cawston, 21.5 (J. Sutton per DH[3]); Kelling, 22.7 (JM pers. comm.); North Tuddenham, 21.7 (B. Pummel per DH[3]); Norwich, 21.7 (S. Paston per DH[3]); Weybourne, 20.7 (N. Preston per DH[3]). WARKS [38] Coventry, 24.7 (T. Gosling *in* Tunmore, 2002). N. LINCS [54] Gibraltar Point, 21.7 (J. Swash); Stickford, 9.9 – 3 larvae on *Fuscia* (R. Goy pers comm.). N.W. YORKS [65] Hutton Conyers, 21.7 (C. Fletcher). IOM [71] Dhoon Glen, 25.7, 26.7 (L. Kneale).

THAUMETOPOEIDAE

2022 *Thaumetopoea processionea* (L.) Oak Processionary [I][MC – Channel Islands]
CHANNEL ISLANDS [113] Guernsey: Le Chene, 15.8, 28.8 (TNDP *in* Austin, 2002); St Sampsons, 3.8 (ML). Jersey: Gorey, date not given, 'several taken' (D. Wedd *in* Atropos, 2002).

LYMANTRIIDAE

2034 *Lymantria dispar* (L.) Gypsy Moth [I][MC? – Channel Islands]
CHANNEL ISLANDS [113] Guernsey: Le Chene, 15.8 (TNDP *in* Austin, 2002); St Peters, 15.8 (PC). Jersey: Gorey, date not given, 'nearly 30 came to light at dusk' (D. Wedd *in* Atropos, 2002).

ARCTIIDAE

2036 *Setina irrorella* (L.) Dew Moth [R][?I/V]
E. KENT [15] Densole, 27.5 (TR).

2039 *Atolmis rubricollis* (L.) Red-necked Footman [R][?I/V]
W. CORNWALL [1] IOS: St Agnes, 'up to 50 flying around Monterey Cypress in July' (Hicks, 2002); IOS: St Mary's, reports of 'swarms' in July (Hicks, 2002). W. SUSSEX [13] Kingsham, 4.7 (SP). E. SUSSEX [14] Icklesham, 14.7 (I. Hunter per CP); Westfield, early July (D. Funnel per CP). E. KENT [15] Dumpton, 26.6 (Solly et al., 2002); Dungeness, 4.7 (D. Walker per SPC); Greatstone, 26.6 (B. Banson per SPC); Kingsgate, 5.7 (2) (Solly et al., 2002); Lydd 26.6 (KR per SPC); Ramsgate, 3.7 (2) (Solly et al., 2002). N. ESSEX [19] Beaumont-cum-Moze, 3.7 (J. Fisher); St Osyth, 26.6 (2) (BG). BERKS [22] Eaton Wood, 30.6 (MC/SN); Fernham, 4.7 (SN). SUFFOLK [25] Ipswich, 26.6 (2) (N. Sherman); Landguard, 5.7 (M. Marsh per N. Odin); Rushmere St Andrew, 5.7 (J. Higgott); Staverton Thicks, 26.6 (TP). W. NORFOLK [28] Holme Hale, 26.6 (S. Brown). WARKS [38] Oversley Wood, 26.6 (M. Astley per DB); Shottery, 23.6 (R. Bliss per DB). MERIONETH [48] Llywyngwiril, 5.7 (G. Fellows).

2041 *Pelosia muscerda* (Hufn.) Dotted Footman [R][?I/V]
E. KENT [15] Orlestone, 5.7 (SPC and G. Senior).

2045 *Eilema caniola* (Hb.) Hoary Footman [R][?I/V]
E. KENT [15] Lydd, 13.10 (KR per SPC). N. ESSEX [19] Wix, 28.7 (C. Balchin per BG).

2049 *Eilema depressa* (Esp.) Buff Footman [R][?I/V]
W. CORNWALL [1] IOS: St Agnes, 12.11 – new IOS record, and accompanied by many other migrant species. (Hicks, 2002); The Lizard, 13.10, 14.10 (Tunmore, 2002). E. SUFFOLK [25] Landguard, 5.7 (Odin, 2002).

2051 *Lithosia quadra* (L.) Four-spotted Footman [R][I]
W. CORNWALL [1] Curry Cross Lanes, sporadically between 11.6 – 29.10 (Tunmore, 2002). IOS: St Agnes, 15.7. 1.8 (Hicks, 2002); IOS: St Mary's, Porthmellon, 4.8, 6.8 (MS[2]); IOS: Borough Farm, Tresco, 12.10 (AM/RF/MS); The Lizard, 13.10, 14.10 (MT per DB). DORSET [9] Durlston Country Park, 29.9 (DB); Puddletown, 7.7 (HWH per PD); Studland, 21.7 (CM et al); Upwey, 28.9 (PH); West Bexington, 26.6 (RE per PD); Weymouth, 30.6 (R. Lambert). IOW [10] Bonchurch, 3.8 (Knill-Jones, 2002). W. SUSSEX [13] Atherington, 29.9 (DB); Walberton, 28.9, 29.9 (JR per CP). E. KENT [15] Dymchurch, 4.10 (J. Owen per SPC); Kingsgate, 28.9 (Solly et al., 2002); Pegwell Bay, 28.9 (Solly et al., 2002). BERKS [22] Eaton Wood, 30.6 (MC/SN). HUNTS [31] Molesworth, 24.7, 14.8 (BD).
CHANNEL ISLANDS [113] Guernsey: Le Chene, 12.8, 14.8 (TNDP *in* Austin, 2002); Mont D'Aval, 6.8 (Austin, 2002); St Peters, 24.7 (PC).

2067 *Callimorpha dominula* (L.) Scarlet Tiger [R][?I/V]
W. SUSSEX [13] Laughton, 3.7 (J. Shaughnessy per CP). E. KENT [15] Dungeness, 4.7 (D. Walker per SPC).

NOLIDAE

2076 *Meganola albula* (D. & S.) Kent Black Arches [MC][I]
SURREY [17] Capel, 5.7, 7.7 (D. Fraser). BERKS [22] Fernham, 2.8 (SN).

2079 *Nola aerugula* (Hb.) Scarce Black Arches [I]
E. NORFOLK [27] Eccles on Sea, 9.7 (N. Bowman per DH[3]).

NOCTUIDAE

Agrotis graslini (Ramb.) Woods Dart [?MC/I]
CHANNEL ISLANDS [113] Jersey: Les Quennevais, 22.8 (8) (N. Woods in Moore, 2002). Specimens were subsequently found in the Woods collection, taken at the same locality on 1.8.1995 and 3.8.1995.

2102a *Ochropleura leucogaster* (Frey.) Radford's Flame Shoulder [I]
W. CORNWALL [1] IOS: Porthloo, 12.10 (L. Marshall). DORSET [9] Portland Bird Observatory, 11.11 (MC); West Bexington, 18.10 (RE per PD).

2111a *Noctua janthina* (D. & S.) Langmaid's Yellow Underwing [I/MC/R?]
S. HANTS [11] Southsea, 9.7 (JRL) – New to Britain.

2137 *Eurois occulta* (L.) Great Brocade [I][R]
BERKS [22] Upper Basildon, 26.6 (MCH). ORKNEY [111] locality not given, 29.7 (Gauld, 2002).

Lacanobia splendens (Hb.) Splendid Brocade [I]
CHANNEL ISLANDS [113] Guernsey: Icart Point, St Martins, 16.7 (TNDP); St Peters, 5.7 (PC) – both specimens were not identified until 2003, when several were taken for the first time in mainland Britain.

2183 *Orthosia miniosa* (D. & S.) Blossom Underwing [R][I/V?]
DORSET [9] West Bexington, 8.5 (RE per PD).

2194 *Mythimna albipuncta* (D. & S.) White-point [I][MC]
W. CORNWALL [1] IOS: St Agnes, 20.10 (Hicks, 2002); IOS: St Mary's, Church Road, 26.10 (2) (MS^2); The Lizard, October (2) (Tunmore, 2002). S. DEVON [3] Branscombe, 20.10 (2) (RFM); Dawlish, 27.8 (P. Franghiadi per RFM); Teignmouth, 16.10 (RFM). DORSET [9] Durlston Country Park, 13.10 (RB); 4.7, 14.8, 17.8 (2) (SN); Portland Bird Observatory, 1-13.6 (4), 13.8-21.10 (74) (MC); Puddletown, 13.8, 29.8, 19.10 (HWH per PH^2); Upwey, 13-31.8 (10), 1-11.9 (5), 27.9, 13.10, 20.10 (PH^2); Walditch, 15.8, 17.8, 11.9 (2), 28.9 (2) (MSP); Wyke Regis, 15.8, 21.8, 20.10 (DF). IOW [10] Binstead, 31.7-8.8 (5) (BJW); Freshwater, 22.10 (2) (DB). S. HANTS [11] Lymington, 14.10 (A. Pickles); Selborne, 2.7 (AA); Southsea, 22.8, 24.8 (JRL). N. HANTS [12] Selborne, 2.7 (AA). W. SUSSEX [13] Donnington, 16 records in 2001 (M. Perry *in* Patton, 2002); Kingsham, 13.7, 6.7, 5-24.8 (17 – max 22.8 (6)), 8.9, 19.10 (SP); 15 further records (Patton, 2002). E. SUSSEX [14] Icklesham, 4.8 – 25.10 (43), max 23.8 (7) (Hunter, 2002); Rye Harbour, 14.8 (JAC); 16 dates from 14.8 – 11.9, max 25.8 (5) (Troake, 2002). E. KENT [15] Densole, 25.8 (TR); Dungeness, 9.6 (3) (TR); Great Farthingloe farm, Dover, 24.5, 5.6 (2) (TR). SURREY [17] Carshalton, 29.10 (GAC). S. ESSEX [18] Boreham, 14.8 (G. Ekins per BG). N. ESSEX [19] Abberton, 23.8 (A. Kettle per BG); Dovercourt, 14.8 (C. Gibson per BG); Landermere, 24.8 (2) (J. Fisher per BG); Lawford, 1.6 (A. Lansdown per BG); Layer-de-la-Haye, 16.8, 24.8 (P. Pyke per BG); Little Oakley (TM2129), 2.9, 6.9 (G. Slater per BG). BERKS [22] Fernham, 17.10 (SN). SUFFOLK [25] Landguard, 4.6 – 23.9 (35) (Odin, 2002); Minsmere, 11.8, 29.9 (TP pers. comm.); Staverton Thicks, 29.6 (TP); Tunstall Forest, 18.8 'good numbers' (TP). E. NORFOLK [27] Eccles on Sea, 29.9 (N. Bowman per DH^3); Filby, 24.8 (P. Heath per DH^3); Scole, 20.8, 4.9, 28.9, 4.10 (M. Hall per DH^3).
CHANNEL ISLANDS [113] Guernsey: L'Ancresse, 13.10 (4) (RA); St Sampsons, 29.5 (ML); small numbers on the island between 25.5 – 27.10 (Austin, 2002).

2195 *Mythimna vitellina* (Hb.) Delicate [I][R(t)?]
W. CORNWALL [1] Coverack, 14.10 (2) (DB); IOS: St Agnes, 21.8, 24.8, 29.8 (2), 2.10 (Hicks, 2002); IOS: St Mary's, Church Road, 20-31.10 (29) (MS^2); IOS: Borough Farm, Tresco, 9-19.10 (5) (AM/RF/MS); The Lizard, 12.6 (Tunmore, 2002); 13.10 (24), 16.10 (2), 17.10 (5), 18.10 (5) (DB & MT); 15.10 (MT per DB); August (1), September (1), October (24) - this may include some of the previous records), November (1) (Tunmore, 2002); 17-19.10 (1) (RB); Sennen, 13.10, 14.10 (AP). S. DEVON [3] Abbotskerwell, 18.10, 27.10 (2) (BH); Branscombe, 20.10 (RFM); Dawlish, 16.10 (P. Franghiadi per RFM). S. SOMERSET [5] Churchinford, 12.10, 13.10 (2) (H. Papworth). DORSET [9] Bridport, 20.10 (MSP); Burton Bradstock, 21.10 (MSP); Dorchester, 20.10 (JD); Durlston Country Park, 28.9 (3) (DB); 13.10 (RB); 12.10 (6), 16.10 (2), 29.10 (SN); 16.10 (2) (TR); Eype's Mouth, 19.10; Freshwater Bay, Portland, 14.10 (MSP); Portland Bird Observatory, 21.8-29.10 (132, including 19.10 (23)) (MC); Puddletown, 11-19 (7), 28.10 (6); Studland, 20.10 (2) (A. Foster); Upwey, 17.10 (PH^2); Walditch, 29.9, 11.10, 13.10, 17-23.10 (8) (MSP); Wyke Regis, 19.10 (DF). IOW [10] Freshwater, 13.10 (2), 16.10 (DW); 5-24.10 (13) (SAK-J); 21.10 (6), 22.10 (3), 23.10 (4), 24.10 (3) (DB); at least 17 others recorded on the island (Knill-Jones, 2002). S. HANTS [11] Hayling Island, 12.10, 20.10 (Phillips & Durnell, 2002); Lymington, 14.10 (A. Pickles); Sparsholt, 24.10 (RB); Southsea, 20.10 (1) (JRL). W. SUSSEX [13] Atherington, 29.9 (3) (DB); Kingsham, 18.10 (2), 20.10 (SP); Pagham Harbour, 28.10 (5), 29.10 (3) (DB). E. SUSSEX [14] Crawley Down, 12.10, 15.10, 17.10, 23.10 (JAC); Icklesham, 24.10 (3), 25.10 (2) (Hunter, 2002); Northiam, 12-19.10 (4) (D. Burrows per SPC); Rolvenden Layne, 17.10 (2), 21.10 (A. Bradshaw per SPC); Rye Harbour, 2.10 (2), 5.10, then 1-2 on 8 dates from 13-23.10 (Troake, 2002). E. KENT [15] Densole, 23.10 (TR); Dumpton, 12.10, 19.10 (Solly et al., 2002); Dungeness, 10-19.10 (4) (D. Walker per SPC); 30.9, October (19) (G. Lyons per SPC); 11-13.10 (3) (KR per SPC); Dymchurch, 5-31.10 (7) (DOK); Great Farthingloe farm, Dover, 27.10 (TR); Greatstone, 29.9, 3-25.10 (5) (B. Banson per SPC); Kingsgate, 11.10 – 1.11 (17) (Solly et al., 2002); Littlestone, 12-20.10 (6) (KR per SPC); Lydd, 2-20.10 (8) (KR per SPC); New Romney, 2.10 (SPC); Ramsgate, 22.10 (Solly et al., 2002). W. KENT [16] Barnehurst, 22.10 (T. Steele). S. ESSEX [18] Steeple, 20.10 (C. Hardeing per DGD). HERTS [20] Bishops Stortford, '2001' (JF). BERKS [22] Dry Sandford, 25.10 (MT); Fernham, 18.8, 24.10 (SN). E. SUFFOLK [25] Landguard, 9.10 (Odin, 2002). E. NORFOLK [27] Eccles on Sea, 21.8 (N. Bowman per DH^3). HEREFORD [36] locallity not given, 19.10 (R. Birchenough per NG-D). LEICS/RUT [55] Barrowden, 19.10 (R. Follows per MS). W. LANCS [60] Burrow Heights, 1.11 (BC).
CHANNEL ISLANDS [113] Guernsey: L'Ancresse, 12.10 (14), 13.10 (7) (RA); St Peters, 17.8, 19.10 (46), 21.10 (19) (PC); St Sampsons, 3.7, 6.7 (ML); small numbers recorded on the island between 2.7 – 29.10 (Austin, 2002); La Claire Mare, 12.8 (Tunmore, 2002).

2202 *Mythimna l-album* (L.) L-album Wainscot [I][MC]
S. SOMERSET [5] Churchinford, 13.10 (H. Papworth). E. SUFFOLK [25] Landguard, 6.10 (Odin, 2002).

2203 *Mythimna unipuncta* (Haw.) White-speck [I][R(t)?]
W. CORNWALL [1] Coverack, 15.10, 16.10 (DB); IOS: St Agnes, 31.5 (Hicks, 2002); IOS: St Mary's, Church Road, 22-31.10 (56) (MS^2); St Mary's, Old Town, 24.10, 31.10 (2) (MS^2); St Mary's, Porthmellon, 5.8 (MS^2); IOS: Tresco, Borough Farm, 6-19.10 (48) (AM/RF/MS); The Lizard, 12.6 (Tunmore, 2002); 13.10 (2), 17.10 (2) (DB & MT);

October (8 - may include some of the previous records), November (12) (Tunmore, 2002). Marazion, 10.10 (M. Ponsford & B. Urwin per JM). S. DEVON [3] Exeter, '2001' (3) (P. Butter per RFM); Paignton, 9.8 (M. Edmonds per RFM). DORSET [9] Portland Bird Observatory, 2.6, 27.8, 28.8, 27.9-24.11 (17) (MC); Wyke Regis, 23.11 (DF). IOW [10] Freshwater, 16.11 (SAK-J). N. HANTS [12] Fleet, 27.7 (R. Edmunds). W. SUSSEX [13] Kingsham, 16.8, 23.10 (SP); Pagham Harbour, 28.10 (DB); Walberton, 21.10 (JR per CP). E. KENT [15] Greatstone, 21.10 (B. Banson per SPC). E. NORFOLK [27] Aldeby, 15.7 (M. Thain per DH^3). GLAMORGAN [41] Barry vale, 2.7 (C. Jones). IOM [71] Dhoon Maughold, 23.7 (GDC); Port St Mary, 12.10 (T. Bagworth).
CHANNEL ISLANDS [113] Guernsey: St Peters, 19.10 (4), 21.10 (5), 14-22.11 (4), 3.12, 5.12 (PC); St John's, 14.11, 16.11, 22.11, 3.12, 5.12 (RA).

2208 *Mythimna loreyi* (Dup.) Cosmopolitan [I]
W CORNWALL [1] IOS: St Agnes, 19.10 (5) (Hicks, 2002); IOS: St Mary's, 19.10, 20.10 (2) (JB); St Mary's, Church Road, 25.10, 26.10, 27.10 (MS^2); St Mary's, Hugh Town, 21.10 (MS^2); St Mary's, Old Town, 24.10 (MS^2); The Lizard, 14.8 (Tunmore, 2002); 21.10, 25.10, 26.10, 29.10 (Tunmore, 2002). E. CORNWALL [2] Torpoint, 16.11 (LT). DORSET [9] Portland Bird Observatory, 17-21.10 (6) (MC); Durlston Country Park, Swanage, 16.10 (TR); Puddletown, 28.10 (HWH); West Bexington, 19.10 (2) (PHS). IOW [10] Freshwater, 2.10 (SAK-J). E. KENT [15] New Romney, 12.10 (SPC). IOM [71] Foxdale Patrick, 26.10 (GDC).

2226 *Leucochlaena oditis* (Hb.) Beautiful Gothic [R][?I/V]
W CORNWALL [1] The Lizard, 16.10, 17.10 – 'first records since 1995'(Tunmore, 2002).

2223 *Calophasia lunula* (Hufn.) Toadflax Brocade [R/MC?][I]
E. SUFFOLK [25] Landguard, 28.5 (N. Odin).

2238a *Lithophane consocia* (Borkh.) Softly's Shoulder-knot [I]
MIDDLESEX [21] Hampstead, 20.9 (RAS) – new to Britain.

2241 *Xylena vetusta* (Hb.) Red Sword-grass [I][R]
N. SOMERSET [6] Timsbury, 23.3 (M. Bailey). IOW [10] Freshwater, 24.3 (SAK-J). BERKS [22] Fernham, 21.10 (SN). E. NORFOLK [27] Eccles on Sea, 19.9 (N. Bowman per DH^3).

2246a *Dryobota labecula* (Esp.) Oak Rustic [I][MC?]
IOW [10] Freshwater, 14.10 (T. Rogers per SAK-J); 17.10, 18.10 (SAK-J).

2251 *Trigonophora flammea* (Esp.) Flame Brocade [I][R – Channel Islands]
DORSET [9] Durlston Country Park, 19.10 (PD); 29.10 (SN); Portland Bird Observatory, 12.10, 18.10 (MC); Shaggs, East Lulworth, 25.10 (MSP & R. Fox); West Bexington, 20.10, 22.10 (RE). IOW [10] Freshwater, 20.10 (SAK-J). E. KENT [15] Kingsgate, 14.10 (Solly et al., 2002); St Margaret's at Cliffe, 12.10 (TM). NORTHANTS [32] Moulton, 15.10 (P. Fuller *in* Tunmore, 2002).

2261 *Conistra erythrocephala* (D. & S.) Red-headed Chestnut [I]
IOW [10] Binstead, 3.10 (BJW per SAK-J).

2275 *Xanthia gilvago* (D. & S.) Dusky-lemon Sallow [R][I/V?]
DORSET [9] Portland Bird Observatory, 15.10 (MC).

2292 *Cryphia algae* (Fab.) Tree-lichen Beauty [I][R(t)?]
DORSET [9] Portland Bird Observatory, 3.8 (MC). S. HANTS [11] Northney, Hayling Island, 27.7 (P. Durnell per R. Hollins). W. SUSSEX [15] Walberton, 30.7 (JR per CP). E. KENT [15] New Romney, 10.8 (SPC). W. KENT [16] Dartford, 30.7 (BW).

2304 *Trachea atriplicis* (L.) Orache Moth [I][R – Channel Islands]
S. HANTS [11] Linford, Ringwood, 23.8 (A. Page *in* Tunmore, 2002).
CHANNEL ISLANDS [113] Guernsey: Icart, 12.7, 13.8 (2) (TNDP *in* Austin, 2002); L'Ancresse, 14.7, 28.7 (RA *in* Austin, 2002); Mont D'Aval, 2.7, 20.7, 23.7 (Austin, 2002).

2308 *Callopistria juventina* (Stoll) Latin [I]
DORSET [9] Higher Hyde, 7.7 (M. Forster, PH^2, JD et al) – third British record.

2311 *Ipimorpha retusa* (L.) Double Kidney [R][I/V?]
W. CORNWALL [1] The Lizard, 22.8 – new county record (Tunmore, 2002).

2385 *Spodoptera exigua* (Hb.) Small Mottled Willow [I]
W. CORNWALL [1] IOS: St Agnes, 12.4 (3) (Hicks, 2002); The Lizard, 11.4 (Tunmore, 2002); 14.10, 16.10 (MT per DB); September (2) (Tunmore, 2002). A specimen was taken in the county on National Moth Night (11.8) (Tunmore, 2002). DORSET [9] Portland Bird Observatory, 26.6, 23.8, 20.10 (MC); Puddletown, 13.10, 19.10 (HWH per PH^2); Wyke Regis, 27.6, 17.10 (DF). IOW [10] Binstead, 18.10 (BJW); Cranmore 24.8 (SAK-J). S. HANTS [11] Hayling Island, 24.8 (Phillips & Durnell, 2002); Sparsholt, 15.10 (RB). A specimen was taken in the county on National Moth Night (11.8) (Tunmore, 2002). N. HANTS [12] Selborne, 31.7 (AA). W. SUSSEX [13] Donnington, 23.8 (M. Perry per CP); Kingsham, 25.8 (SP); Pagham Harbour, 22.8 (SP); Walberton, 23.10 (JR per CP). E. SUSSEX [14] Peacehaven, 4.7, 28.10 (CP); Rye Harbour, 23.8 (DB); 25.6, 23.8 (2) (PT per CP). E. KENT [15] Kingsgate, 27.10 (Solly et al., 2002); New Romney, 20.10 (KR per SPC). BERKS [22] Appleford, 19.8 (RL); Fernham, 9.7 (SN). CAMBS [29] Eaton Ford, 2.7 (R. Bashford). E. GLOUCS [33] Longney, 22.8 (A. & S. Stevens per RGG). IOM [71] Dhoon Glen, 23.9 (GDC).
CHANNEL ISLANDS [113] Guernsey: Mont D'Aval, 11.7, 7.8, 18.8, 9.9 (2), 29.9 (2), 13.10, 14.10 (Austin, 2002); a specimen was taken on the islands on National Moth Night (11.8) (Tunmore, 2002).

2392a *Athetis hospes* (Frey.) Porter's Rustic [I]
W. CORNWALL [1] IOS: St Agnes, 11.10 (M. Hicks per M. Skevington).

2400 *Helicoverpa armigera* (Hb.) Scarce Bordered Straw [I][In]
W. CORNWALL [1] Coverack, 17.10 (DB); IOS: St Mary's, 19.10 (J. Baker); St Mary's, Church Road, 20.10, 21.10, 24.10 (MS^2); St Mary's, The Strand, 30.10 (MS^2); IOS: Tresco, Borough Farm, 19.10 (AM/RF/MS); The Lizard, 13.10, 17.10 (Tunmore, 2002). S. DEVON [3] Abbotskerwell, 27.10 (BH); Paignton, 21.8 (M. Edmonds per RFM). DORSET [9] Durlston Country Park, 16.10 (SN); Portland Bird Observatory, 19.8, 19-28.10 (7) (MC); Preston, 12.10, 24.10 (R. Lambert per PH^2); Puddletown, 17.10, 18.10 (2), 19.10 (4), 28.10 (HWH per PH^2); Upwey, 20.10, 28.10 (PH^2); Wyke Regis, 3.11 (DF). IOW [10] Binstead, 18.10, 6.11 (BJW); Freshwater, 18.10, 20.10, 26.10 (SAK-J); 21.10 (DB); at least 2 others reported on the island (Knill-Jones, 2002). S. HANTS [11] Gosport, 21.10, 12.11 (L. Marshall); Sparsholt, 20.10, 26.10 (RB). W. SUSSEX [13] Ferring-by-Sea, 13.10, 22.10 (THF per CP). Pagham Harbour, 28.10

(DB); Walberton, 17.10 (JR per CP). E. SUSSEX [14] Northiam, 21.10 (D. Burrows per SPC); Peacehaven, 28.10 (CP). E. KENT [15] Densole, 12.10 (TR); Dumpton, 24.10 (Solly et al., 2002); Dungeness, 21.10 (G. Lyons per SPC); Dymchurch, 10.10 (DOK); Great Farthingloe farm, Dover, 27.10 (TR); Kingsgate, 30.8, 25.10, 27.10 (Solly et al., 2002). BERKS [22] Faringdon, 18.10 (MFC). E. SUFFOLK [25] Thorpeness, 21.7 (TP). WESTMORLAND [69] Witherslack, 14.10 (SB).
CHANNEL ISLANDS [113] Guernsey: Icart, 17.7 (TNDP *in* Austin, 2002).

2403 *Heliothis peltigera* (D. & S.) Bordered Straw [I]
W. CORNWALL [1] IOS: St Agnes, 13.7 (Hicks, 2002); IOS: St Mary's, Porthmellon, 2.8 (MS[2]); IOS: Borough Farm, Tresco, 19.10 (AM/RF/MS). S. DEVON [3] Teignmouth, 3.7 (RFM). DORSET [9] Portland Bird Observatory, 25.6, 25.8 (MC); West Weare, Portland, 2.7 (MSP); Wyke Regis, 2.7 (DF). S. HANTS [11] Hayling Island, 10.9 (Phillips & Durnell, 2002); W. SUSSEX [13] Ferring-by-Sea, 30.8 (THF). E. SUSSEX [14] Icklesham, 13.10 (I. Hunter per CP); Rye Harbour, 15.8 (7), 5.9 (P. Philpot & PT per CP). E. NORFOLK [27] Gt Yarmouth, 7.7 (P. Heath per DH[3]); Scole, 5.10 (M. Hall per DH[3]). CAERNARVON [49] Bardsey Island, two taken in 2001 (Stansfield, 2002).

2407 *Eublemma ostrina* (Hb.) Purple Marbled [I]
DORSET [9] Durlston Country Park, 21.7 (RP per BS); Portland Bird Observatory, 21.8 (G. Senior per MC).

2413 *Deltote bankiana* (Fab.) Silver Barred [R][I]
W. SUSSEX [13] Walberton, 5.7 (JR per SP). E. SUSSEX [14] Crowborough, 4.7 (M. Simmons per CP). E. KENT [15] Dumpton, 8.7 (Solly et al., 2002); Dymchurch, 7.7 (J. Owen per SPC). S. ESSEX [18] Maldon, 7.7 (S. Wood per BG). N. ESSEX [19] Jaywick, 30.6 (J. Young); St Osyth, 27.6 (R. Arthur); Tolleshunt D'Arcy, 26.6 (A. Cook). E. SUFFOLK [25] Redgrave Fen, 6.7 (Suffolk Moth Group). E. NORFOLK [27] Eccles on Sea, 27.6, 5.7 (N. Bowman per DH[3]); Scole, 20.6 (M. Hall per DH[3]).

2415 *Acontia lucida* (Hufn.) Pale Shoulder [I]
W. SUSSEX [13] Kingsham, 15.8 (SP).
CHANNEL ISLANDS [113] Guernsey: St John, 3.8 (RA).

2420 *Earias insulana* (Boisd.) Egyptian Bollworm [I][In]
W. GLOUCS [34] Stoke Bishop, Bristol, 27.7 (M. Evans per R. Andrews).

2428 *Chrysodeixis chalcites* (Esp.) Golden Twin-spot [I][In][MC?]
E. KENT [15] Ramsgate, 6.8 (Solly et al., 2002). E. SUFFOLK [25] Kessingland, 18.10 (G. Tyler *in* Tunmore, 2002). BEDS [30] Sandy, 14.12 (I. Dawson) – found inside an office where cut Chrysanthemums had been present.

2430 *Ctenoplusia limbirena* (Guen.) Scar Bank Gem [I]
W. CORNWALL [1] Marazion marsh, 27.10 (S. Barron *in* Tunmore, 2002).

2433 *Trysanoplusia orichalcea* (Frey.) Slender Burnished Brass [I][In]
W. CORNWALL [1] IOS: St Agnes, 31.10 (Hicks, 2002); Marazion, 10.10 (M. Ponsford & W. Urwin per JM).
CHANNEL ISLANDS [113] Guernsey: Le Chene, 9.10 (TNDP per RA).

2436 *Macdunnoughia confusa* (Steph.) Dewick's Plusia [I][In]
DORSET [9] Portland Bird Observatory 19.10, 20.10 (MC); Puddletown, 2.10 (HWH); West Bexington, 20.10 (RE). IOW [10] Binstead, 12.10 (BJW).

2445 *Megalographa biloba* (Steph.) Stephen's Gem [I][In?]
S. HANTS [11] Sparsholt, 27.10 (RB).
CHANNEL ISLANDS [113] Guernsey: Le Chene, 13.8 (TNDP per PC); St Peter's, 17.8 (PC).

2451 *Catocala fraxini* (L.) Clifden Nonpareil [I]
IOW [10] Bonchurch, 20.9, 25.9 (Knill-Jones, 2002). E. KENT [15] St. Margaret's at Cliffe, 26.9 (P. Chantler per SPC). W. KENT [16] Lamberhurst, 28.9 (P. Bance per CP). E. NORFOLK [27] North Walsham, 20.9 (PH per DH^3). W. NORFOLK [28] Stiffkey, 17.9, 19.9 (J. Snow); Wells next the Sea, 19.9, 20.9 (DH^3 pers. comm.). N. LINCS [54] Grimsby, 21.9 (V. Adams per R. Goy).

2460 *Dysgonia algira* (L.) Passenger [I]
DORSET [9] Wyke Regis, 22.8 (D. Foot per PD).

2475 *Parascotia fuliginaria* (L.) Waved Black [R][I]
BERKS [22] Windsor Forest, 26.7 (DJW). E. YORKS [61] Spurn NNR, 24.7 (BRS).

2476 *Hypena crassalis* (Fab.) Beautiful Snout [R][I/V?]
HERTS [20] Hertford, 7.7 (A. Wood); Patmore Heath, 29.6 (CWP). E. NORFOLK [27] Cawston, 5.8 (J. Sutton per DH^3).

2478 *Hypena obsitalis* (Hb.) Bloxworth Snout [MC][I]
DORSET [9] Portland Bird Observatory, 14.6, 1.11 (MC). N. ESSEX [19] Little Oakley (TM2129), 5.10 (G. Slater, I. Rose, P. Smith per BG) – new county record.

2488a *Pechipogo plumigeralis* (Hb.) Plumed fan-foot [R(t)?][I]
E. SUSSEX [14] Rye, 21.7, 28.7 (PT).

2490 *Zanclognatha lunalis* (Scop.) Jubilee Fan-foot [I]
DORSET [9] Durlston Country Park, 4.7 (SN) – second British record.

2495 *Trisateles emortualis* (D. & S.) Olive Crescent [R][I]
DORSET [9] locality not given, 5.7 (Tunmore, 2002) – this record probably referes to Studland, 6.7.2001, C. Manley (Dorset Newsletter No. 9, page 11). ; Hurn, 18.7 (MJ per PD); Studland, 6.7 (CM per PD). E. SUSSEX [14] Old Heathfield, 28.7 (D. Long per CP). E. KENT [15] Hamstreet, 3.7, J. Platts; Blean Woods, 22.7. J. Platts (per B. Skinner and Butterfly Conservation Kent Moth Report 2001 p.58). E. KENT [15] Hamstreet, 28.7 (B. Boothroyd per SPC); Ramsgate, 26.6 (Solly et al., 2002); N. ESSEX [19] locality not given, 6.7 (Tunmore, 2002).

ANNEX 2: SELECTED RECORDS OF COMMONER SPECIES

YPONOMEUTIDAE

0464 *Plutella xylostella* (L.) [R][I]
Annual counts from fixed traps include: DORSET [9] Portland Bird Observatory – (305) (MC). S. HANTS [11] Southsea – (80) (JRL). N. HANTS [12] Selborne – (48) (AA). W. SUSSEX [13] Kingsham – (209) (SP). E. KENT [15] Dungeness area – (175 at eight trap sites) (Clancy, 2002); Thanet area – (531 at two trap sites) (Solly et al., 2002). BERKS [22] Fernham – (53) (SN). E. NORFOLK [27] Eccles-on-Sea – (111) (Bowman, 2002).

Earliest dates: W. SUSSEX [13] Kingsham, 21.3 (SP).
Latest dates: E. SUFFOLK [25] Landguard, 18.11 (Odin, 2002).
Large counts: E. NORFOLK [27] Eccles-on-Sea, 22.7 (72) (Bowman, 2002). E. YORKS [61] Spurn NNR, 7.7 (182) (BRS).

PYRALIDAE

1395 *Udea ferrugalis* (Hb.) [I]
Annual counts from fixed traps include: W. CORNWALL [1] The Lizard – (171 from three sites) (Tunmore, 2002). DORSET [9] Portland Bird Observatory – (268) (MC). W. SUSSEX [13] Kingsham – (62) (SP). CHANNEL ISLANDS [113] Guernsey – (2518 from three sites) (Austin, 2002).
Earliest dates: S. DEVON [3] Dawlish, 19.1 (P. Hurst per RFM). CHANNEL ISLANDS [113] Guernsey, 5.1 (Austin, 2002).
Latest dates: S SOMERSET [5] Taunton, 2.12 (JM).
Large counts: W. CORNWALL [1] Lizard, 13.10 (65) (DB & MT).

1398 *Nomophila noctuella* (D. & S.) [I]
Annual counts from fixed traps include: DORSET [9] Portland Bird Observatory - (169) (MC). E. KENT [15] Dungeness area – (82 at eight trap sites) (Clancy, 2002); Thanet area – (205 at three trap sites) (Solly et al., 2002). BERKS [22] Fernham – (29) (SN). E. SUFFOLK [25] Landguard – (39) (Odin, 2002). E. NORFOLK [27] Eccles-on-Sea – (85) (Bowman, 2002). E. YORKS [61] Spurn NNR – (41) (BRS).
Earliest dates: BERKS [22] Fernham, 8.4 (SN).
Latest dates: DORSET [9] Portland Bird Observatory, 2.11 (MC).
Large counts: DORSET [9] Portland Bird Observatory, 24.9 (29) (MC). E. NORFOLK [27] Eccles-on-Sea, 23.9 (18) (Bowman, 2002). E. YORKS [61] Spurn NNR, 25.9 (21) (BRS).

NYMPHALIDAE

1590 *Vanessa atalanta* (L.) Red Admiral [R][I]
Annual counts: S. ESSEX [18] Bradwell-on-Sea – (2123) (Dewick, 2002).
Earliest dates: S HANTS [11] Gosport, 1.1 (DT); Portchester, 1.1 (AB).
Latest dates: E. SUSSEX [14] Peacehaven, 26.12 (CP) – flying while ground white with frost!
Large counts: S. DEVON [3] Bolt Head, near Salcombe, 12.10 (250) flying south. DORSET [9] Portland Bird Observatory, 20.10 (100+) (MC). IOW [10] Freshwater, 20.10 - large numbers flying south (DW). S. HANTS [11] Pennington Marshes, 13.10 - 50 per hour flying west in a two hour watch (T. Brereton). E. KENT [15] Elmley, Isle of Sheppey, 13.10 – an estimated 5000 butterflies flying south (P. Oliver). BUCKS [24] Pitstone Hill, 13.10 – large numbers moving south (NB). E. SUFFOLK [25] Landguard, 13.10 (350) flying south (Odin, 2002). E. YORKS [61] Spurn NNR, 28.10 (100), mostly flying south (BRS).
Light-trap records: W. CORNWALL [1] IOS: St Agnes, 13.10 (5) – with two futher records on other dates (M. Hicks *in* Tunmore, 2002); IOS: St Mary's, 13.10 (7) L. Marshall *in* Tunmore, 2002); The Lizard, 13.10 (42) – with five further records on other dates (Tunmore, 2002). DORSET [9] Portland Bird Observatory, 13.10 (MC *in* Tunmore, 2002). E. SUSSEX [14] Rye Harbour, 13.10 (3) (JAC). BERKS [22] Dry Sandford, 4.10 (MT).

1591 *Vanessa cardui* (L.) Painted Lady [I]
Annual counts: S. ESSEX [18] Bradwell-on-Sea – (113) (Dewick, 2002).
Earliest date: W. CORNWALL [1] near Breage, 13.2 (RH); Pontsmill, 13.2 (RL). W. SUSSEX [13] Chilgrove, 13.2 (DH^2).
Latest date: DORSET [9] Easton, Portland, 26.11 (MC).
Large counts: CAERNARVON [49] Bardsey Island, 8.8 (24) (Stansfield, 2002). W. CORK [H3] Dursey Island, 21.9 (50) (D. Scott per IR).
Larval records: WEXFORD [H12] Killoughrim Wood, 19.9 (50) (B. Aldwell per IR).

SPHINGIDAE

1984 *Macroglossum stellatarum* (L.) Humming-bird Hawk-moth [R(t)?][I]
Annual counts: S HANTS [11] Sparsholt (8) (RB^2). E. KENT [15] Dungeness area – (20) (Clancy, 2002). S. ESSEX [18] Bradwell-on-Sea – (68) (Dewick, 2002).
Earliest date: S. DEVON [3] Abbotskerwell, 1.1, disturbed in a garage and subsequently flew off (BH).
Latest date: S. DEVON [3] Plymouth, 8.11, on the platform of the railway station (RJH).
Light-trap records: W. CORNWALL [1] IOS: Tresco, 12.10 (4) (AM/RF/MS); The Lizard, 13.6, 14.6, 19.6 (Tunmore, 2002). S. HANTS [11] Southampton, 21.7 (A. Collins). DORSET [9] Portland Bird Observatory, 14.10, 17.10 (MC). S. LANCS [59] Briercliffe (SD866353), 6.7 (TL per G. Gavaghan). CHANNEL ISLANDS [113] Guernsey, St Sampsons, 25.6, 26.7 (ML).
Larval records: W. CORNWALL [1] Lizard, 4.8 (RB^2). S. ESSEX [18] Bradwell-on-Sea, 31.7, 6.8 (Dewick, 2002).

NOCTUIDAE

2091 *Agrotis ipsilon* (Hufn.) Dark Sword-grass [I]
Annual counts from fixed traps include: DORSET [9] Portland Bird Observatory – (750) (MC). IOW [10] Cranmore – (142) (SAK-J). S. HANTS [11] Southsea – (24) (JRL). W. SUSSEX [13] Kingsham – (71) (SP). E. SUSSEX [14] Icklesham – (251) (Hunter, 2002). E. KENT [15] Dungeness area – (353 at eight trap sites) (Clancy, 2002); Thanet area – (170 at four trap sites) (Solly et al., 2002). BERKS [22] Fernham – (53) (SN). E. SUFFOLK [25] Landguard – (74) (Odin, 2002). E. NORFOLK [27] Eccles-on-Sea – (78) (Bowman, 2002). E. YORKS [61] Spurn NNR – (43) (BRS).
Earliest date: DORSET [9] Portland Bird Observatory, 19.2 (MC).
Latest date: DORSET [9] Portland Bird Observatory, 23.11 (MC).
Large counts: W. CORNWALL [1] IOS: St Mary's, Church Road, 24.10 (55) (MS^2). DORSET [9] Portland Bird Observatory, 23.8 (76), 25.8 (64), 20.10 (91) (MC).

2119 *Peridroma saucia* (Hb.) Pearly Underwing [I]
Annual counts from fixed traps include: W. CORNWALL [1] The Lizard – (99 from three sites) (Tunmore, 2002). DORSET [9] Portland Bird Observatory – (269) (MC). E. SUFFOLK [25] Landguard – (21) (Odin, 2002).
Earliest date: W. CORNWALL [1] IOS: St Agnes, 31.3 (Hicks, 2002).
Latest date: IOW [10] Freshwater, 29.11 (SAK-J).
Large counts: W. CORNWALL [1] The Lizard – 13.10 (41) (Tunmore, 2002). DORSET [9] Portland Bird Observatory, 20.10 (80) (MC).

2441 *Autographa gamma* (L.) Silver Y [I]

Annual counts from fixed traps include: DORSET [9] Portland Bird Observatory – (1103) (MC). S. HANTS [11] Southsea – (323) (JRL). W. SUSSEX [13] Kingsham – (249) (SP). E. KENT [15] Thanet area – (1062 at four trap sites) (Solly et al., 2002). BERKS [22] Fernham – (495) (SN). E. NORFOLK [27] Eccles-on-Sea – (631) (Bowman, 2002).

Ealiest dates: IOW [10] Binstead, 5.1 (BJW).

Latest dates: BERKS [22] Dry Sandford, 31.12 (MT).

Large counts: E. CORNWALL [2] Penlee Point SX4348 (151) – daytime sighting (L. Truscott). DORSET [9] Portland Bird Observatory, 25.8 (118), 26.8 (107), 29.8 (151) (MC); Puddletown, 29.8 (202) (HWH per PH2). E. SUFFOLK [25] Landguard, 30.8 (113) (Odin, 2002). E. YORKS [61] Spurn NNR, 6.7 (100), 24.8 (150), 1.9 (160) - all daytime sightings (BRS).

Initials of recorders

AA	A. Aston
AB	A. Brookes
AF	A. Frost (per BD)
AM	A. Mackay
AM2	A. Marett (per CWP)
AP	A. Palmer
AS	A. Spalding
AW	A. Wood (per CWP)
BC	B. Cockburn (per SMP)
BD	B. Dickerson
BG	B. Goodey
BH	B. Henwood
BS	B. Skinner
BS2	B. Shreeves
BRS	B.R. Spence
BW	B. West
BJW	B.J. Warne
CD	C. Darbyshire (per SMP)
CJHH	C.J.H. Hancock (per JM)
CP	C.R. Pratt
CWP	C.W. Plant
CW	C. Watson (per CWP)
DGD	D.G. Down (per BG)
DF	D. Foot
DH1	D. Heath (per CWP)
DH2	D. Howson
DH3	D. Hipperson
DJW	D.J. White
DOK	D. O'Keeffe
DO	D. Owen (per SMP)
DR	D. Rigby (per SMP)
DT	D. Tinling (per MG
DW	D. Wooldridge (per SAK-J)
GAC	G.A. Collins
GDC	G.D. Craine
GF	G. Fernell (per SMP)
GG	G. Gavaghan (per SMP)
GJ	G. Jones (per SMP)
HB1	H. Barlow (per SMP)
HB2	H. Barton (per SMP)
HWH	H. Wood Homer (per PH2)
ID	I. Dawson (per BD)
IF	I. Fletcher (per P. Waring)
IK	I. Kippax (per SMP)
IR	I. Rippey
JB	J Baker
JD	J. Down
JF	J. Fish (per CWP)
JH	J. Holding (per SMP)
JAC	J.A. Clarke
JG	J. Green (per BG)
JM	J. McGill
JR	J.T. Radford (per CP)
JRL	J.R. Langmaid
JS	J. Steeden (per SMP)
JH	L Hill
KH	K Hearn
KM	K. McCabe (per SMP)
KO	K. Orpe
KR	K. Redshaw (per SPC)
LT	L. Truscott
MB	M. Broomfield (per SMP)
MC	M. Cade
MG	M. Gibbons
MJ	M. Jeffes (per PHS)
ML	M. Lawlor

MP	M. Pennington
MS	M. Skevington
MS2	M. Scott
MSP	M.S. Parsons
MT	M. Townsend
MT^2	M. Tunmore
MFC	M.F.V. Corley
MCH	M.C. Harvey
NB	N. Bowles
NG-D	N. Greatorex-Davies
PA	P. Alker (per SMP)
PC	P. Costen
PAC	P.A. Crowther
PD	P. Davey
PH^1	P. Hampson
PH^2	P. Harris
PHS	P.H. Stirling
PM	P. Marsh (per SMP)
PT	P. Troake (per CP)
RA	R. Austin
RAC	R.A. Cramp
RB	R. Banks (per SMP)
RB^2	R. Bell
RJH	R.J. Heckford
RE	R. Eden (per PH2)
RF	R. Frey
RGG	R.G. Gaunt
RH	R. Howard
RL	R. Lewington
RP	R. Plowman (per BS)
RP-J	R. Petley-Jones (per SMP)
RAS	R.A. Softly
SB	S. Bradley
SMP	S.M. Palmer
SN	S. Nash
SO	S. Orridge
SP	S. Patton
SPC	S.P. Clancey
TG	T. Green (per BG)
TL	T. Lally (per SMP)
THF	T.H. Freed
TM	T. Morris
TNDP	T.N.D. Peet
TP	T. Pritchard
TR	T. Rouse
WS	W. Scott

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OBITUARY

John Michael Arthur Blake Chalmers-Hunt*

1920 – 2004

Michael Chalmers-Hunt spent most of his early life in Birchington and then Broadoak, near Canterbury, where as an only child he began to take an interest in natural history and especially insects at an early age; this continued through his schooldays at King's, Canterbury. War service in northern France found him chauffeuring senior officers, even to Brussels where he met Denise, later to become his wife. At the end of the war whilst still in the RAF he spent six months in India, which gave an opportunity for collecting exotic Lepidoptera. He had other interests such as steam trains and old books, and on account of the latter he began work after the war in Foyles bookshop, moving to Francis Edwards in due course. Since work in a bookshop was not very remunerative he changed employment to the telephone service, and spent the rest of his working life there, ending up in charge of overseas connections for Cable & Wireless in London.

Michael was a very keen lepidopterist, extending his interest to include the micros under the influence of people like L. T. Ford, Stan Jacobs and Stan Wakely. He was active in the field and built up an impressive collection, his greatest interest in his

* see Frontispiece

later years being the Coleophoridae. Field excursions were sometimes made by motorbike, which he managed to fall off from time to time!

His interest in books and history combined with his obsessive devotion to his entomology meant that he was very productive of thoroughly researched work. He took such an interest in old collectors that he was the person who knew the final depository of most of the important collections of British Lepidoptera. When reading through old journals he would take assiduous notes and carefully catalogue them in a card index and in due course make this information available to others – albeit in condensed form.

His first published book, in 1970, was the *Lepidoptera of the Isle of Man*, followed in 1976 by *Natural History Auctions 1700-1972, a Register of Sales in the British Isles.* Spanning these titles was *The Butterflies and Moths of Kent* in three volumes published as supplements in the *Entomologist's Record* from 1960-1982. He was Editor of the *Entomologist's Record and Journal of Variation* from 1973-1985, a time when volumes were at their largest. In addition to these major publications were many notes in journals, chiefly the *Entomologist's Record.* His intention had been to complete his work on the Lepidoptera of Kent with coverage of the microlepidoptera. In preparation for this, he extracted countless records from the literature, which were made available to the late Dennis O'Keeffe who entered the data into a computer and it is hoped that their work will come to fruition within the next few years. Michael's publications seldom make light reading, for there is scarcely a word of introduction before the data are presented; but they are crammed with facts that had always been very carefully researched.

A founder member of the Kent Field Club, Michael was no stranger to entomological societies. He often attended both field and indoor meetings of the South London, later British, Entomological & Natural History Society of which he was an Honorary member. He was elected President of that Society in 1973, again in 1986, and on both occasions his Presidential Address was devoted to the Coleophoridae. He had been a Fellow of the Royal Entomological Society since 1948.

His historical interest led to the formation of a collection of old entomological collecting equipment, which is now housed in the Entomology Dept. of the Natural History Museum. His library was comprehensive and he took a particular interest in local lists, obtaining many rare examples. These were of great use in compiling his last book (1989) on *Local lists of Lepidoptera*, which is invaluable to anyone setting about producing a county list. Among his books were many belonging to important collectors, which were annotated by them, and such important items are being donated to the Natural History Museum library.

In the field Michael took the first specimen of *Bisigna procerella* (D.& S.) (Oecophoridae) and then added *Athrips rancidella* (H.-S.) (Gelechiidae) to the British list from his own garden in West Wickham. Although he gave special attention to his native Kent, Michael collected widely throughout the British Isles, and in retirement made a number of collecting trips in Europe with Chris Luckens. Some of his collection, including all of his microlepidoptera material, is bequeathed to the Natural History Museum and the remainder to the British Entomological & Natural History Society.

During the last decade or two of his life his activities were severely constrained by Parkinson's disease. This made it necessary for him to sleep in the same room as his collection and beloved library, although he was less able to attend to them. There was however time for him to give to his enjoyment of classical music. During all these years he was faithfully cared for by Denise and our sympathy is extended to her and their two daughters.

David Agassiz

Michael Chalmers-Hunt – A Tribute

Michael and I first met in the mid 1970s over a Kentish butterfly, *Plebejus argus* f. *cretaceus* Tutt which had interested both of us for many years. It was by then almost certainly extinct, but in the hope of turning it up Michael conducted me to many of its former localities – as well as introducing me to the pubs that served the best real ale. On one of these expeditions, to the Folkestone Warren, we had noted two of the local specialities *Aplasta ononaria* Fuessly and *Bembecia chrysidiformis* Esp., but sadly no *cretaceus* and were about to leave, when a cloud of flies over a clearing in the scrub revealed a human corpse that had clearly been there for a day or more. We made our way back to Folkestone (Michael remarking on the possibilities that a dedicated coleopterist would not have missed) and telephoned the police. Eventually they arrived and we told them the exact position of the body but, when they suggested that we accompany them in person, Michael looked anxiously at his watch and then at the sky and said "we have to leave now – we have to get to Blean Woods before we lose the sun". He went on to tell them that the Heath Fritillary colonies needed checking and, as usual, the Chalmers-Hunt charm won them over and bemusedly they let us go. Michael was, of course well-known not only as the erstwhile editor of this journal but as a competent all-round entomologist with special expertise in British Lepidoptera. What is perhaps less well-known is his interest in extra-British insects. He had a fund of stories about collecting in India in his youth and about a memorable visit to the USA with his daughter Anita and I was privileged to accompany him on fourteen collecting trips to Europe.

It was in 1978 that the late Dr Patrick Roche, who had retired to Andorra, invited help with his entomological survey of that country and Michael invited me to join him on what was to be the first of these forays. Exploring this beautiful Pyrenean country in the company of Patrick Roche we saw dozens of butterflies new to both of us and added three to the Andorran list. Both Michael and Patrick were great raconteurs and there were times when, in spite of the rich insect fauna flying all around, helpless laughter made pursuit temporarily impossible. On the long drives through Europe Michael would often entertain with anecdotes (usually of entomologists past and present) and all told with his relish for humour of situation and eccentricity of person. We had had such a good time in Andorra that plans were formulated for further expeditions and until 1993, when Parkinson's disease made long journeys impossible for Michael, we usually spent two to three weeks annually in search of European Lepidoptera. With his interest in entomological history

Michael enjoyed visiting the classical collecting grounds – Albarracin and the Sierra Nevada in Spain, Pontresina, the Simplon and the Campolungo in Switzerland, Mount Chelmos in Greece – all were sampled and, fortunately, before current restrictions and public perception made carrying a net in some of these places virtually impossible. Less well-worked areas were also explored such as the Jura and Drome in France, Sardinia, Greek Macedonia and the eastern and southern borders of Austria. One of the skills Michael had in spades was in recognising promising ground. On one of the valleys off the Simplon Pass, while I charged around on the steep slopes expending much energy but achieving nothing, he found a spot where *Erebia christi* Ratzer simply wafted into his net. Finally he told me to stop and wait on, and sure enough one of these little dark butterflies soon fluttered by.

Michael was a great entomologist – his knowledge encyclopaedic and his enthusiasm unbounded – even after physical disability made field work impossible for him. All who knew him recognised his kind and generous nature. He was the best of companions and, in his wife, Denise he was fortunate to have the best of life companions. She supported him in all his time-consuming entomological work, at one time organising the distribution of the *Record*, and when his illness became disabling cared for him with devotion. None will miss him more than his family – Denise, his daughters Lucienne and Anita and his grandchildren. For his many friends and the world of entomology in general, his death has left a huge gap.— CHRISTOPHER LUCKENS, Swallowfield, Manor Road, Durley, Hampshire SO32 2AF.

J. M. Chalmers-Hunt – A Personal Appreciation and Reminiscence

I first met Michael in 1954, when he called on me in my new home in West Wickham. At that time Michael was engaged on his "Butterflies and Moths of Kent" which involved him in travelling all over Kent visiting collectors, museums and libraries. The result was one of the finest and most comprehensive local lists ever published. It appeared in parts in the *Entomologists Record* between 1960-1981, ultimately made three volumes including the *Supplement*, and exemplified his meticulous research and attention to detail which is found in all his writings.

What subsequently was to become a close friendship developed over the years as Michael lived close by and we subsequently discovered that we shared the same restaurant for lunch. Furthermore, our workplaces were next door. Often, after lunch we would visit "The Old Cheshire Cheese" in Fleet Street for a glass of Marston's Pedigree Ale. This was a double pleasure for Michael for not only was he a member of CAMRA but another abiding interest was Dr Johnson, who not only had been a habitue of "The Cheese" but had lived in a house only a stone's throw away.

Michael was as much interested in early books on Lepidoptera as he was of the living insects and I shared this interest. He had a fine library containing many rare items: Haworth's *Lepidoptera Britannica*, Lewin's *Papilios*, Ray's *Historia Insectorum* and many others. He was very knowledgeable on books having worked earlier as Hatchards in Piccadilly and Francis Edwards in Marylebone High Street. Until my retirement and move to Lincolnshire, we met frequently at each other's homes to discuss books – which was always a great pleasure.

Michael had a nostalgia for the early days of the Aurelians, their equipment and the abundance then of rare species listed in the early records. This led to another absorbing interest for Michael: the formation of a unique collection of items associated with the collecting of butterflies and moths. This collection ultimately grew too big to be housed and he generously donated his collection to the British Museum (National History) at South Kensington where they can be viewed. These items are described in Michael's article in the *Archives of Natural History* (1994) under the heading *Entomological bygones or historical equipment and associated memorabilia.* It was always a matter of regret to Michael that he had never discovered a clap net, although he often said that there must be one somewhere!

Michael's considerable knowledge of the more unusual areas associated with butterflies and moths is illustrated in his *Natural History Auctions 1700-1972* published by Sotheby's of London in 1976. Michael had one of the best collections of Natural History auction catalogues. Of an ephemeral nature these are now rare.

Michael was always interested in local lists, especially the earlier ones and had a fine collection. In 1970 he produced *The Butterflies and Moths of the Isle of Man* and was a co-author of *Butterflies and Moths of Breconshire* (1978). A bibliographical catalogue of local lists had long been needed and Michael filled this gap with his *Local Lists of Lepidoptera* (1989) published by his friend Eric Classey under the imprint of the Hedera Press. Michael was a tireless worker. He was a frequent contributor to entomological magazines and journals and for a lengthy period was the editor of the *Entomologist's Record.* He was unfailingly courteous, considerate and generous and always good company. As an example of his kindness, I once expressed an interest in William Blake the poet and artist. Unbeknown to me at the time, Michael subsequently arranged for me to meet Sir Geoffrey Keynes the famous bibliographer and Blake scholar who had collected with Michael and was a long-standing friend. Michael drove me all the way to Cambridgeshire. We spent a delightful evening with Sir Geoffrey who showed us many items from his library. I recall such items as Petiver's *Icones*, Martyn's *Psyche* and many others, including Sir Geoffrey's original Blake illustrations.

It was a matter of regret to me that when I moved to Lincolnshire I should no longer be able to see Michael so often, although we continued to keep in touch by letter, and I saw him occasionally. When my wife and I last saw him in 2003 we were saddened by the toll his debilitating illness had taken on him.

Michael's death will have saddened the many who knew him not only from his writings but from his attendance at functions of the Royal Entomological Society, the British Entomological and Natural History Society and the Entomological Fairs where, prior to his illness, he could always be seen. He will be greatly missed and our heartfelt sympathies go out to Denise, without whose support he could never have achieved so much, and her two daughters in their sad loss.—
DENNIS S. BURROWS, Witham Cottage, School Lane, Boothby Pagnell, Grantham NG33 4DL.

Michael Chalmers-Hunt

It was with sadness that I read of the death of my old and valued friend Michael Chalmers-Hunt. Entomologists in Kent and the south-east, in particular, owe a lasting debt of gratitude to his intensive work on the Lepidoptera of the region – a subject on which he was, for many years, the leading authority. His *magnum opus* "The Butterflies and Moths of Kent" was published serially in this journal over a number of years and will long remain the standard source-work on the subject. As he told me, he had every hope of eventually extending it to cover at least the more manageable groups of the so-called "microlepidoptera", in which he took, latterly at all events, a keen interest. Sadly, however, he was not to be spared for that important task.

Michael was an ideal companion on field trips, where the expertise he rapidly acquired found abundant outlets. He learnt much of his field craft by close attention to the painstaking methods of the late Stanley Wakely – a most diligent and successful researcher. He told me that had he not been a lepidopterists he would have liked to be a coleopterist and habitually passed to me interesting beetles he had picked up on his widely-ranging trips, often to distant parts of the country.— ANTHONY A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

Continent cut off by fog

When I was a youngster, my grandfather used to take me "bug-hunting" when he came home on shore-leave. I quickly learned to recognise peacocks and clouded yellows, and to find broad-barred whites and mottled beauties at rest on palings, and thereafter was hooked on serious study of the Lepidoptera. During my apprenticeship, my mentors, including a shop-keeper, a fireman, and Air Marshal, a retired ironmonger and sundry doctors and schoolmasters, soon taught me the importance of knowing and using the scientific names of these creatures, so as to be able to read and understand the literature of the day. A few of my peers expressed a dislike of "horrible Latin names that are always changing", but after subscribing to "*The Entomologist*" for a year or two, any dread I might have had for these names quickly evaporated, and when the reasons for occasional changes in nomenclature were explained to me, I found them an additional source of interest. Moreover, I discovered that many of the colloquial names gave misleading impressions of relationships between different insects, that "grass emeralds" were only distantly related to "light emeralds", and that even members of the subfamily Geometrinae belonged to different genera. I believe that nowadays we even have a dragonfly dubbed an "emerald"!

Years later, the full value of familiarity with the scientific names of organisms was brought home to me in a variety of ways. Some Belgian birdwatchers, whom we met on Anglesey and who spoke excellent English, having come from a flat country, were eager to see birds of sea-cliff and high mountain. We asked them if they had seen Choughs. "Chough", they said, "what is that?" "*Pyrrhocorax*", I replied. No good, we had to rummage in a field guide for an illustration. Conversely, entomological friends on mainland Europe, especially Scandinavia, are perfectly happy with the scientific names of birds, but less so with the English colloquialisms, so we talk about *Accipiter gentilis*, *Sylvia nisoria* and so on. I told the boys I was with on Anglesey that, had our Belgian friends been entomologists, we would have had no difficulty at all with them. *Apropos* the Lepidoptera, a familiarity with the Continental literature helps us to become at ease with non-British species when we travel abroad, and to identify for ourselves the steady stream of newcomers to these islands.

I confess to being exasperated by most of the English names which have been thrust upon these newcomers in recent years. Why call well-known south European species such as *Eupithecia ultimaria* "Channel Islands Pug" or, Heaven help us, *Catocala conjuncta* "Minsmere Crimson Underwing"? With greatest respect to Clancy and Langmaid and their rustic and yellow underwing, who, outside a coterie of birders turned moth-ers, will wish to use these names, and who elsewhere in Europe will have the slightest idea what species are being referred to? *Agrotis herzogi*, already named after Herzog, has been dubbed Spalding's Dart! Charming as many of the traditional English names may be, they are incomprehensible to foreigners and confuse rather than elucidate relationships between species. One has only to read the late Maitland Emmet's book on the derivations of the scientific names to appreciate their even greater charm (1991. *The Scientific Names of the British Lepidoptera: their history and meaning*. Harley Books).

Advocates of English names quite rightly say that the scientific names are off-putting to beginners and that the increasing use of common names in the journals has encouraged many to take up at least the "twitching" and recording of Lepidoptera. It behoves these journals to encourage further these converts by gently but firmly introducing them to the use of the international names, in order to facilitate their reading and their collaboration with colleagues outside Britain. A start could be made by using the scientific name, with the English name in parenthesis, when a species is first mentioned in an article and thereafter using just the scientific name. Young botanists are happy with this, so why not young entomologists? The tendency to dumb down, so rife in this modern world in which disciplined thinking and learning are frowned upon, should be resisted with all our might when our innocent but serious studies are invaded. It is encouraging, however, to note that several erstwhile beginners are already starting to look at the "micros", most of which have no English name. They appear to be happy with this situation and will soon realise, if they have not done so already, that no serious student of these more difficult species will use any but their scientific names.— BARRY GOATER, The Ridge, 27 Hiltingbury Road, Chandlers Ford, Hampshire SO5 1SR.

EDITORIAL COMMENT: It is the editorial policy of this journal that the full scientific binomial must be given at the first mention of each species – thereafter the author may abbreviate, contract or use a recognisable alternative appellation at his or her discretion. It is also policy that when scientific names of insects are first mentioned the authority must also be stated, in order to avoid confusion (though we do not normally add the date of description except where a species is currently absent from British checklists). These rules also apply to all species named in the titles of peer-reviewed papers or non-refereed Notes and in the Abstract section of peer-reviewed papers; in these three places the Order (abbreviated) and Family (in full) must also be given. Where it is conceivable that confusion may occur, as for example in the case of *Abrostola triplasia* (L.) versus *A. tripartita* (Hufn.) = *triplasia* auctorum, or *Bena bicolorana* (Fuessly) = *prasinana* auctorum versus *Pseudoips prasinana* (L.), it may be the case that the inclusion of the vernacular name serves as an important aid to recognition – at least amongst British readers – but beyond that the inclusion in these places of an "English" name is, presently, at the discretion of the author(s). All authors are reminded that this journal is read in many countries and although the house language is English, our own colloquial names may mean absolutely nothing to entomologists living beyond our shores.

At a personal level, this Editor agrees with his good friend Barry Goater that (apparently) giving English names priority over their scientific counterparts reflects the general "dumbing down" of almost everything in modern British society, though he would fall short of saying that they are un-necessary. I lament the day that Latin ceased to be taught in our schools, yet there is nothing I can do about it and with an eye on the continued existence of this journal as much as on its content, I would emphasise Goater's comment that we need to " ... encourage further these converts by gently but firmly introducing them to the use of the international names, in order to facilitate their reading and their collaboration with colleagues outside Britain". Many people coming in to entomology from the world of birding, or elsewhere, may be put off by a didactic approach to nomenclature, and I speak from personal experience of three such converts (who I will not name) who have now come to recognise the value of scientific names. Unless the journal descends into the murky depths of elitism, and remaining subscribers are prepared to pay four or five times the current subscription rate to make up for the lost readers, authors will retain the discretionary right to include English names. The real problem is that the modern Education system lacks teachers of Goater's calibre, though the fault for that seems to lie at a higher level in the system; new recruits are inevitably lacking in an understanding of what the scientific names actually mean.

As to the specific question of whether English or scientific name should come first, this Editor proposes to leave a decision to the conscience of authors. As a general principal, I feel that the scientific name ought to come first in article titles, though it would be rare for me to alter any title unless a referee insists and the author subsequently agrees. Readers are referred to the legal disclaimer inside the front cover of this issue of the journal. Within the text of a contribution, it seems to matter not a great deal provided that the rules, outlined above, are adhered to. I welcome reasoned thought and argument on this matter, as a result of which editorial policy may or may not be altered, though it is unlikely that I will publish all such communications.

Colin W. Plant

Some notable British barkfly (Psocoptera) observations

Studies by the authors of the barkflies, or outdoor Psocoptera – preferred alternative name to barklice proposed by Alexander (2003. *Psocid News.* **3**: 1-2) – occurring in various parts of Britain has resulted in several noteworthy finds. These previously unpublished records include the discovery of two species new to Britain, species not previously recorded out-of-doors and new vice-county records for other notable species.

Family Trogiidae

Lepinotus patruelis Pearman

A single female specimen was found by B. Saville at North Merchiston Cemetery, Edinburgh (O.S. grid reference NT 234723 – VC 83) on 26.vii.2004. The specimen was caught while searching the surface and loose bark of deciduous tree trunks. W. R. Dolling obtained three female specimens by sieving tidal debris in a saltmarsh at Stone Creek, Yorkshire (TA 2318 – VC 61) on 7.ix.2004.

The identification of all specimens was confirmed by C. Lienhard of the Geneva Natural History Museum. These finds appear to be the first outdoor records reported in Britain.

Family Liposcelididae

Liposcelis bostrychophila Badonnel

A female specimen was sieved from a pile of wood chips under trees at Wheldrake Woods, Yorkshire (SE 6647 – VC 61) by W. R. Dolling on 7.viii.2004. The identification of the specimen was determined by C. Lienhard.

Although widely distributed as a domestic species this appears to be the first outdoor record in Britain.

Family Caeciliusidae

Epicaecilius pilipennis (Lienhard)

W.R. Dolling found one male specimen in pine needle litter at the foot of an isolated pine in a clearing on Allerthorpe Common, Yorkshire (SE 7647) – VC 61) on 24.iv.2004. On 21.vii.2004, KNAA beat a single specimen of this species from a dead branch in the lower canopy of an ancient oak tree in Kedleston Park, Derbyshire (SK 303402 – VC 57). The species was also found in 2004 from another Midland locality: B. Saville recorded the species in Brandwood End Cemetery in Birmingham (Saville, 2004, *Worcestershire Record.* **17**: 25-6). *E. pilipennis* is otherwise known from the Lothians (Saville, 1999. *Glas. Nat.* **23**(4): 50-4), Sussex (Alexander, 2002, *Epicaecilius pilipennis* (Lienhard) (Psocoptera) new to England from West Sussex. *Ent. Rec.* **114**: 181), Wales (Whitehead, 2003. *Ent. Mon. Mag.* **139**: 237-9), Cumbria (Saville, 2004. *The Carlisle Naturalist* **12**(1): 17-20) and Northumberland (Saville, in press. Some Northumberland barklice (Insecta: Psocoptera) observations. *Trans. Nat. Hist. Soc. Northumbria*).

These records demonstrate that the species is widely distributed across Britain.

Family Amphipsocidae

Kolbia quisquiliarum Bertkau

W. R. Dolling found specimens of this species from two localities in Kent, both from chalk turf: Polhill Down (TQ 5060 – VC 16) on 19.ix.1976 and ix.1978, and Etchinghill (TR 1738 – VC) on 31.vii.1976. Two specimens were taken on Swift's Hill (SO 877067 – VC 33), E. Gloucestershire, by KNAA: a micropterous female, 19.vi.2003, and a male, 6.ix.2003; both were identified by C. Lienhard.

The first specimen was taken from the sward by use of a garden leaf blower/vac machine powered by a two-stroke engine and modified with a butterfly net attached within the suction tube, the second by more conventional sweep-netting. Swift's Hill is an ancient limestone grassland site in the Cotswold Hills, designated a SSSI, and managed as a Nature Reserve by the Gloucestershire Wildlife Trust. *Kolbia quisquiliarum* is a rare species associated with "low vegetation" across southern and central England (T.R. New, 1974. *Handbooks for the Identification of British Insects.* **I** (7). *Psocoptera.* RESL). Its presence in ancient limestone grassland may suggest that its rarity reflects poor mobility and an association with long-established semi-natural open vegetation.

Family Ectopsocidae

Ectopsocus axillaris (Smithers)

Between 1999 and 2004 studies to discover the distribution of this species in the Lothians were carried out by B. Saville with help from Alastair Rae. The species was recorded at 13 locations (country estates, churchyards and a garden) within an area 30km by 20km ranging between Dalmeny Estate in the west (VC 84), Gosford Estate in the east (VC 82) and Arniston Estate in the south (VC 83). The species is generally found on conifers, both native (yew) and introduced (e.g., Cypress), but a few specimens were found on an oak in Dalmeny Estate. The fact that the species was found at every one of five randomly selected locations in central Edinburgh suggests that the species is widespread within the city.

On 31.x.2001 W.R. Dolling discovered that a large population of the species had developed in a bagged-up bracket fungus that had been collected at Danthorpe, Yorkshire (TA 2432 – VC 61). The retained voucher specimen was recently identified. A later record from nearby Elstronwick has been published (Dolling, 2004. *Ent. Mon. Mag.* **140**: 315).

Family Peripsocidae

Peripsocus milleri (Tillyard)

This species turned up in some numbers amongst material beaten by KNAA from the dead twigs of fallen branches beneath old open-grown oak trees in Hardwick Park (SK 4663 – VC 57), Derbyshire: four males and three females, 18.v.2004, and a male 19.vii.2004. A female was taken from the well-lit trunk of an ancient open-grown beech tree in Calke Park (SK 363231), Derbyshire, 19.v.2004. Two females and a male were amongst material beaten from dead twigs on a fallen branch under an ash tree on Wilderhope Manor Farm (SO 542928 – VC 40), Wenlock Edge, Shropshire, by KNAA, 28.vii.2004. The tree is open-grown and appeared to be derived from an old hedgerow. On 8.viii.2004, B. Saville found a single female of this species on the trunk of a mature oak tree in Jasmin Croft, Birmingham (SP 073796 – VC 37) (Saville, 2004, *Worcestershire Record.* **17**: 25-6).

The specimens were sent to C. Lienhard who confirmed their identification. This species' inclusion on the British list is due to two specimens being discovered in the hold of a ship in Liverpool in 1953 (T.R. New, 1974. *Handbooks for the Identification of British Insects.* **I** (7). *Psocoptera.* RESL). These are the first known outdoor records in Britain and suggest that it may now have become widespread in parts of Britain.

Family Trichopsocidae

Trichopsocus clarus (Banks)

B. Saville obtained two specimens by shaking deciduous tree branches in Regent's Park, London (VC 21) on 16.vi.2004. The identification of one of the specimens was confirmed by C. Lienhard. New (1974. *Handbooks for the Identification of British Insects.* **I** (7). *Psocoptera.* RESL) has commented that the species is "usually in hothouses or similar situations in England", which implies that there may be some outdoor records. New (pers. com.) says that J. V. Pearman had mentioned finding it outside but that the record was probably not published. He also thinks that there has been some confusion in the UK between *clarus* and *dalii* in the past.

T. clarus has been known to be established outside in Ireland for some time (Fahy, 1970. *Proc Royal Irish Academy.* **69**: 139-163); the London observation provides definite evidence that the species is able to live out-of-doors in the UK.

Trichopsocus brincki Badonnel

A female of this addition to the GB List was knocked from the dead lower branches of an ancient hedgerow pollard at Channons Farm (SY 012990 – VC 3), Broadclyst, S. Devon, by KNAA, 18.ix.2003.

The unfamiliar specimen was sent to Charles Lienhard to ascertain its identity. The locality is a pastoral agricultural landscape with large numbers of ancient pollard trees which originate from "Asheclyste" – extensive common rough pastures owned by Torre Abbey into the 16th Century. Lienhard (1998. *Psocopteres Euro-Mediterraneens.* Faune de France 83.) regarded it as endemic to Madeira, where it has been recorded on many occasions in the mixed and Eucalyptus forests. Its discovery in SW England, in an ancient landscape well away from any sources of imported plant material, may suggest an overlooked native. The discovery of further specimens will be needed, however, before we may be able to distinguish whether we are dealing with a native population or an established introduction.

Family Elipsocidae

Elipsocus moebiusi Tetens

On 27.vii.2004, KNAA found this species to be numerous on the lower branches of field oaks at Blakeway Fields, Much Wenlock, Shropshire (SO 597992 – VC 40).

A female specimen was caught by B. Saville by beating the branches of an isolated oak standard at the edge of an arable field at Barrow, Shropshire (SJ658000 – vc 40) on 5.viii.2004.

This species is otherwise known from the Lothians (Saville, 2001. *Ent. Mon. Mag.* **137**: 79-83), Cumbria (Saville, 2004. *The Carlisle Naturalist.* **12**(1): 17-20) and Northumberland (Saville, in press. Some Northumberland barklice (Insecta: Psocoptera) observations. *Trans. Nat. Hist. Soc. Northumbria*).

Pseudopsocus rostocki Kolbe

W. R. Dolling found a female specimen of this species on lichen-covered conifer bark at Knole Park, Sevenoaks (vc 16), x.1976. The site is a wood-pasture deer-park.

A female was found amongst material collected by beating the dead lower branches of a veteran open-grown oak of 4.65m girth at breast height in Parham Park (TQ 059148 – VC 13), West Sussex, by KNAA, 21.x.2003. The specimen was sent to B. Saville for determination and was later confirmed by C. Lienhard. Parham Park is an ancient deer park famous for its old growth epiphyte lichen flora and saproxylic beetle fauna and protected by SSSI designation. *P. rostocki* is a rare species in Britain and only known from "few records from southern England" (New, 1974). It would be interesting to know if the other known sites are also ancient wood pastures.

Propsocus pulchripennis (Perkins)

This distinctive species was found amongst fairly short, open-structured grassy vegetation on sand close to high tide level on several islands in the Isles of Scilly (VC 1), in ix.2000 by P. Kirby. Voucher specimens have been shown to K.N.A. Alexander who has confirmed their identity. Details of the captures are as follows: Bryher, between Great Porth and Rushy Bay, SZ 875146 – 876141, 9.ix.2000; Samson, Bar Point, SV 879132, 12.ix.2000; St Agnes/Gugh, The Bar, SV 887083, 8.ix.2000; St Mary's, Porth Mellon, SV 907107, 9.ix.2000; St Mary's, Thomas Porth, SV 908110, 9.ix.2000. *P. pulchripennis* was seen in considerable numbers on Bryher, but the populations on the other islands appeared sparser, or at least less conspicuous. No *P. pulchripennis* were captured during survey work in apparently suitable vegetation on St Martin's or Tresco in the same period, but since the survey work was not targeted at Psocoptera and *P. pulchipennis* was not recognised in the field, it may have been overlooked if it was present at low density. *P. pulchripennis* could not be found at either of the recorded localities on St Mary's in September 2002, despite specific search. This is the first record of the species in Britain.

Family Psocidae

Blaste quadrimaculata (Latreille)

On 25.vi.2004, B. Saville found one male specimen of this species on the branches of an overgrown and half dead Chinese Juniper (*Juniperus chinensis*) bush. The bush was situated at the road edge of the entrance to a small industrial estate off Leith Walk and within central Edinburgh at NT 26787561 (VC 83). On 6.vii.2004, another male specimen was found on the same bush and this specimen was sent to C. Lienhard who identified it as *quadrimaculata*. Searches for the species on other introduced conifers in the area have so far been unproductive.

Keith Alexander would like to acknowledge the sponsors of the various commissioned surveys which led to his discoveries: Dan Abrahams (English Nature, Derbyshire), Pete Carty and Caroline Uff (National Trust Shropshire Hills Estate); Rosie Cliffe (Gloucestershire Wildlife Trust, with HLF funding); Ralph Hobbs (English Nature, West Sussex). Special thanks go to John Channon (National Trust Property Manager of the Killerton Estate in Devon) whose project led to the addition of *T. brincki* to the British List. Peter Kirby's work in the Isles of Scilly in 2000 was part of a survey for the burrower bug *Geotomus punctulatus* funded by English Nature under its Species Recovery programme.

— Bob Saville, 20 Downfield Place, Edinburgh EH11 2EL (Email: info@lothianwildlife.co.uk), Keith N. A. Alexander, 59 Sweetbrier Lane, Heavitree, Exeter EX1 3AQ (Email: keith.alexander@care4free.net), William R. Dolling, Brook Farm, Elstronwick, Hull HU12 9BP and Peter Kirby, 21 Grafton Avenue, Netherton, Peterborough, PE3 9PD (Email: peter.kirby7@ntlworld.com).

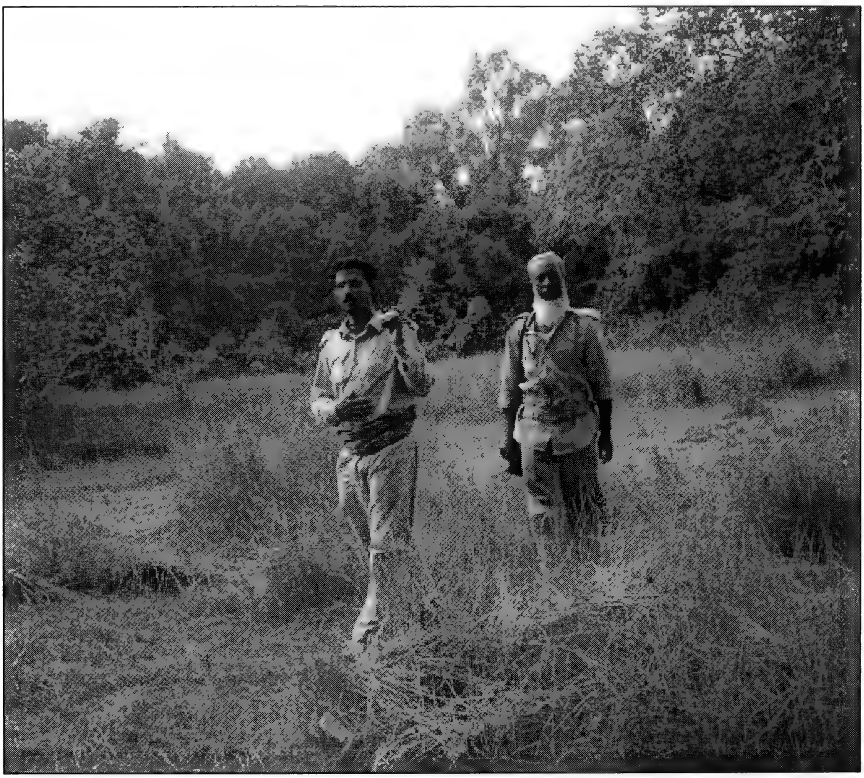
Hazards of butterfly collecting – ABD in the Sundarban mangroves, Bangladesh, Christmas 2002

When you live in Dhaka, a crowded and polluted city of more than ten million and in one of the world's most crowded countries, regular doses of ABD (**A**nything **B**ut **D**haka) is an essential mental health requirement. So over Christmas 2002 we decided to take a cruise to the mangrove forests of the Sundarbans . . . NO, not the kind of cruise of the glossy travel supplements. We went on the good ship m/v Chuuti, a small boat just able to sleep sixteen, with limited cooking facilities and few creature comforts. After slipping our moorings and sailing south on a broad estuary, endangered river dolphins soon began to appear, the air became cleaner, and gradually the ubiquitous cell-phones began losing touch with their home base.

Night comes early this time of the year and when we reached the mangrove proper it was already dark. Dinner was served, ample amounts of fine food, though not haute cuisine. After dinner we got acquainted with our fellow travellers, a mixed lot ranging in age from ten to seventy and including nationals of USA, United Kingdom, Bangladesh, Mauritius, Germany, France, and Japan – some resident in Dhaka, others tourists or people visiting relatives. We were told that we would continue sailing till about 02.00 to make up for a plane delay out of Dhaka, but ran aground on a mud-bank just before midnight where we stopped for the night. Soon all on board were asleep in the tiny, but comfortable cabins.

When morning came we saw what mangroves were all about – and the Sunderbans is one of the world's largest remaining mangroves. We were in one of many small passages that criss-crossed the almost impenetrable mangrove which stretched right to the ocean's edge. The composition of mangroves is strongly dominated by one or two mangrove trees, interspersed with other trees especially on the few hill-tops (make that five metres above sea level) which are not subject to daily flooding. Despite this there is plenty of wildlife – hundreds of bird species, monkeys, deer, wild pigs, porcupines, various small mammals, fish, and crustaceans.

The crowning glory of the Sunderbans is a vigorous population of the Royal Bengal Tiger – actually the same subspecies as that of the Indian subcontinent as a whole, but with particularly well-developed fur since they spend much of their time in water. They have another peculiarity; the entire population is man-eating. Normally tigers become man-eaters only when some infirmity stops them hunting their normal prey of deer and pigs. Some 150 humans are killed by tigers every year, a few legal honey-gatherers but mostly illegal woodcutters, or fishermen camping out in the face of an impending storm. Stories abound of how a tiger took someone



My 'Tiger protection task force'.

from a low boat without his fellow travellers noticing. The area is dotted with little shrines where sacrifices are made to protect against them. Tigers normally attack humans from behind, and for a time people working legally in the area were issued with face masks to cover the back of the head. I could find no convincing documentation as to the efficacy of this 'two-faced' approach!

The good ship m/v Chuuti.

Butterflies were not much in evidence in the dark, dank mangroves. In any case they would have been very difficult to collect. They ground is squishy, slippery mud and the mangrove trees send up pointed spikes from their root systems. The mangroves stretch right down to the beaches of the Bay of Bengal, but just inland of the coast areas of ancient dunes may form large grassy meadows, which are not flooded, and with patches of forest and fringing vegetation that are much more diverse botanically than the mangroves. Here butterflies could be seen – nineteen species on my trip. Most were common species, but three were special. One was the Sunderbans Crow, *Euploea crameri nicevillei* Moore, which was quite common; the subspecies is only found in the mangroves around the Bay of Bengal and I have traced no records since the 1890s. The species occurs again only in southern Myanmar, but in a different subspecies, and then across Sundaland to Queensland in Australia. Why should it have a distinct, disjunct, mangrove-adapted subspecies here? I have no idea. The huge Mangrove Tree-Nymph, *Idea agamarschana* Felder & Felder, flapped about like some ghostly apparition at treetop level; it is limited to mangroves from the Bay of Bengal down the coast of Myanmar. Other members of the genus are wholly rainforest species and this is the most northerly member of the genus. Again, very curious. The most common butterfly was the large red-bodied swallowtail, the Crimson Rose, *Pachliopta hector* Fabricius, which I never saw elsewhere in Bangladesh. They must have been part of a northwards migration of this South Indian butterfly which made landfall here. Some females were laying eggs on one of the usual host plants, *Aristolochia indica*. It is very sporadic in Calcutta and in Bangladesh; it did not reach the Dhaka area during January-March. Not too bad for a trip that did not have butterflies as a specific objective.

While collecting, I was issued with two rather frail forest guards carrying ancient Lee-Enfield rifles of Khyber Pass vintage as protection against the dreaded tiger. At one point they wanted to catch me a tree nymph, so I found myself deprived of my net and saddled with two very heavy rifles. But tigers are rarely seen by visitors, though pug marks are plentiful.

So we had our ABD. We saw deer aplenty. We saw the largest estuarine crocodile I have ever seen. We played scrabble. I even gave a talk with live performing butterflies in the tiny lounge. The last event of note on the way back was passing through a patch of fluorescent water. "There is a bucket at the stern," said our guide, "go pour some water down. It's beautiful." We went to the stern, and I grabbed the full bucket. A crew member looked on with unease. I poured in the water. It was indeed beautiful. But what was that? The crew member's freshly washed, now illuminated underpants floated gently away in the ship's wake – the defining moment of a low-key, but pleasant trip!– Torben B. Larsen, Bangladesh, World Bank, 1818 H. Street N. W., Washington D.C., 20433, USA (E-mail: torbenlarsen@ compuserve.com).

Oxyptilus laetus (Zell.) (Lep.: Pterophoridae) new to the Scottish fauna

Whilst undertaking an entomological survey for clients during 1998 at the Ministry of Defence (MoD) Kirkcudbright Training Area in south-west Scotland, I ran m.v. lamps on several nights and generated a list of 189 species of Lepidoptera. Several were sufficiently noteworthy to warrant mention in these pages (see *Ent. Rec.* **111**: 39 – 41). On the night of 20 June 1998, I ran a string of five m.v. lamps, each about 100 metres apart, along a track running through a scrubby area of the south-facing shoreline at Abbey Burn Foot (VC 73; O. S. grid reference NX 7444). On this occasion a single plume moth, which I did not immediately recognise, was taken in one of the traps. Consequently, it was collected and set for later examination, but having been put into a box with many others it was subsequently forgotten about until the winter of 2003/2004 when I made a determined effort to clear the backlog of dissections. I was very pleasantly surprised to discover, using the excellent drawings in Gielis (1996. *Microlepidoptera of Europe. 1: Pterophoridae*. Apollo Books) that it seemed to be a female *Oxyptilus (= Crombrugghia) laetus*. This is a rather scarce immigrant species and most of the British records are from the southern half of the country; thus, my identification seemed somewhat unlikely to be correct.

However, reference to the review of this species and its congener *O. distans* by Colin Hart in *Ent. Rec.* **108**: 113-117 (1996) seemed to confirm the diagnosis. That paper contains clear half-tone photographs of the male and female genitalia of both species and includes an important additional character, the shape of the posterior margin of the seventh abdominal sternite, which is illustrated, but not highlighted, for *O. laetus* by Gielis (*op. cit.*), but not for *O. distans*. Accordingly, the microscope slide bearing the genitalia was sent to Colin Hart who was able to confirm my identification.

Although I have not checked the Scottish Insect Records Index (SIRI) at the National Museums of Scotland (see, Shaw, 1987. *Ent. Rec.* **99**: 37-38), I am informed by Colin Hart that this is certainly the first report of *Oxyptilus laetus* in Scotland. It is only the fifteenth example to be reported in Britain.

In the same trap on the same night I also took several examples of the rare immigrant choreutid *Tebenna micalis* (Mann), another first for Scotland and already reported. These were accompanied by more frequent species such as the Vestal *Rhodometra sacraria* (L.) and the pyralids *Nomophila noctuella* (D.& S.) and *Udea ferrugalis* (Hb.), clearly suggesting that there was a degree of immigrant activity taking place. A Clouded Yellow butterfly *Colias croceus* (Geoff.) was also noted in preceding afternoon. Finally, Colin Hart also informs me that another example of *O. laetus* was taken in Britain just four days later, on 24 June 1998, this time at Walberton, Bramblings, West Sussex, England (VC 13: grid reference SU 96379 06325) by J. T. Radford. There seems little doubt that my Scottish example was a primary immigrant.— COLIN W. PLANT, 14 West Road, Bishops Stortford, Hertfordshire CM23 3QP (E-mail: cpauk1@ntlworld.com).

The Aston Rowant record of *Ceutorhynchus syrites* Germar (Col.: Curculionidae) – a mystery unresolved?

I am grateful to Mr A. A. Allen for his response to my earlier appeal for information regarding this record (*Ent. Rec.* **116**: 147). As he says, the details are few. I knew Mr G. E. Woodroffe quite well, and he was certainly aware of my particular interest in Curculionoidea. Yet he never mentioned this outstanding record to me. Again as Mr Allen says, he was a competent coleopterist. Among his interesting captures at Aston Rowant was *Glocianus moelleri* (Thomson). As I mentioned in my account of the British species in the genus (1999, *Coleopterist* **8**: 49-56), I have one of Mr Woodroffe's specimens of this species and it was collected on 17 May 1966. The coincidence of two very rare weevils being collected on the same day at the same locality is, to my mind, suggestive, particularly as the specimen of *C. syrites* has not (yet) been found. Is it not possible that the two species have been confused? This is despite the dissimilarity of names, though of course *G. moelleri* was until recently included in *Ceutorhynchus* in British literature on Ceutorhynchinae.

I have nothing to add to Mr Allen's comments on the Totnes "record" of *C syrites*. Readers of this journal will no doubt form their own opinions as to its reliability, given the circumstances of its discovery which he describes.— M. G. MORRIS, Orchard House, 7 Clarence Road, Dorchester, Dorset DT1 2HF.

Cacoecimorpha pronubana (Hb.) (Lep.: Tortricidae) in a Dublin glasshouse

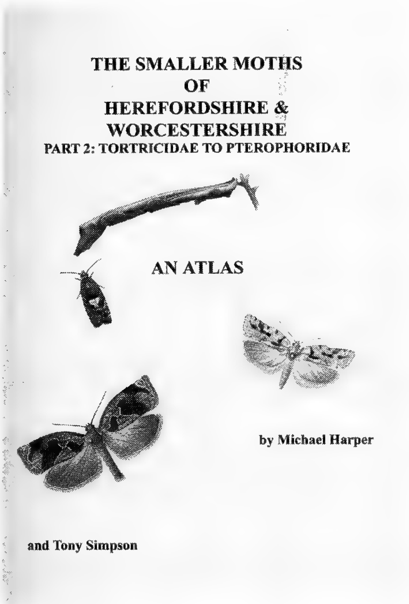
In October 2004, JPOC received for identification several live moths in a bottle. They had been sent by Dr Paul Cusack of the College of Amenity Horticulture in the National Botanic Gardens, Dublin City (grid reference O 1437) where they were infesting a glasshouse in large numbers, being particularly attracted to parsley. Using Bradley, Tremewan & Smith (1973, *British Tortricoid Moths.* Ray Society), they were identified as the carnation tortrix *Cacoecimorpha pronubana* (Hübner). This determination was confirmed by KGMB. This polyphagous moth, which is a naturalised adventive, is now widespread in Britain after being first found on the Sussex coast *circa* 1900 (Bradley, 2000. *Checklist of Lepidoptera recorded from the British Isles,* Second Edition (Revised), privately published). By contrast, in Ireland, the species was previously only known from two published records. In 1987, a female was caught on a moving bus in Cork City in south-west Ireland (Bond, 1988. *Irish Naturalists' Journal* **22**: 454). Subsequently in 1989, several tortrix larvae were found feeding on the leaves of cherry laurel *Prunus laurocerasus* L. in Co Dublin. An adult was reared, confirming it as *C. pronubana* (Bond & Good, 1989. *Irish Naturalists' Journal* **23**: 153). In 1992, from 22 May to 20 August, KGMB observed four further adults at Douglas (W7169) south-east of Cork City. Since *C. pronubana* is a well known pest of greenhouses elsewhere (Buczacki & Harris, 1983, *Collins shorter guide to the pests, diseases and disorders of garden plants,* Collins, London; Hill, 1987. *Agricultural insect pests of temperate regions and their control, Cambridge University Press, Cambridge*), it is perhaps surprising, that it has taken fourteen years since its discovery in Ireland, to become established in a glass-house. Voucher specimens have been deposited in the National Museum of Ireland.— J. P. O'Connor, National Museum of Ireland Kildare Street, Dublin 2, Ireland and K. G. M. Bond, Department of Zoology and Animal Ecology, University College Cork, Lee Maltings Prospect Row, Cork, Ireland.

Final call for Hertfordshire moth records

I am now in the middle of preparing text and distribution maps for the proposed publication on the moths of Hertfordshire. This is the last chance for anyone who has information, no matter how old, to have it included. I am especially interested in older records (pre-1995) from the famous Broxbourne Woods complex – a long time favourite of many collectors and now the county's only National Nature Reserve. From here are the last known county records of many rarer species such as *Hemaris fuciformis* (L) – the Broad-bordered Bee Hawk-moth (last recorded in 1973) and *Cnaemidophorus rhododactyla* (D.& S.) – the scarce plume moth that is associated with wild rose – last recorded in 1980. Can you update these or any other Hertfordshire records? I need macro and micro data for the whole county for any period in History.— Colin W. Plant, 14 West Road, Bishops Stortford, Hertfordshire CM23 3QP (E-mail: cpauk1@ntlworld.com).

BOOK REVIEWS AND NOTICES

The smaller moths of Herefordshire and Worcestershire: An atlas. Part 2: Tortricidae to Pterophoridae by **Michael Harper and Tony Simpson**. viii + 148 pp., A4, wire-bound between acetate covers. ISBN 0 9519749 3 9. Published by Butterfly Conservation (West Midlands Branch), 2004. Available from the publishers at 65 Wentworth Road, Harborne, Birmingham B17 9SS. Price not stated (but part 1, of similar dimensions, was £12).

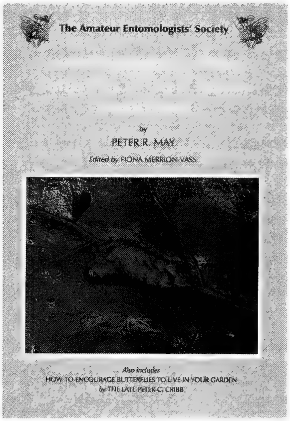


I have already reviewed Part 1, Micropterigidae to Scythrididae (*Ent. Rec.* **115**: 150-151) as well as the volume presenting the larger moths (*Ent. Rec.* **114**: 143-144) in this series. Both of those earlier reviews were highly favourable and there seems little to add to my opinion of this overall work in a discussion of this final part.

The present volume presents distribution maps for the Tortricidae, Alucitidae, Pyralidae and Pterophoridae in the two counties and also contains an update on new species of larger moths recorded in that area since 2001 when that group was reported. Inevitably, knowledge of the distribution of some species is greater than that of others and it is perhaps not a coincidence that the best represented species in terms of "dots on maps" include many that habitually turn up in light traps. This work, now completed, provides an immensely important baseline of data on the Lepidoptera fauna of Herefordshire and Worcestershire and will surely steer the large number of newcomers to the study of moths in a direction where a great many discoveries remain to be made. I commend all three volumes to readers of this journal.

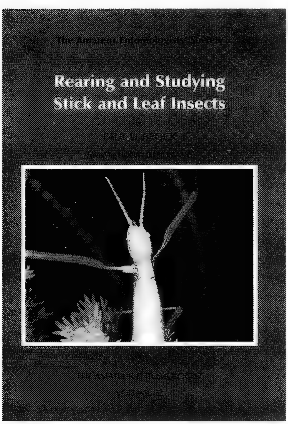
Larval foodplants of the butterflies of Great Britain and Ireland by **Peter R. May**. vi + 58 pp., A5, stapled. Published by the Amateur Entomologists' Society, 2003. ISBN 0 900054 69 7. £5.75.

The author concedes that there have been many books on British Butterflies published in recent years, but opines that data on foodplants is both scattered and imprecise. The stated aim of the present work is to "gather together in one place all the published records of known foodplants of the butterflies found in Britain and Ireland in a way that will be helpful to both inexperienced and experienced entomologists". However, I am not sure that by simply accumulating all available *published* information, apparently without any interrogation of that data, he has achieved his aim.



First, there is no statement whether the foodplant listed is recorded for wild larvae or as food for captive stock; many species will eat in captivity plants that they will not touch in the wild. Second, in presenting the list no sources are given and so it is difficult to understand how the list can be helpful to experienced entomologists (presumably these being the ones who are likely to want to investigate further). Third, there is no evidence that the incorporated data has been vetted for accuracy before inclusion. Taking as an example the Chequered Skipper (*Carterocephalus palaemon*), reference to volume 7, part 1, of *Moths and Butterflies of Great Britain and Ireland* (Harley Books, 1989) indicates that the extinct English population was confined to *Brachypodium sylvaticum* and *B. pinnatum*. In Scotland, the main food plant is given as *Molinia caerulea*. Two years later, in volume 7, part 2 of that work, the late Maitland Emmet, who was surely one of the most meticulously careful entomologists of the past hundred years, produced a "Life History Chart" in which all foodplants known to him were listed for all the British Lepidoptera. He recorded *Molinia caerulea*, and noted that the English population was extinct (thus, not listing their foodplants). More recently (*The millennium atlas of butterflies in Britain and Ireland* OUP, 2001), *Molinia caerulea* is again given for Scottish populations (though also stating that a range of grasses may be used as it is in continental Europe), whilst the former English colonies are said to have been on *Brachypodium sylvaticum*. Whilst this latter work, marketed as *the* standard work on British butterflies, admirably illustrates the vagueness about which Peter May complains in his introductory comments, I find it hard to believe that no less than six additional grass species have been added as foodplants in literature published since 2001. Because sources are not quoted it is impossible for me to check and I am left not knowing quite what to believe.

Nevertheless, this booklet will surely find a large and ready market amongst those many amateur entomologists that wish to rear butterflies from eggs or larvae. For this portion of the entomological community, from which more serious scientists may arise, it will be an invaluable source of reference.



Rearing and studying stick and leaf insects by **Paul D. Brock**. vi + 90 pp., A5, stapled. Published by the Amateur Entomologists' Society, 2003. ISBN 0 900054 68 9. £5.75.

These insects are popular as pets amongst young people and as such are an important portal to entomological studies in later life. Indeed, stick insects were amongst the very first of my own entomological experiences (though that was a tad before this handbook was first published, in 1970). The work was revised in 1985 and 1992 and is now updated once more. Sections of text cover all aspects of morphology, life history and rearing of the Phasmida and there is a selection of excellent colour photographs. It should be an especially useful book for teachers of biology and related subjects who may wish to encourage entomological studies amongst their students.

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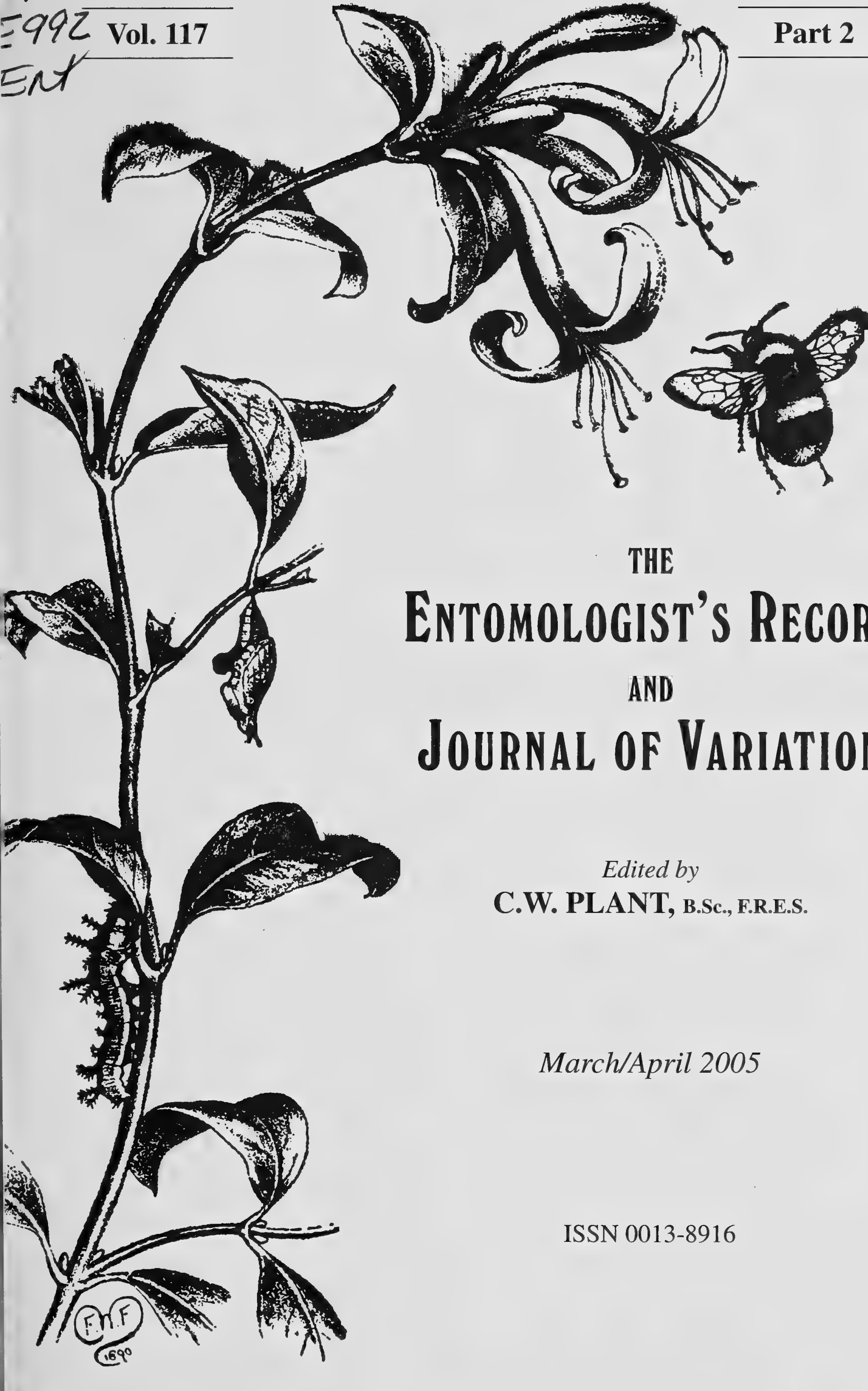

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- The journal is concerned with **British Lepidoptera** (moths and butterflies). We also accept contributions on **British Coleoptera** (beetles), **British Diptera** (flies) and **other groups** at the Editor's discretion. We also print **Subscriber Notices** at no cost on behalf of current subscribers; non-subscribers pay a fee for this service. We also publish **Reviews of entomological books** and other publications relating to all aspects of world entomology if these are sent to the Editor at no cost to him. It is our policy not to accept unsolicited book reviews from third parties.
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Moss as a pabulum for *Hepialus hecta* (Linnaeus, 1758) (Lep.: Hepialidae)

Heath (1976, *The Moths and Butterflies of Great Britain and Ireland* **1**: 166) says that the larvae of all British species of Hepialidae are subterranean, feeding on roots. The only foodplant that he records (*op. cit.*: 169) for *Hepialus hecta* (Linnaeus, 1758) is *Pteridium aquilinum* (L.) Kuhn. Emmet (1991, *The Moths and Butterflies of Great Britain and Ireland* **7** (2): 66-67) gives the foodplants for this species as the roots of *Pteridium* [*aquilinum*] and herbaceous plants. Porter (1997, *The Colour Identification Guide to Caterpillars of the British Isles (Macrolepidoptera)*) states that the foodplants are the roots of bracken, *Pteridium aquilinum*, and possibly grasses. As far as we are aware no British publication records any species of moss as a foodplant for any British member of the Hepialidae, although moss-feeding is known elsewhere in this cosmopolitan family, for example in New Zealand.

On 3 April 2004, we discovered three final instar larvae of this species under the moss *Mnium hornum* Hedw., which was growing on the spreading roots of oak trees at Ashurst, Hampshire (VC 11). In captivity the larvae were given only this moss, which they readily ate. There was no sign of *Pteridium aquilinum* near where the larvae were found. Our tentative larval identification was confirmed when a female *Hepialus hecta* emerged on 12 May 2004.— P. H. Sterling, Environmental Services, Dorset County Council, County Hall, Colliton Park, Dorchester, Dorset DT1 1XJ and R. J. Heckford, 67 Newnham Road, Plympton, Plymouth, Devon PL7 4AW.

New and overlooked herbivores of Bracken (*Pteridium aquilinum* (L.) Kuhn), including the Vapourer *Orgyia antiqua* (L.) (Lep.: Lymantriidae)

The insect fauna feeding on the bracken fern, *Pteridium aquilinum*, is among the most thoroughly documented in Britain, because of interest in the potential use of insects as biological control agents against this invasive plant, and because of detailed ecological work by J. H. Lawton investigating the structure of the bracken herbivore community (1976. *Botanical Journal of the Linnaean Society* **73**: 187-216; 1988. *Philosophical Transactions of the Royal Society B* **318**: 335-355; 2000. *Community ecology in a changing world.* Ecology Institute, Oldendorf/Luhe). Although bracken has a reputation as a difficult plant for insects to exploit, Lawton lists around 40 insect species as bracken herbivores in Britain, with approximately 27 species occurring commonly. These numbers are what might be expected for a common and widespread British plant.

During intensive sampling of bracken herbivores in dense monocultures of bracken at Harding's Down, Glamorgan (O. S. grid reference SS 4390) in 2002, 2003 and 2004, using searches and sweep netting, we recorded three Lepidoptera species not listed by Lawton. In all cases we were able to rear larvae through to pupation on bracken. Feeding larvae of the Vapourer Moth *Orgyia antiqua* were recorded on several occasions. This species is known to be polyphagous on a wide variety of trees and shrubs, but we have been unable to find a previous record of it using bracken. The Grey Pug *Eupithecia subfuscata* (Haworth) was also recorded frequently; although not listed by Lawton and other recent authors, this species was noted as a bracken herbivore by Tutt (1906. *Entomologist's Record and Journal of Variation* **18**: 179-182). Finally, Lawton (1976. *Botanical Journal of the Linnean Society* **73**: 187-216) lists *Laconobia oleracea* (L.) as a possible bracken herbivore, 'not confirmed by field sampling or more recent literature'. This species was the most frequently encountered species of Lepidoptera feeding on bracken at our study site.

We are grateful to the Natural Environment Research Council (Grant NER/M/S/2002/00107) for funding our research on bracken herbivores and their parasitoids, and thank the Llangennith, Llanmadoc and Cheriton Commoners and Sion Brackenbury of the Gower Commons Initiative for facilitating fieldwork at this site.— OWEN T. LEWIS, ALEX M. LORD, AND PAM BAKER, Department of Zoology, University of Oxford, South Parks Road, Oxford, OX1 3PS (E-mail: owen.lewis@zoo.ox.ac.uk).

Epiphyas postvittana (Walker) (Lep.: Tortricidae) damaging apricot fruits in Tyne and Wear

Epiphyas postvittana (Walker), also known as the Light Brown Apple Moth, is an Australian tortrix moth that became established in south west England in 1936. It has since spread widely and has been recorded as a pest of a wide range of ornamental plants. The larvae usually feed in shoot tips or between leaves bound together with silk. Despite its common name, this moth is not a significant pest of apples in Britain, unlike in its native Australia.

On 14 June 2004, I was sent a nearly ripe apricot fruit from a garden in Whitley Bay, Tyne and Wear (O.S. grid reference NZ 338721). This had a single caterpillar feeding inside the fruit near the stone. The larva left the fruit and pupated a week later, with the adult moth emerging on 5 July 2004. The owner of the apricot reported that many of the fruits on the tree were affected and that a similar infestation had occurred the previous year. The apricot was being grown in a pot that is kept in a glasshouse during January to late June, after which it is placed out of doors. The fruit on a peach and nectarine in the same glasshouse had not been damaged.

I am grateful for Mr Kirby Haye for sending me the caterpillar-infested apricot from his garden.— A. J. HALSTEAD, RHS Garden, Wisley, Woking, Surrey GU23 6QB.

Female sex bias in captive bred Winter Moth *Operophtera brumata* (L.) (Lep: Geometridae)

We report an unexpected finding relating to two separate batches of adult Winter Moths *Operophtera brumata* (L.) bred from larvae obtained in the spring of 2004 (five and seven specimens collected in Lancashire and Surrey, respectively) which emerged during the following November. The Lancashire-collected larvae were initially considered to be those of the Northern Winter Moth *O. fagata* (L.). All of the insects that emerged were morphologically female (i.e., all were wingless).

Majerus (2002. *Moths*. New Naturalist Series. Harper Collins) discusses two mechanisms whereby insect populations can display female bias. In one case (e.g. Psychidae) reproduction is by parthenogenesis, resulting in only daughters being produced. The other mechanism involves the ability of certain bacteria to change genetic males into females, presumably via some gene repression mechanism (e.g. *Wolbachia* bacteria in the Asian Corn Borer, *Ostrinia furnacalis* Guenée). The advantage to the bacterium in this case lies in the fact that it is only transmitted to the next moth generation in the cytoplasm of eggs, not in sperm.

Each of our larval batches were reared together in enclosed containers and it is tempting to speculate whether an infectious agent may have been involved in this case, as any infection might be more likely to spread between individual specimens under captive conditions. Whatever the mechanism, it is reasonable to conclude that the phenomenon of female bias may be more prevalent than hitherto assumed among the Lepidoptera, especially in view of the fact that in many species bred in captivity the sex of the offspring is not always considered, as the male-female differences are not as clear cut as in the case of *O. brumata*.— DAFYDD LEWIS, 186 Lower Road, Bookham, Surrey KT23 4AT (E-mail: dafydd_lewis@btopenworld.com) and BEN SMART, 28 Redland Crescent, Chorlton, Manchester, Greater Manchester M21 8DL (E-mail: kathben@chorlton99.fsnet.co.uk).

Some Early Records of *Pelophila borealis* Paykull (Col.: Carabidae) on the Scottish Mainland

MacGowan and Owen (1993. *Ent.Rec.* **105**: 75-77) reported the occurrence of *Pelophila borealis* at Glen Affric, so far the only recent site for the mainland in Scotland.They refer to the distribution map of the species in the book by Scharff (1907. *European Animals: their Geological History and Geographical Distribution*. Constable, London) which marks the Clyde area of Scotland in addition to the well known areas in Ireland , the Orkneys and Shetland.

R. F. Scharff (b.1858, d.1934) who was Keeper in the Dublin National Museum (Praeger, 1934. Obituary. Robert Francis Scharff *Ir. Nat. J.* 5: 153-155), published extensive accounts on mainly the Irish invertebrate fauna (Praeger,1950. *Natural History of Ireland*. Collins, London), but appears not to have had a special interest in beetles. Where did he get the information for his distribution map? The question is immediately answered by reference to the standard list of Clyde Coleoptera by Fergusson (1901. Coleoptera, pp. 272-301, in *Fauna, Flora and Geology of the Clyde Area*. British Association for the Advancement of Science. Glasgow). Under *Pelophila borealis* Fergusson gives "Three at Clober (J. J. F. X. King). Mr King's specimens, I understand, were named by Mr G. C. Champion, FZS". James King (b.1855, d.1933) had collected these beetles at Clober which is in "Stirlingshire on the Allander Water, half a mile NNW of Milngavie"at grid reference NS5475 (Groome, 1882. *Ordnance Gazetteer of Scotland*. Edinburgh) and exhibited the specimens at Anderson's University Buildings on 28 April 1873 (King, 1876. *Trans. Nat.Hist. Soc. Glasg*. ii, 217). In the preface to his book, Scharff acknowledges King as having provided information, so it seems reasonable to assume that it was this that was the basis for the distribution map. However, there is evidence of some earlier records of the beetle on mainland Scotland since Dawson (1854. *Geodephaga Britannica. A monograph of the carnivorous ground beetles indigenous to the British Isles*. London) states, "It is found in the Orkney Isles as well as in the West of Scotland, but the Irish examples are larger and more metallic than those found in Scotland". This is seemingly incontrovertible evidence in the literature, but are there any specimens to substantiate these old records?

Both the King and Fergusson collections are located in the Hunterian Museum at Glasgow, but unfortunately we were unable to find King's Clober specimens of *Pelophila*. All the specimens of this species, apart from one, originated from the classic Irish sites ex. coll. W. F. J. (William Frederick Johnson, b.1852, d.1934). The one exception was labelled "Nethy Bridge 2.9.11. J. J. F. X. King".

King (1914. *Scot. Nat.*1914: 46-47) records visiting this area in 1911 in the company of Col. J. W. Yerbury (b.1847, d.1927). In his manuscript field notebooks (preserved in the Hunterian Museum) he refers to being with Yerbury from at least 12-28 August 1911. On the last of these days mentioned he says 'saw Yerbury in the evening, had been ill with gout'. It was King's habit to visit an area for the entire summer vacation when he was freed from teaching at the Glasgow School of Art. In 1911, he arrived on Speyside on 19 June, based in Nethy Bridge and met up with T. G. Bishop (b.1846, d.1922), another Glasgow-based coleopterist, and H. StJ. K. Donisthorpe (b.1870, d.1951). Details in King's notebooks vary and apart from stating 'collected on Speyside' reveal no further information of the capture of *P. borealis* on the day before he left by the 'local Glasgow' train, Monday 3 September 1911.

In conclusion, we have presented the evidence so far available for the early records of *P. borealis*, which have previously been overlooked, from the two vice counties of Stirling (VC 86) and Easterness, (VC96), indicating a more widely dispersed distribution for the species in mainland Scotland. We thank the staff of the National Museums of Scotland, Chambers Street, Edinburgh, for the use of the *Scottish Insect Records Index*.— D. Hutchins, 12 Manse Road, Roslin, Midlothian EH25 9LF & E.G. Hancock, Hunterian Museum (Zoology), Graham Kerr Building, University of Glasgow G12 8QQ.

NOTES ON *PIERIS NAPI* (L.) SSP. *THOMSONI* (WARREN) AB. *FASCIATA* (MULLER AND KAUTZ) AND F. *FLAVA* (KANE) (GREEN VEINED WHITE)

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Abstract

Breeding experiments with *Pieris napi thomsoni* have shown the genetic basis behind both the pattern variation ab. *fasciata* and the ground colour variation f. *flava.* The possible ecological roles of both variations in wild populations are discussed. These may involve both thermoregulation and visual signalling in the ultraviolet range.

Introduction

From early in the 20th century up to the end of the 1950s livestock and adult specimens of various aberrations of *Pieris napi* were widely sold by dealers. A few entomologists became very interested in their genetics and reared carefully segregated broods. Some of the resulting information was published, but other questions remained unanswered.

The following describes some recent breeding experiments by the author with the abs. *fasciata* and *flava.* The results allow some conclusions to be drawn about both their inheritance and possible value to wild populations.

Descriptions of aberrations and forms

ab. *fasciata* (Plate: A. Figs: 2, 4-10):

In the female this ranges from specimens showing a light dusting of scales between the two forewings discal spots through to the most extreme form in which heavy, dark scaling joins the discal spots and also runs up to the third, supradiscal, spot (usually masked by the apical blotch). Sometimes one or more median spots may develop on the upperside of the hindwings. The male shows a similar, but much weaker, tendency on the forewings. Male hindwings always remain typical.

Aberration *fasciata* probably occurs from time to time in most populations of *napi* in the British Isles. In the Scottish subspecies *thomsoni* and the Irish subspecies *britannica* (Muller and Kautz) minor forms are not uncommon (e.g. Plate: A. Fig. 1) and could be considered as part of the range of the typical form (Greer, 1922-23).

It could be argued that while *fasciata* is defined as an 'aberration' in England and Wales (an aberration being a colour or pattern variation that occurs uncommonly and unpredictably in wild populations) it may become a 'form' in parts of Scotland and often Ireland (a form being a colour or pattern variation that regularly occupies a significant proportion of the population/s of a species within a defined geographical region).

Form *flava* (Plate A. Figs: 2-6)

This very variable form is only expressed in the female, the male always appearing typical. The female's ground colour is replaced by any of a range of tones, from one practically indistinguishable from white, through shades of buff to strong ochreous-yellow. While *flava* usually affects the whole of the female upper surface some specimens exhibit just a flush of colour in the cell area of the forewings.

On the underside of the female the yellow-orange colouration of the hind wing and forewing tip is usually intensified but, except in rare, extreme examples (Plate: A Fig: 4), the discal area of the forewing remains white.

Form *flava* does not occur in the English subspecies *sabellica* (Stephens), but occupies varying proportions of many Scottish and Irish populations. Thomson (1970) states that in Scotland it becomes more frequent the further north one travels.

It also occurs in the Scandinavian subspecies *adalwinda* (Fruhstorfer) in which subspecies the intensity of the *flava* colouration increases northwards (V. B. Meyer-Rochow, pers. comm.). Tolman (1997) states that in sub-arctic Scandinavia *flava* is only present in montane regions. It also occurs in the closely related species *P. bryoniae* (Ochs.)

History in captivity

While many entomologists have come across both *fasciata* and *flava* these forms have been bred intensively by only a few. The famous Lepidoptera dealers H. W. Head and the two Newmans, L. W. and L. H., maintained stock of various forms of *napi* for many years. These originated mainly from Ireland (Donegal) although the Newmans sometimes sold strains from Northern Scotland (Caithness). The most famous (Irish) strains showed *fasciata* on typical ground colour and also on the yellow ground colour of the very rare recessive aberration *sulphurea* Schoyen (illustrations in Russwurm, 1978). The *sulphurea* strain originated from a wild female aberration sent to Head by a school mistress in Tullybeg, Co. Donegal in 1909 (Head, 1939). It is genetically separate from *flava*. The Newmans also added an albino strain into the mix, ab. *pallidus* (Frohawk).

J. A. Thompson, who specialised in aberrations of the Pieridae, reared all these forms, and others, through many carefully segregated broods in the 1940s and 1950s and crossed them with *flava* from Scotland (Thompson 1947 and 1954, Newman, 1954).

S. R. Bowden bred both *napi* and *bryoniae* in large numbers (often in collaboration with N. T. Easton). His focus was the complex taxonomy surrounding *napi*, *bryoniae* and their many races. In the course of his work he was familiar with both *fasciata* and *flava* (Bowden, 1956 and 1979).

Previous remarks on genetics

J. A. Thompson's intention was to publish a complete guide to the genetic basis of all the pattern and colour variation in the species. However he was unable to finish this work and published only preliminary notes. He said (Thompson, 1954) that *flava* is a sex-limited form (i.e. it is carried by both sexes, but expressed only in one – the female). However he shed no light on whether it might be caused by one, or multiple, genes. As regards *fasciata* he stated (Thompson, 1947) that while it was previously assumed to be caused by a single recessive gene his own work had indicated what he called 'a cumulative gene' (i.e. a multifactorial form in which many genes act together with cumulative effect). He proposed (though no supporting data was given) separate genetic control for the *fasciata* character on the upper and under surfaces, and also between the sexes. For this reason he gave separate names to this aberration on either surface of the male butterfly (*fulgoris* for the upperside and *lachrymosa* for the underside) leaving *fasciata* to apply only to the female upperside. He said he was still working on the inheritance of banding on the female underside. Thompson's specimens are now in the Natural History Museum, London but unfortunately there are no explanatory notes with them, nor have any note books or other detailed records of his work reached the museum.

I have been unable to trace any publications by S. R. Bowden on the genetics of *fasciata*. In one paper (Bowden, 1956) he describes *flava* as a 'cumulative' (multifactorial) form. However, later (Bowden, 1979) he references work by Lorkovic which suggests that the equivalent form in the closely related species *bryoniae* may be caused by a dominant gene affected by modifiers.

Recent breeding experiments

I have conducted breeding experiments with two separate, Scottish strains of *P. napi*.

The first began with a wild female *napi* captured in August 1997 on Barra in the Outer Hebrides. She showed typical white ground colour and was transitional to *fasciata* on the forewings (Plate: A. Fig: 1). A total of about 450 specimens were reared over four successive broods. In each brood one pair of specimens were mated to give rise to the next generation with selection taking place for the strength of expression of the *fasciata* character only. Generation F1 produced largely typical butterflies as regards *fasciata*, with just one female being a weak form of the aberration. She was also a very pale form of *flava* and was paired with a male showing a larger than usual forewing discal spot. The specimens in each brood, from F2 to F4, formed a smooth gradient from typical to *fasciata*. But the percentage (and intensity) of *fasciata* in each brood increased while the proportion of typical specimens fell. The most heavily marked *fasciata* is illustrated (Plate: A. Fig: 2).

As regards *flava* a number of other females in the F1 were pale *flava* but it was not possible to work out the percentage of these because the form seemed to grade imperceptibly into type. Form *flava* occurred in a percentage of the F2 (including the female used for breeding) and all female specimens in the F3 and F4 generations were *flava* of fairly consistent intensity (Plate : A. Fig. 2). In an additional out-cross experiment several female specimens from the F1 brood that appeared to show typical ground colour were paired with typical males from stock originating in Sussex. About 100 adults were reared. A proportion of the females in this brood (again impossible to quantify) were *flava*. Some of these were a little more intensely coloured than any *flava* reared in the pure Outer Hebrides strain (Plate: A. Fig: 3).

The second strain began, in August 2000, with a wild, white female from Orkney which was a lightly marked *fasciata*. Six successive broods were reared, totalling approximately 2,550 specimens. As with the Barra strain, selection was only for specimens showing increasingly strong development of *fasciata* and not specifically for *flava*. The results, as regards *fasciata*, were similar to the Barra experiment except that the Orkney strain produced more extreme forms (Colour plate: A. Figs: 6-10). Form *flava* appeared once again in the F1 brood. Up to ten specimens were used as parents for each brood and I always included some *flava* females among these. Form *flava* females made up a proportion of every subsequent generation. Their colour varied from those virtually indistinguishable from type through to strongly yellow specimens (Plate: A. Fig. 5). A very pale form is shown in Fig. 6. A few females showed *flava* colouration replacing white on the underside of the forewings (Fig. 4).

Inheritance of *fasciata*

Ab. *fasciata* is inherited as a multifactorial form, as Thompson stated. However I've seen no clear evidence to support his suggestion that the *fasciata* character is the result of different genes on upper and under surfaces and between the sexes. The female black markings in typical, and *fasciata*, specimens are always heavier on the upperside than the underside and the reverse applies in the male. My strains showed a smooth gradation in the female from specimens showing light fasciata only on the upperside right through those showing it heavily on both surfaces. The reverse situation applied to the male. This is consistent with a multifactorial form in which the penetrance (or degree of expression) of the genes is affected by modifier genes of differing 'strength' on

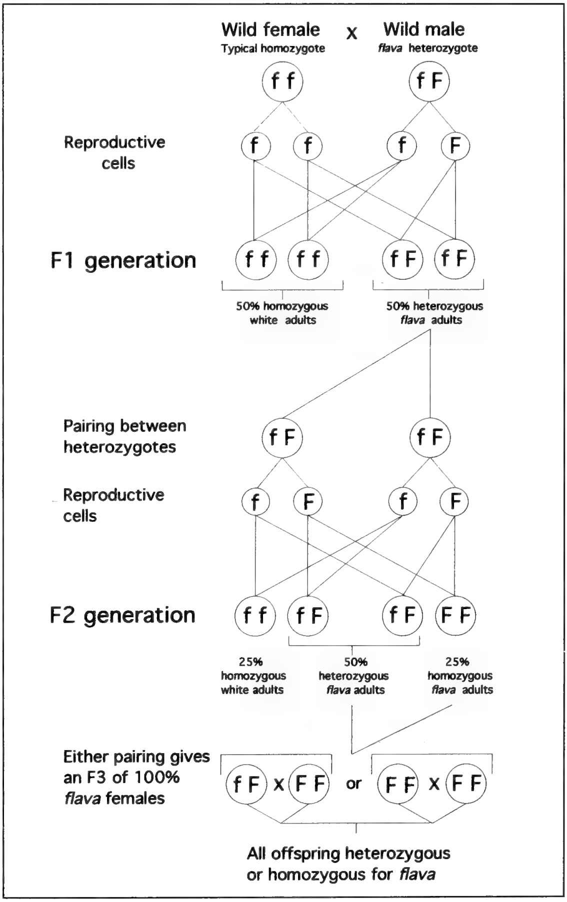

Fig. 1. Inheritance in *Pieris napi* (L.)
F = *flava* gene f = white ground colour gene

either surface and between the sexes. It does not seem to demand an explanation involving separate genetic systems between the different surfaces and sexes.

The great variability of form *flava* leads to broods in which female specimens seem to grade from those with typical white ground-colour, through varying pale shades of *flava* to strongly buff-yellow specimens. Superficially this is a pattern typical of multifactorial inheritance. However the results of these experiments actually indicate a dominant gene, the expression of which is very variable due to the action of a series of modifier genes.

The F3 and F4 generations from the Barra strain were 100% *flava* and the genetics diagram (Fig. 1) shows how that could have been achieved, assuming dominance for the *flava* gene. It also assumes that the original female was type and the male carried the *flava* gene, although the reverse situation would give the same results.

If *flava* is controlled by a multifactorial complex it is very unlikely that a pure strain could have been established so quickly. To demonstrate why, we need look no further than the results for *fasciata*, in which typical specimens continued to appear in the final, F6 generation, of the Orkney strain. Further evidence for *flava* being dominant comes from the cross of typical white Barra females with typical Sussex males, which gave rise to specimens of *flava* in the F1. Form *flava* is unknown in Southern England so at least one of the apparently typical Barra females must have carried the *flava* gene and its immediate appearance in the F1 strongly suggests dominant inheritance. The fact that the *flava* carrying female appeared to be a typical white example shows that the expression of *flava* is so variable that at one extreme it is indistinguishable from the typical form.

Ecological significance of variable dark markings

Both Bowden (1979) and Majerus (1998) discuss the thermoregulatory role of dark wing scaling in allowing adult butterflies to absorb heat through the wing surface. A range of northern, or montane, species or subspecies are cited which show more profuse dark scaling than southern counterparts. Experiments with some have shown that the dark scaling allows them to heat up more rapidly – a distinct advantage in a cooler and cloudier environment. While such experiments have not been conducted with *napi* it is clear that the darkest races occur in northern climes and the female of the closely related montane species *bryoniae* is heavily melanic.

Possible ecological significance of *flava* colouration

The two most likely explanations for the increasing proportion of *flava* in Northern European *napi* are discussed below.

Thermoregulation

Bowden (1979) discusses the possibility that the ochreous/yellow pigmentation of *flava* may absorb more heat than typical white pigmentation, although this is based on work with other species, not with *napi*. The increasing proportion of *flava* as one moves north supports this idea. I have found no information on whether *flava* increases in intensity as one moves northwards in Scotland but, as mentioned earlier, Meyer-Rochow states that this is the case in Scandinavia.

Ultraviolet reflectance

Some butterflies, notably some Pieridae, have ultraviolet (UV) patterns on their wings, or a general UV fluorescence, visible to them but not to us. When photographed on black and white film using a lens filter which lets through only UV light, this hidden colour is revealed. The pattern, or fluorescence, is often gender-specific and plays a role in communication between the sexes and even between species (Silberglied, 1973). Male *napi* never carry UV patterns or fluorescence, nor do English females. However *flava* females do fluoresce under UV (Bowden, 1977). The accompanying black and white UV photograph shows *napi* from my Orkney stock (Plate C). Plate B shows the same specimens photographed under normal conditions. This photograph, albeit illustrating a small sample, shows increasing intensity of UV reflectance with increasing intensity of *flava* colouration. Figure 2 has just a very light flush of *flava* colour in the forewing 'cell' area and reflects very little UV. Figures 3 and 4 are increasingly strong expressions of *flava* and show increasingly strong UV reflectance. Even Fig 6, which is a rare form showing *flava* on the underside of the forewings (also illustrated on Plate A. Fig 4.), shows a slight reflection in this area while the typical white underside in Fig 5 does not. However Bowden found that the correlation between the intensity of *flava* coloration and the intensity of UV reflectance was not always exact in the closely related species *bryoniae*. Meyer-Rochow (1997) stated that in *napi* ssp. *adalwinda* in Finland the intensity of UV reflectance of females increases consistently as one travels north into the Arctic Circle. He says (pers. comm.) that most, but not all, of the females that reflected UV were *flava* but suggests there was a broad correlation between intensity of UV reflectance and intensity of *flava*. In light of the extreme variability of *flava* it's possible that the typical females that he found to be UV-reflective may have been genetically flava and contained just enough *flava* pigment to reflect UV. The value of the UV reflectance of *flava* would probably be that in northern regions, where low temperatures and lack of sun will often keep butterflies grounded, there is likely to be an advantage in their being as visible to each other as possible during brief spells of flight.

Supporting evidence, from its local distribution, for both thermoregulatory and ultraviolet communication roles for *flava.*

Lorimer (1983) states that Orkney *napi* from moorland, as opposed to those from low lying marshland, are often very yellow-tinted. In other words, even within a small geographical region *flava* is apparently more intensely coloured in those areas likely to experience less sunlight and lower temperatures.

Thomson (1970) says that in the wild, *flava* is more frequently seen in the first brood in Scotland than in the second, summer, brood. It is therefore commonest in the brood in which adults would experience less sunlight and lower temperatures. He adds that even within a single, wild, brood females with visible *flava* coloration tend to emerge earlier than typical white ones (therefore, at least in the case of the spring brood, *flava* would, once again, be most common when cloud cover is likely to be greater and temperatures lower).

These observations support the suggestions of both a heat-absorbing advantage of *flava* and the advantage of increased UV reflectance. Both factors would give a *flava* female some advantage over a typical white one in upland areas, in the early part of the spring brood and in the spring, as opposed to the summer brood.

Possible environmental role in the expression of *flava*

Flava seems to be a genetic dominant to type so one would expect that if *flava* females, or males carrying the gene, are frequent in the spring brood then they should be plentiful in the summer brood too. But Thomson's observations that *flava* is more abundant in the spring brood contradicts this. However, as discussed earlier, the expression of *flava* is so variable that what appear to be typical white females can actually be *flava* carriers. So the discrepancy that Thomson reports could be explained if some unknown environmental condition plays a role in controlling the expression *flava,* such that a high proportion of female *flava* carriers of the summer brood do not express the gene in their wing colour. In light of the discussion above it is possible that *flava* may be of no benefit to a butterfly in the warmer and sunnier conditions of the summer brood. It might even be deleterious through the danger of over-heating, or because the increased visibility of females may attract the time-wasting attentions of male butterflies during the short period of her life when a mated female is searching for foodplant on which to lay eggs.

Detailed breeding work, under controlled conditions, would be necessary to investage further an environmental role in the expression of *flava.*

Aknowledgements

I am grateful to Professor Meyer-Rochow for sending me a copy of his paper and for taking the trouble to answer my subsequent queries.

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Plate A

1
female transitional to ab. *fasciata*
Captured Barra, Outer Hebrides, July 1997

2
female *flava* + *fasciata*
Bred Barra, F4, July 1998

3
female *flava*
Bred Barra x Sussex F1

4
female *flava* + *fasciata*
Bred, Orkney, F3, July 2001

5
female *flava* + *fasciata*
Bred Orkney, F3, July 2001

6
female *flava* + *fasciata*
Bred Orkney, F6, August 2002

7
male *fasciata*
Bred Orkney, F6, August 2002

8
male *fasciata*
Bred Orkney, F6, September 2002

9
female *fasciata*
Bred Orkney, F6, August 2002

10
female *fasciata*
bred Orkney, F6, August 2002

Plate B

1
female, typical white ground colour
Bred Orkney, F3, July 2001

2
female, very pale *flava*
(similar to Fig. 6 on colour plate)
Bred Orkney, F4, April 2002

3
female, average intensity of *flava*
(similar to Fig. 2 on colour plate)
Bred Orkney, F1, April 2001

4
female intense *flava*
(similar to Fig. 5 on colour plate)
bred Orkney, F3, July 2001

5
female, typical white ground colour
Bred Orkney, F6, August 2002

6
female showing *flava* on
forewing underside (this is Fig, 4 of colour plate)
Bred Orkney, F3, July 2002

Plate C

Specimens on Plate B photographed in sunlight using an ultraviolet filter

Plate A

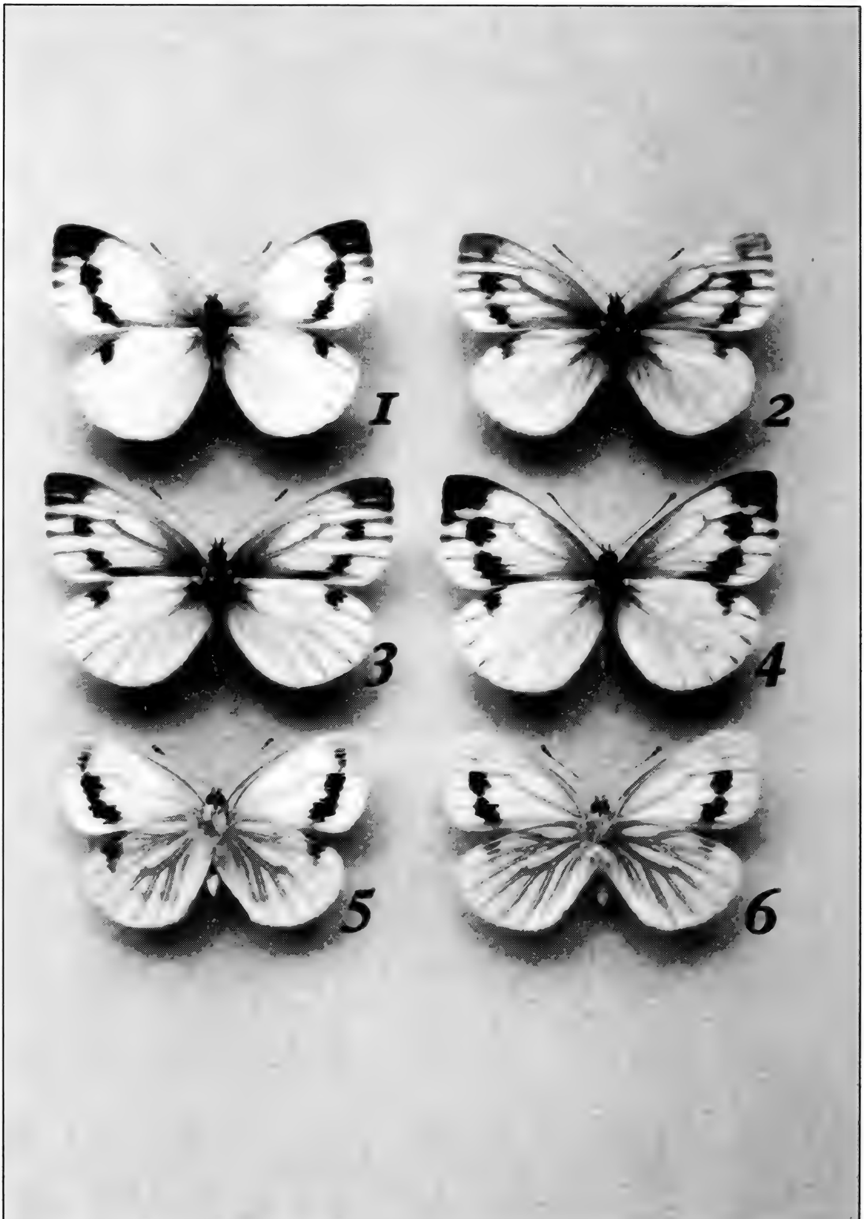

Plate B

(see page 58 for captions)

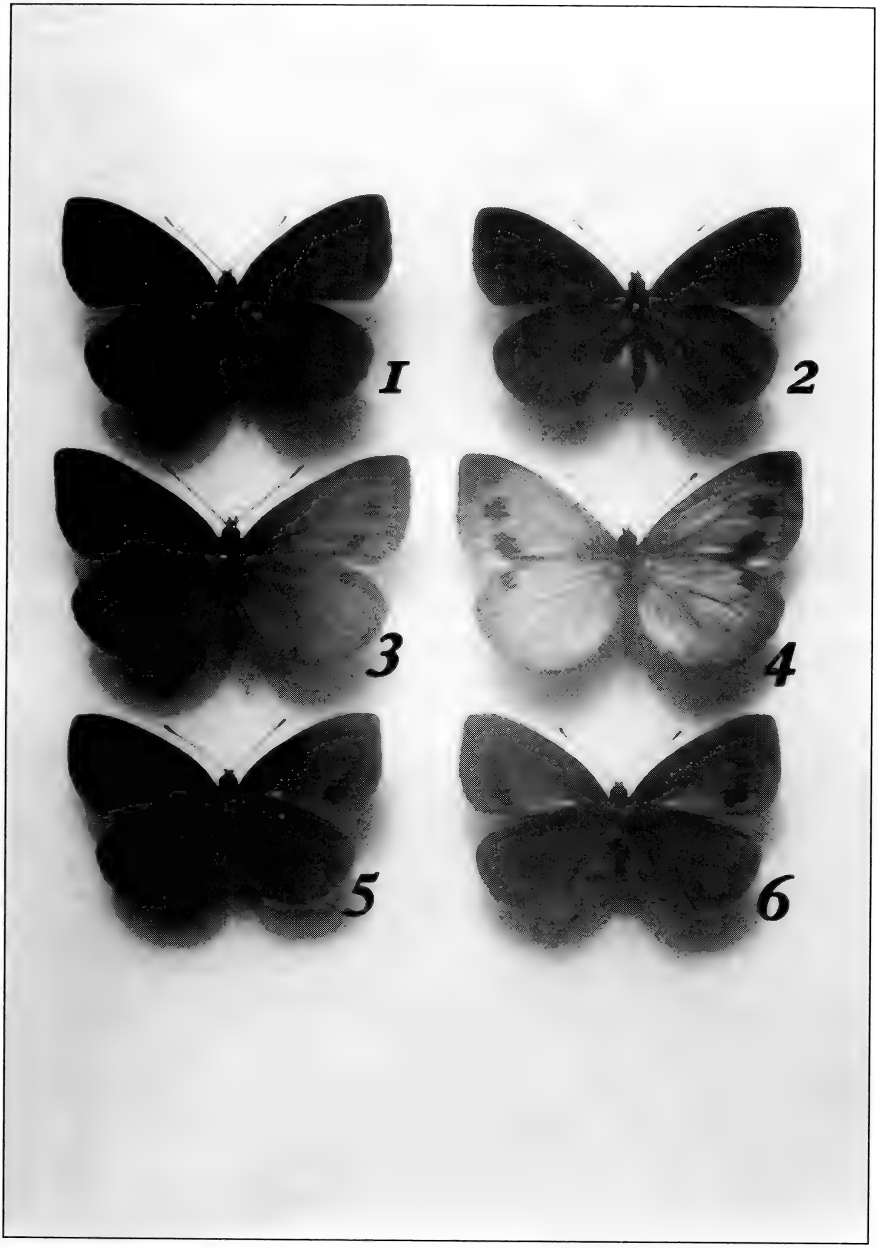

Plate C

(see page 58 for captions)

Unusual persistence of an aberrant *Mellicta* species – probably *M. parthenoides* (Meadow Fritillary) (Lep.: Nymphalidae)

We have lived in south-west France for over twenty-two years, but it was only in 1998 that we moved into our present house in the small hamlet of Graddé, nestling in a valley adjacent to the Grésigne Forest in the Départment du Tarn. Most of the undulating hills are vine covered, and our next-door neighbour owns most of the surrounding land. Permission to wander about his fields has been readily given.

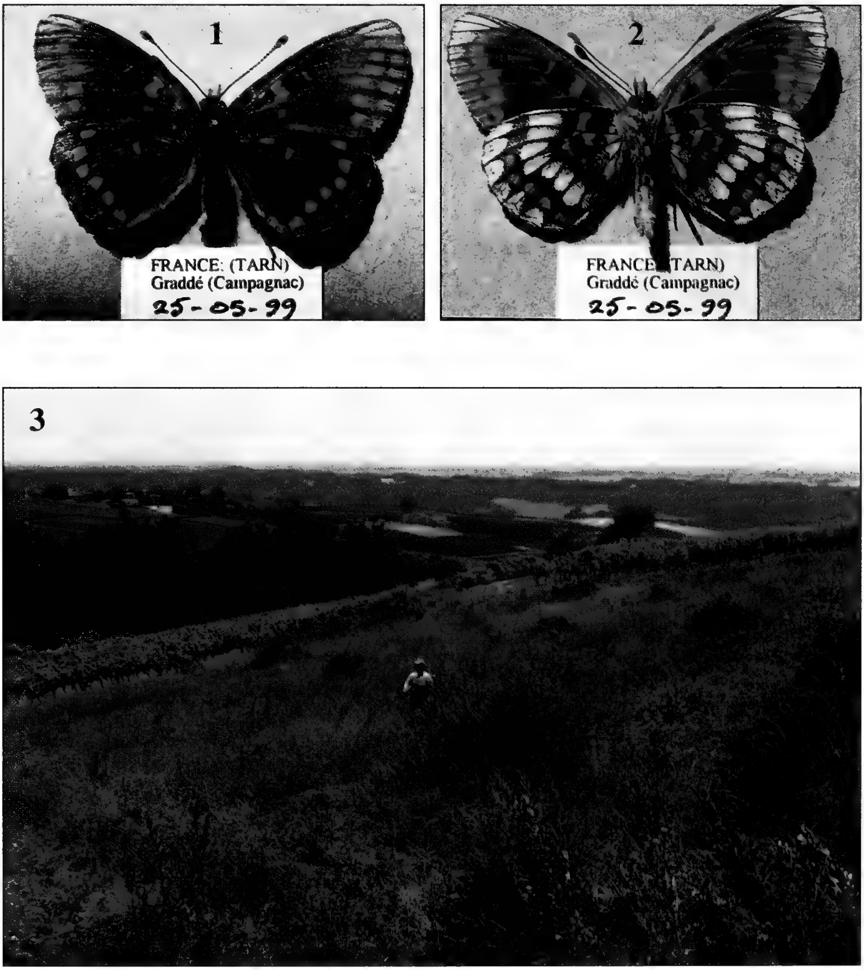

Plate D. An unusally persistent aberration of a *Mellicta* species.

1. upperside; 2. underside; 3. habitat at the site where the butterflies are found.

During the summer of 1998 my wife and I found ourselves at the extreme limit of his vines, a piece of unused ground bordering the garrigue and within a few hundred metres of the mature sessile oak *Quercus petraea* of the Forest. There were Large Blues *Maculinea arion* in this corner – we therefore returned at an earlier date in 1999 to see what other delights awaited discovery. Amongst others on 25 May 199 were Marsh fritillary *Eurodryas aurinia*, Heath fritillary *Mellicta athalia*, Meadow fritillary *M. parthenoides*, Violet fritillary *Clossiana dia*, Osiris Blue *Cupido osiris* and Green Underside Blue *Glaucopsyche alexis* allin plentiful quantities. Suddenly an unknown butterfly flew in and out of the vegetation – Brambles *Rubus fruticosus* and *R. caesius*, Marjoram *Origanum vulgare*, Bindweed *Convolvulus arvensis*, Creeping Cinqfoil *Potentilla reptans* and others. It was a dark orange-brown butterfly with orange patches showing in the sunlight. Thoughts immediately turned to a Piedmont Ringlet *Erebia meolans* – a rare visitor seen on a couple of occasions. However a bright white, flash from the underside, meant it was not this species. A chase ensued and, after the spectacle of a portly, balding, aged Englishman leaping in and out of the Brambles, which must have confirmed the opinion of the local inhabitants as to 'Les Anglais fous' it was finally captured. Since we were unable to recognise the species it was photographed (Plate D) and the photos forwarded via Colin Plant to Dr. Christopher Luckens in Southampton. Dr Luckens responded that "the butterfly is clearly a *Mellicta* – either *athalia* or *parthenoides*. As the date given is 25 May I am inclined towards *parthenoides* as this is double-brooded in the Tarn and also the impression that the butterfly is slightly smaller than *athalia*. If it is *athalia* it would conform to var. *cymothoe* Bertolini".

In October 1999, the tractors moved in, the area of vine-covered fields was increased by this site and the wild habitat disappeared. That was that, or so we thought. However, within 800 metres of this destroyed site, the ground rises slowly and large fallow areas are the predominant features. One south-facing gently sloping field of about 400 x 400 metres has two sides ending at the forest edge and a third ending with a small lane. Apart from one or two crops of Lucerne, grown to feed the local cattle, the field has been left alone, the limestone soil being extremely rocky. This area is quite closely matched, in terms of habitat, with our first fritillary site. In mid May 2002 we were strolling about in this area in a temperature of 28°C, when another example of the aberrant fritillary suddenly appeared. Although not as extreme as before, the markings were the same and it was clear that this aberration had persisted. The following years 2003 and 2004, more fritillaries with greater or lesser variations on the identical theme were encountered. The total numbers of these oddities is only one or two per year, but they only appear within a three-week period in May.

An enquiry has been made as to the workings of this field; and we have been assured that no chemicals have been used – the proximity of the AOC vineyards would prohibit this. It is strange that after extensive exploration of the area (fortunately we are now retired, and therefore have the time) we have found no other areas where this aberrant form occurs.— MICHAEL MARNEY, Graddé, 81140 Campagnac, FRANCE (E-mail: marney.michael@wanadoo.fr).

Bombus lucorum (L.) (Hym.: Apidae) active in Hertfordshire in mid-winter

In the late morning of 26 December 2004 near Bricket Wood in Hertfordshire (VC 20), I was surprised to encounter a queen *Bombus lucorum* in flight. She did not remain active for long, entering a hole in a grassy bank while I watched, but had evidently generated sufficient heat to take flight. Although the wind was light and sunshine brilliant and unbroken, it was a cold morning: at a similar elevation (approximately 75 metres asl) two kilometres further west, the air temperature during the preceding night had fallen to -3.5°C and was to rise to only +2.6°C in the afternoon; several preceding days and nights had been rather milder.

George Else (2002, *Ent. Rec.* **114**: 54) describes a number of winter observations of bumble bees, mostly this species or *B. terrestris*, but mentions that the records are mainly restricted to southern coastal counties. He also states that such records sometimes result from disturbance of the hibernation site, which cannot be ruled out in the present case.— C. M. EVERETT, The Lodge, Kytes Drive, Watford, Herts WD25 9NZ (E-mail: cm.everett@ntlworld.com).

Abraxas grossulariata (L.) (Lep.: Geometridae) feeding on leaves of _Sedum spectabile_

While visiting relations in Walsall, in the West Midlands, during May 2003, I noticed feeding damage to the leaves of a plant of *Sedum spectabile* in their garden. On closer inspection I was surprised to find that the damage was being caused by several larvae of the Magpie Moth, *Abraxas grossulariata*. As far as I am aware this plant is not mentioned as a larval pabulum in the British literature.

When I lived in the West Midlands in the 1960s we had magpie moth caterpillars on blackcurrant bushes in the garden every year, but I have never seen any on my unsprayed bushes in Kent during 20 years of observations.— MICHAEL EASTERBROOK, 26 Orchard Grove, Ditton, Kent.

The American Painted Lady _Cynthia virginiensis_ (Drury) (Lep.: Nymphalidae) at Totland, Isle of Wight, in 2004

On a warm sunny day on 6 August 2004, I noticed a large, dark orange-brown butterfly flying in my garden and adjoining properties. I watched its soaring and gliding flight for several minutes and thought that it was possibly an American Painted Lady *Cynthia virginiensis*. It soon settled on my hedge, on an ivy leaf, when my suspicions were confirmed. This is the second time that I have been acquainted with this butterfly. On 19 August 1956 I captured one, a female, in my garden at Freshwater, Isle of Wight, which is now the most prized butterfly in my collection. Coincidentally, it was the wettest August since 1956 and both years experienced bouts of south-westerly winds.— SAM KNILL-JONES, 1 Moorside, Moons Hill, Totland, Isle of Wight P039 OHU.

THE COUNTY MOTH RECORDING NETWORK IN THE 21st CENTURY: THE RESULTS OF THE NATIONAL MACRO-MOTH RECORDING SCHEME CONSULTATION QUESTIONNAIRE FOR COUNTY RECORDERS

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Abstract

As part of the National Macro-moth Recording Scheme planning project, a consultation questionnaire was sent to all county moth recorders in Britain during 2004. Over two-thirds of county moth recorders responded and the findings are reported here. The results provide an insight into the current status of the county moth recorder network, three decades after its inception.

Introduction

Interest in moths has grown considerably since the publication of Bernard Skinner's landmark *Colour Identification Guide to Moths of the British Isles* (Skinner, 1984). For the first time this work presented all the British macro-moths in a single volume, clearly and comprehensively illustrated with photographs. This served to make the group far more accessible to a wider range of naturalists.

The growth of interest in moths is reflected in the number of moth groups that have sprung up around the country, the variety of organised moth recording events taking place each year, increased coverage of the subject in journals, natural history magazines and websites, an ever-growing number of traders supplying moth-traps and related equipment, and the evolution of National Moth Night (Goodey, Hill and Tunmore, 1999). More significantly, the number of moth records being generated each year has also increased (Fox, Spalding, Tunmore and Parsons in press). Yet, despite the current levels of interest in macro-moths, at the present time there is no comprehensive, nationally co-ordinated recording scheme for all the macro-moths.

Up until his retirement in 1982 John Heath ran a national recording scheme for Lepidoptera at the Biological Records Centre, Monks Wood. Data from this were used as the basis of the distribution maps published in *The Moths and Butterflies of Great Britain and Ireland* (Harley Books, ongoing). The national recording scheme was also the starting point for a formal network of county moth recorders, each responsible for collating and verifying records from naturalists in their area. The network outlived the recording scheme and continues to this day. In the absence of a national recording scheme for all macro-moths, county moth recorders have focussed on local recording for county lists and atlases. Many have also contributed to the National Recording Network for the Rarer British Macro-moths, set up by Paul Waring in 1991, and now run as The National Scarce Moth Recording Scheme by Butterfly Conservation (with the support of the Joint Nature Conservation Committee).

In 2004 a twelve-month consultation and planning project for a proposed National Macro-moth Recording Scheme (NMRS) began, led by Butterfly Conservation and supported by the British Entomological and Natural History Society, English Nature, the Biological Records Centre, Joint Nature Conservation Committee, Rothamsted Research and representatives of the volunteer moth recording community. The Heritage Lottery Fund provided much of the funding for the planning project, with additional funds donated by some of the partners as well as the Biodiversity Challenge Group and the Royal Society for the Protection of Birds. Adrian Spalding and Mark Tunmore, working under the umbrella of Spalding Associates (Environmental) Ltd., were employed as the project consultants, working with Butterfly Conservation staff and under the guidance of a project steering group. Their findings are reported in detail in Spalding and Tunmore (2004).

The aim of the consultation and planning project was to engage with moth recorders, societies and moth groups, as well as nature conservation and biological recording organisations, in order to formulate opinion about what type of recording scheme was needed, how it might operate and who should run it. A broad overview of the consultation exercise and some of the key findings is given by Fox, Spalding, Tunmore and Parsons (in press), whilst the results of a questionnaire made available to moth recorders are detailed in Spalding, Tunmore, Parsons and Fox (2005). The purpose of this paper is to report on the results of a consultation questionnaire that was sent out to all county moth recorders as part of the NMRS planning project. The results provide a unique insight into the county moth recorder network, three decades after its inception.

The County Recorder Questionnaire

Whilst there is no national recording scheme, at the local level there is a high degree of organisation and expertise provided by the current network of around 60 county moth recorders, who process, verify and often publish data from their region. The role of the county moth recorders is voluntary, skilled and time-consuming, particularly in counties with many moth recorders, where the number of records submitted each year can add up to tens of thousands. In some cases the county recorder is closely associated with a county moth group, and may be assisted by other people with such roles as data processing or record verification.

With their local expertise, experience and familiarity to moth recorders in each county, county recorders must form an integral part of a national recording scheme. Therefore it was essential that opinion was sought from this key group of people as part of the NMRS consultation phase. Many county recorders attended the NMRS conferences held in England, Scotland and Wales during December 2003 and January 2004, where they were given the opportunity to comment and raise any specific concerns, both to the consultants and the wider audience. Inevitably though, time was limited at such events and not all county moth recorders were able to attend, so a detailed questionnaire was produced and circulated to all county moth recorders in March 2004, in order to more fully canvas opinion.

Completed questionnaires were received from 42 of the 61 county moth recorders, an impressive 68% response rate (see Appendix 1). Though replies were not received from Glamorgan (VC41) and Cheshire (VC58), comments were received from the Glamorgan Moth Group at the Welsh conference and from the Cheshire county macro-moth recorder in a private meeting. Both indicated broad support for the scheme. Responses were not received from a high percentage of Scottish vice-counties, but as most "county" moth recorders in Scotland are responsible for several different vice-counties, this is perhaps not as significant as it might otherwise appear.

The questions posed by the consultation questionnaire and summaries of the responses are detailed below. For the purposes of this paper, summarised information has been used, based upon the authors' interpretation of the (often detailed) comments received and we apologise for any misrepresentation of the original views that may have occurred as a result.

Do you support the principle of a National Macro-moth Recording Scheme?

This question produced a 100% response in favour of the scheme.

Would you be willing to provide data to such a scheme?

Forty-one people answered "yes" to this question, though some with conditions. Only one person said "no".

Conditions listed by some county recorders:

— Data should not be used as a means of raising funds for institutions/individuals.
— Scheme must not take precedence over the county recording system.
— Data must not be entered into the national scheme without prior verification by the county recorder.
— The agreement of the recorders whose data is being submitted is required.
— Subject to agreement by Local Records Centre.
— Financial assistance required.
— Subject to a clear statement on data confidentiality.
— Conditions must not be applied that are unacceptable to individual recorders.
— It must be easy and not time-consuming to submit data to the scheme.

Approximately how many recorders regularly send you records?

Table 1. Number of regular record providers by county.

Vice county	No.	Vice county	No.
South Devon & North Devon	12–20	Hertfordshire & Middlesex	100
South Somerset & North Somerset	55	Oxfordshire	20
North Wiltshire & South Wiltshire	10–15	Buckinghamshire	20
Dorset	40	East Suffolk & West Suffolk	30
South Hampshire & North Hampshire	100	Bedfordshire	20–25
West Sussex & East Sussex	15	Huntingdonshire	10
East Kent & West Kent	80–90	Northamptonshire	20–30
Surrey	10–15	East Gloucestershire & West Gloucestershire	18
South Essex & North Essex	130		

Vice county	No.
Monmouthshire	20
Warwickshire	25
Staffordshire	15
Shropshire	<10
Breconshire	10
Carmarthenshire	3
Pembrokeshire	5
Cardiganshire	1
Merionethshire	6
Caernarvonshire	10
Denbighshire	10
Leicestershire (with Rutland)	50
Nottinghamshire	56
South Lancashire & West Lancashire	55
South-east Yorkshire, North-east Yorkshire, South-west Yorkshire, Mid-west Yorkshire, North-west Yorkshire	30–40
South Northumberland & North Northumberland	12
Isle of Man	12
Kincardineshire, South Aberdeenshire, North Aberdeenshire	10
Banffshire	2
Moray, East Inverness-shire, West Inverness-shire	10
Orkney Islands	16–20
Shetland Islands	10

How do you store your records?

Note that because many county recorders use several different methods to store data, the percentages given add up to more than 100%.

Table 2. Percentage of county recorders using various methods of data storage, based upon combined data from respondents.

Method	Number	Percentage
Paper	16	(38%)
Card Index	9	(21%)
Computer	41	(97%)

The many different computer software packages in use are summarised in Table 3 (once again as one county recorder was using more than one package percentages will not add up to 100%):

Table 3. Percentage of county recorders using various computer packages, based upon combined data from respondents.

Software package	No.	Percentage	Software package	No.	Percentage
Access	3	7	MapMate	20	49
Clarion	1	2	Paradox	1	2
D-base	1	2	Recorder 3	4	10
Delta 5	1	2	SQL	1	2
Excel	5	12	Word	2	5
Lotus Approach	2	5			

Approximately how many records are you storing and over how many years?

The number of records stored varies from 3,000 in Moray and Caithness to 500,000 in Hampshire (Table 4). Most of the counties with low numbers of records occur in Scotland. Some county recorders have records going back over 100 years (e.g. 150

years for Somerset, 120 years for Huntingdonshire and 100 years for Merionethshire and Yorkshire).

Table 4. Stored records and recording period by county.

County	No. of moth records (macros & micros)	Period in years (where known)
Aberdeenshire	150,000	30
Breconshire	15,000	80
Buckinghamshire	250,000	40
Caithness	3,000	2
Cardiganshire	15,000	—
Carmarthenshire	52,000	30
Caernarvonshire	30,00	6
Denbighshire	7,000	30
Devon	200,000	40
Dorset	330,000	—
Essex	70,000	14
Gloucestershire	44,000	—
Hampshire	500,000	—
Hertfordshire & Middlesex	74,905	—
Huntingdonshire	110,000	120
Isle of Man	24,000	18
Kent	140,000	—
Lancashire	350,000	—
Leicestershire	125,000	30
Merionethshire	35,000	100
Monmouthshire	30,000	50
Moray	3,000	5
Northumberland	10,000	8
Orkney	9,500	10
Oxfordshire	10,000	—
Pembrokeshire	100,000	100
Shetland	10,000	—
Shropshire	6,000	1
Somerset	290,000	150
Staffordshire	40,000	100
Suffolk	180,000	100
Surrey	120,000	—

As can be seen from Figure 1, there is no strong relationship between the number of records (macros and micros) for a county and the number of years represented by the data set.

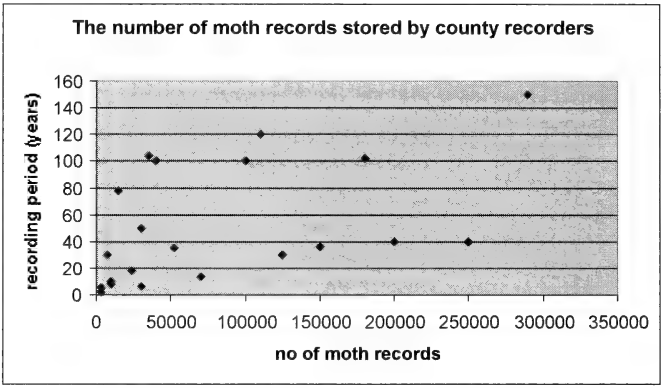

Figure 1. The number of moth records stored by county recorders related to the number of years for which records are available.

Do you have a backlog of data to process?

One person did not feel able to answer this question as he had just taken over in the role of county recorder. Out of the remaining 41 respondents, 18 (43%) stated that they did not have a backlog. Of the remaining 57% the scale of the backlog varied between six months and 15 years of more recent records. Historical data were often quoted as a source of backlog, but such data often present problems with verification where specimens are not available. Several recorders made the point that records are never completely up to date as new sources of historic data frequently occur.

In what format are records sent to you?

This question asked county recorders to provide a percentage for each form in which records are received. Unfortunately few respondents answered all parts of this question correctly, and with hindsight the question may have been worded ambiguously. Nevertheless it is interesting to note that out of 20 county recorders who submitted full answers, an average of 67% of records were received in paper format.

Do you have any assistance with data handling?

Out of the 42 respondents, 33 (79%) stated that they did not have any assistance, whilst the remaining 21% stated that they had some assistance with data inputting. Several people made the point that recorders who submit their records via the MapMate synchronization process are in effect providing assistance by reducing the amount of data inputting required by the county recorder.

Do you consider the number of records you receive each year to be increasing, decreasing or stable?

Four respondents (10%) did not feel able to answer this question, nine (21%) felt that the situation was stable, 28 (67%) felt that the number of records was increasing, whilst one county recorder (2%) felt that submitted records were decreasing in their area.

How do you verify your records?

As some county recorders used several of the following methods of verification the percentages shown in Table 5 add up to more than 100%. Four recorders did not answer this question.

Table 5. Record verification methods by percentage, based upon combined data from respondents.

Method of verification	No.	Percentage
Verification panel	7	18
Specimen and/or photo	33	87
Outside experts	1	3
Local knowledge	1	3
No validation	2	5

The level of verification reported is reassuring. Indeed many county recorders regard verification as one of their most important responsibilities. Essex, Somerset, Northamptonshire, Leicestershire & Rutland, Lancashire and Northumberland all use verification panels (and Cheshire is also known to do so), whilst Yorkshire is planning to reinstate its verification panel. Several respondents made the point that a lot of data inherited prior to their taking on the role is riddled with questionable records.

Whilst only one person quoted local knowledge as the single source of verification, several other county recorders made the point that this was an important part of verification. Only two counties reported that there was no system of verification in use.

Do you feel able to handle any increase in submitted records that may result from a national scheme?

Three county recorders failed to answer this question, whilst out of the remaining 39 respondents 35 (90%) answered "yes", 3 (8%) answered "no" and 1 (2%) answered "possibly". Out of those who answered "yes", several made the point that it would depend upon the scale of increase and that above a certain level greater emphasis upon electronic data submission would be needed. Some county recorders felt that a new scheme was unlikely to lead to an increase in records, whilst one recorder stated that financial assistance would be necessary.

What would help you in your role as county recorder?

Out of the 42 respondents 14 (33%) indicated that they did not need any assistance, three (7%) did not answer the question and 25 (60%) said that they would need some support. Twelve of these county recorders wanted assistance with data input, 11 help with handling record verification and five stated that computer training would be useful. Respondents were also given the opportunity to specify any other areas of assistance they might require, these being as follows:

— Grants for IT improvements.

— Financial assistance with time taken to submit data.

— List of critical species by region.

— Encourage recorders to submit data electronically.
— Publicising where to send data.
— Transferring role to someone who lives in the vice county.
— Help with transporting data efficiently.
— Developing software tools to simplify record transfer.
— Development of user-friendly spreadsheets.
— Advice on software.
— MapMate training days.
— More moth recorders.
— Provision of national macro-moth lists i.e. separate lists for England, Scotland and Wales.
— Compatibility between MapMate and Recorder software systems so that data can be exported between the two.
— Training on techniques for genitalic examination.

One county recorder stated that he was not prepared to use computers.

Yearly expenses incurred by county moth recorders

The average total annual expenses for the 21 respondents who gave figures is £65. Many respondents commented that they could not accurately provide figures, whilst one felt that the role of county recorder was a voluntary one and that such expenses are part of the job.

How would you prefer to submit data to a national scheme?

Forty county recorders completed this question, and the following preferences were expressed (Table 6). As some recorders expressed more than one preference the percentages add up to more than 100%.

Table 6. Preferred methods of data submission to the NMRS, based upon combined data from respondents.

Format	No.	Percentage
Website	5	13
MapMate	16	40
Paper	5	13
Database (unspecified)	5	13
Excel	7	18
Value separated text file	2	5
Recorder	1	3
Microsoft Word	1	3
Any means	1	3
Via local records centre	2	5

Data exchange with other organisations

There were 40 responses to this question. The sources in Table 7 were identified as ones to which the county recorder submits data. Many respondents gave several sources so the percentages quoted add up to more than 100%.

Table 7. Sources to which data are supplied, based upon combined data from respondents.

Source	No.	Percentage
Local records centre	26	65
National Scarce Moth Recording Scheme	22	55
Wildlife trust	15	38
Natural history organisation	9	23
Museum	6	15
Countryside Council for Wales (CCW)	1	3
Not decided	1	3
No exchange	1	3

Are you working towards production of a county list?

Three county recorders did not answer this question. Out of the remaining 39 respondents 7 (18%) stated that this had already been done or was done regularly, 6 (15%) stated 'no', 26 stated 'yes' (65%).

Conclusions

Involvement of the county moth recorders will be a key part of a national recording scheme. It is therefore encouraging to see such widespread support for the scheme, with 100% of respondents expressing support. Inevitably concerns were raised about some issues, and these will need to be taken into account in constructing the framework for the NMRS. A frequently expressed concern was that all data should reach the county recorder and that they should play a key part in verification. This is also regarded as an important issue by the organisations involved in trying to construct the NMRS. Ownership, access and commercial use of data were other key areas of concern.

It is inevitable that the resulting publicity, recorder training and promotion of moth recording will result in a further increase in the number of records being submitted, adding to the trend for increasing data reported by 67% of the respondents to the questionnaire. It is therefore essential that the NMRS provides county recorders with the necessary support to help deal with this increase. The questionnaire data also shows that a wide variety of methods of data submission and storage are used at county level, and it cannot be assumed that everyone is willing or able to use computer databases. Of the 20 respondents who provided data about record submission by individual recorders, a combined 67% of records were received in paper format. It is clear that the NMRS central structure will need to be versatile in its ability to handle data supplied in different formats.

The quality of the data contained within the NMRS is going to depend upon maintaining high levels of data accuracy, and the local knowledge and expertise provided by county recorders will be an essential tool in verification. Standards are currently high with 87% of respondents using specimen/photographic methods of confirmation, and the increasing trend for validation panels is reflected in the 18% of respondents with such a system operating in their county. It is interesting to note though that 5% of respondents did not use any form of verification.

It will take time to consider all the issues raised by the consultation and planning project, and to construct a scheme that is achievable, will be acceptable to the majority of the recording community and will reconcile the few seemingly conflicting views. Another big hurdle will be to obtain the necessary substantial funding to get such an ambitious project off the ground. Further updates on progress will be made available in the entomological press and on the website www.mothrecording.org.uk.

With the increasing pressure upon our countryside, evidence of decline in many common moth species (Conrad *et al.* 2004), and the potential for changes in phenology, distribution and abundance as a result of climate change, the need for a national scheme to inform recorders, conservationists, planners and policy makers has never been greater.

Acknowledgements

Many thanks to all those county recorders who responded to the questionnaire or who took the time to make their views about the scheme known to us in other ways. Wider thanks are also due to all those individuals and organisations for their support and input into the consultation and planning phase.

We wish to acknowledge the financial support of the Heritage Lottery Fund, English Nature, the British Entomological and Natural History Society, Biodiversity Challenge and the Royal Society for the Protection of Birds, as well as help in kind from the National Biodiversity Network Networking Naturalists Project, Scottish Natural Heritage, BRISC, Warwick University, Cellcreative and many individuals, too numerous to list here. Finally, we thank all of the members of the project steering groups for their support and guidance during the planning project.

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Appendix 1. County Recorders who responded to the questionnaire

Vice-county	Name of vice-county	Name of respondent
VC1 & VC2	West Cornwall & East Cornwall	R. Howard
VC3 & VC4	South Devon & North Devon	R. F. McCormick
VC5 & VC6	South Somerset & North Somerset	P. Tennant
VC7 & VC8	North Wiltshire & South Wiltshire	J. d'Arcy
VC9	Dorset	P. Davey

VC11 & VC12	South Hampshire & North Hampshire	T. Norriss
VC13 & VC14	West Sussex & East Sussex	C. Pratt
VC15 & VC16	East Kent & West Kent	I. Ferguson
VC17	Surrey	G. Collins
VC18 & VC19	South Essex & North Essex	B. Goodey
VC20 & VC21	Hertfordshire & Middlesex	C. W. Plant
VC23	Oxfordshire	M. Townsend
VC24	Buckinghamshire	M. Albertini
VC25 & VC26	East Suffolk & West Suffolk	T. Prichard
VC30	Bedfordshire	L. Hill
VC31	Huntingdonshire	B. Dickerson
VC32	Northamptonshire	J. Ward
VC33 & VC34	East Gloucestershire & West Gloucestershire	R. Gaunt
VC35	Monmouthshire	M. Anthony
VC38	Warwickshire	D. Brown
VC39	Staffordshire	D. Elmley
VC40	Shropshire	P. Boardman
VC42	Breconshire	N. Lowe
VC44	Carmarthenshire	J. Baker
VC45	Pembrokeshire	R. Elliott
VC46	Cardiganshire	A. Fowles
VC48	Merionethshire	A. Graham
VC49	Caernarvonshire	D. Evans
VC50	Denbighshire	B. Formstone
VC55	Leicestershire (with Rutland)	A. Russell
VC56	Nottinghamshire	S. Wright
VC59 & VC60	South Lancashire & West Lancashire	C.A. Darbyshire
VC61 VC62 VC63 VC64 VC65	South-east Yorkshire North-east Yorkshire South-west Yorkshire Mid-west Yorkshire North-west Yorkshire	P. Winter
VC67 & VC68	South Northumberland & North Northumberland	N. Cook
VC71	Isle of Man	G. Craine
VC86 & VC87	Stirlingshire, West Perthshire	J. Knowler
VC91, VC92 & VC 93	Kincardineshire, South Aberdeenshire North Aberdeenshire	B. Palmer & M. Young
VC94	Banffshire	R. Leverton
VC95 VC96 & VC97, VC104–106	Moray East Inverness-shire & West Inverness-shire North Ebudes, West Ross, East Ross	D. Barbour
VC107 VC108 VC109	East Sutherland, West Sutherland Caithness	D. Williams
VC111	Orkney Islands	S. Gauld
VC112	Shetland Islands	M. Pennington

Immigrant *Ethmia quadrillella* (Goeze) (=*funerella* Fabr.) (Lep.: Ethmiidae) in Kent

On 10 August 2004 two examples of this ethmiid were recorded on the east coast of Kent at Kingsdown (N. Jarman) and Folkestone (A. Butcher). These were the first county records of the species for over forty years and coincided with a period of significant immigrant activity in the county at that time that included the first Kent records of *Cydia amplana. Ethmia quadrillella* is not a coastal species but one associated with freshwater wetland and damp woodland, and it seems apparent that these records were the result of immigration.

Other members of this genus also occur from time to time away from known populations and suitable habitats. *Ethmia bipunctella* occasionally occurs inland or from coastal localities outside its known range suggesting vagrancy or immigration, while recent coastal examples of *Ethmia dodecea* in Kent have been regarded as immigrants. It seems the ethmiids are one of the more mobile microlepidoptera genera and it is surely likely that the few British examples of *Ethmia pusiella* were arrivals from the continent.

My thanks to Nigel Jarman and Fred Butcher for details of their records, and David Agassiz for background information on *E. quadrillella* in Kent.— SEAN CLANCY, 1 Myrtle Villas, New Romney, Kent TN28 8DY.

Bedstraw Hawk-moths *Hyles gallii* (Rott.) (Lep.: Sphingidae) breeding in Shetland and feeding on *Fuchsia* in the wild

On 8 September 2003, eight year-old Ian Sandison found a Bedstraw Hawk-moth larva *Hyles gallii*, feeding on Fuchsia in his grandparents' garden at Symbister on Whalsay, Shetland. It was reported to me by his father Robert Sandison, who e-mailed photographs. They kept it for a few days, feeding it on *Fuchsia*, before releasing it back where it was found, but another larva was found in the same garden during this time. Two other larvae were also reported in Shetland in September 2003, one watched crawling across the Sumburgh airport runway, at the south end of Mainland Shetland, presumably looking for a pupation site, and another found on Fuchsia at Weisdale in central Mainland and reported in the local newspaper, The Shetland Times. There is only one other confirmed breeding record of Bedstraw Hawk-moth in Shetland: a larva found crawling across road on Fetlar on 14 August 1992 which pupated in captivity and produced an imperfect imago in April 1993. The species is a scarce migrant in Shetland. There were five adults recorded in July and August 2003 and, in the ten years previously there had been just 29 records, 22 of which were in 1998. Although it has been noted that Fuchsia will be accepted by larvae in captivity these would appear to be the first recorded instances of Bedstraw Hawk-moth using this plant in the wild.— M. G. PENNINGTON, 9 Daisy Park, Baltasound, unst, Shetland ZE2 9EA. (E-mail: mike@pennington.shetland.co.uk)

Hazards of butterfly collecting: Father Theodor Maessen, London and Florida, 1993

I had a series of long and animated telephone conversations with Father Theodor Maessen during 1993. He was the village priest in an obscure part of Germany, which I never even managed to locate on a map. This was at the beginning of my research project on the Butterflies of West Africa. The purpose of the conversations was not the religious sentiment of obscure Germans, but the butterflies of Ghana. For, during a period stretching from the early 1950s to the mid 1970s, Father Maessen had made what is possibly the most complete collection of butterflies ever made single-handedly in a West African – or any African – country. And did he do well: The following species and subspecies bear his names, and there are other new ones that do not carry his name: *Papilio maesseni* Berger, 1974 (now *P. nobicea* Suffert, 1904), *Telipna maesseni* Stempffer, 1970, *Mimacraea maesseni* Libert, 2000, *Eresina maesseni* Stempffer, 1956, *Eresina theodori* Stempffer, 1956, *Cephetola maesseni* Libert, 1999, *Iolaus parasilanus maesseni* Stempffer & Bennett, 1958, *Iolaus theodori* Stempffer, 1970, *Bicyclus maesseni* Condamin, 1971, *Celaenorrhinus proxima maesseni* Berger, 1976, *Ceratrichia maesseni* Miller, 1971, *Paracleros maesseni* Berger, 1978, and *Fresna maesseni* Miller, 1971. So many are named after him that we decided it was better to commemorate him with *Iolaus likpe* Collins & Larsen, 2004 – named after village where he spent most of his time in Ghana.

Maessen would probably have been allowed to soldier on in Ghana for the rest of his life, but he decided to go back to Europe. Though Dutch, he had to settle for a parish in Germany. His reason for going back was simple: "Our church in Ghana could manage on its own. I did not feel I could justify the expenses to the church of staying ... and I might have stood in the way of some up-and-coming Ghanaian priest." A most admirable sentiment.

He lived all his time in Ghana's Volta Region, which is biogeographically interesting, since it occupies a special niche. West of the river Volta the fauna is wholly West African, but the Volta Region on the east has several endemic species as well as contact with the Nigerian fauna. Thus, *Telipna maesseni* is endemic to the Volta Region, while *Mimacraea maesseni* is found in the Volta Region as well as in western Nigeria. Several other butterflies extend from the main central African rainforests to western Nigeria and then to the Volta Region, without crossing the Volta River – and this despite the fact the a tongue of savannah country without rainforest (the Dahomey Gap) now separates the two areas. That the Volta River can be a true biogeographical boundary is actually rather memarkable. Before it was made into a huge lake by the Akosombo Dam it was not that much of a river.

Maessen's collection of immaculately preserved specimens – mostly set while still fresh – went to the Allyn Museum in Sarasota, Florida. The bulk is from the Volta Region, but he obviously made a point of visiting colleagues in obscure corners of Ghana, and collected assiduously there as well. This unpublished cornucopia I obviously had to study in detail, so I went there on one of my first trips during the

project. My next trip – enthusiastically endorsed by Father Maessen – was to be a visit to him. I had a splendid time in Sarasota. The Maessen collection was immaculately curated and easily accessible. The curators, Jacqui and Lee Miller, looked after me in the best possible way. The raw framework of my book began receiving a lot of real data – and lots of questions for my trip to Germany to debrief with Maessen. I then went on a trip to Ghana, partly to familiarize myself with the Volta Region.

On my return I phoned Maessen to schedule my trip to Germany. The phone was answered by a lady with a strong regional accent, difficult to understand, and sounding rather out-of-sorts. It was the housekeeper. Maessen had died two days earlier. So we were never to meet and I could not tap his unrivalled field knowledge, which would really have benefited my West Africa book. Some notes he sent me, together with the telephone conversations, gave me only an inkling of the information he held in his head.

One interesting feature emerged when studying his collection in Florida. At various times, he threw his energy into certain groups. Vast numbers of *Mylothris* were collected and bred, obviously at the instigation of L. Berger. *Gorgyra* skippers were suddenly collected in bulk at the request of L. Miller. And H. Stempffer kindled a deeper interst in the Lycaenidae, leading to the breeding of *Iolaus*-species in the garden at Likpe. *Iolaus theodori* is still known only from there.

I was at Wli Falls a few years ago, a lovely waterfall near his Likpe residence, and one of his favourite spots. The water actually spills into Ghana from Togo, the frontier running along the crest of the ridge at the top of the falls (see inset photo). Butterflies still abound and the sliver of forest that borders the river below the falls is now the Agamatsu National Park. On the way back down the river I ran into two young men. "The good father used to do this", they said. They told me how he used to take his two dogs walking there – and then complained about their interference with collecting! They had been in their teens at the time and had the fondest of memories of a good man. It was with sadness I had to tell them he was dead.—
Torben B. Larsen, UNDP Vietnam, c/o Palais des Nations, 1211 Geneva 10, Switzerland (E-mail: torbenlarsen@netnam.vn).

Phyllocnistis citrella Stainton (Lep.: Gracillariidae): A record of a vacated mine imported to Great Britain, December 2004

Christmas Eve shopping in a Cheltenham supermarket in December 2004 involved some last minute purchases of fresh fruit and to this end my wife bought two string bag packs of satsumas. On returning home, everything was unpacked and tidied away and the focus shifted to other Christmas preparations. It was not until the 28 December that I looked through the remaining satsumas and noticed one which had a distinctive blemish on the skin. Closer examination showed this to be a mine, weaving across the peel, with evidence of a central line of frass.

Satsuma with vacated mine of *Phyllocnistis citrella*.

Earlier in 2004 I had read about the discovery in the Netherlands of a mine of *Phyllocnistis citrella* on a tangerine in the newsletter at www.leafmines.co.uk, January 2004). My example shared the characteristics of the Dutch fruit and I posted some photographs on the Yahoo leafminers discussion group requesting comments about the identity of the mine. Ben van As, who made the Dutch discovery, and Willem M. Ellis suggested that the mine was indeed the result of larval feeding by *Phyllocnistis citrella* and the question of identification was finally resolved by John Langmaid (per. comm.) who confirmed that the vacated mine was caused by *citrella*. Unfortunately the packaging for the fruit was thrown out before Christmas, but the supermarket subsequently indicated that the satsumas came from either Spain or Turkey.

I would like to thank Ben van As, Willem M Ellis and John Langmaid for their help in identifying the mine and Waitrose Customer Service for providing details of the source of the fruit.— ROBERT HOMAN, The Apiary, Swindon Lane, Cheltenham, Gloucestershire GL50 4PD (E-mail: theapiary@hotmail.com)

Some late broods of moths taken in 2004

On 4 December 2004, I recorded a possible third brood example of the Willow Beauty *Peribatodes rhomboidaria* (D.& S.). at light in my garden. On 6 December 2004, I caught a late second brood example of the Dark Arches *Apamea monoglypha* (Hufn.) I have taken examples of a partial second brood of *monoglypha* in October, but never as late as December. Both specimens were in immaculate condition— SAM KNILL-JONES, 1 Moorside, Moons Hill, Totland, Isle of Wight P039 OHU.

White-spotted Pinion *Cosmia diffinis* (L.) (Lep.: Noctuidae) breeding in Essex 2004

At the start of 2004, breeding populations of the White-spotted Pinion *Cosmia diffinis* (L.), a UK Biodiversity Action Plan (BAP) priority species, were only confirmed in Huntingdonshire and Cambridgeshire (Waring *et al.*, 2003. *Field guide to the moths of Great Britain & Ireland*). The adult moth was effectively rediscovered in Essex in 2002, after four years without any sightings (*British Wildlife* **14**: 285-288), but evidence of breeding has been lacking (Goodey, 2004. *The Moths of Essex*). The last Essex record had been of a single individual at Saffron Walden in 1997 (Maitland Emmet). A record from 1995, from the Aubrey Buxton Nature Reserve, Elsenham (Charles Watson), received via Brian Goodey, the County Moth Recorder, and reported in *British Wildlife* **14**: 287, has since been withdrawn. In 2002, the moth was reported from two Essex sites Chalkney Wood near Earls Colne, a single adult at light near some Wych Elm *Ulmus glabra* on 16 August 2002 (Dave Warner, Joe Firmin, Ian Rose) and Langenhoe, one individual where both English Elm *Ulmus procera* and Wych Elm are present, on 19 August (Hugh Owen, Ian Rose, Joe Firmin). These records are given in *Ent. Rec.* **115**: 213-219.

On 22 May 2003, I undertook searches for White-spotted Pinion larvae at both Chalkney Wood and Langenhoe with Joe Firmin and Phil Smith, joined by Hugh Owen at the latter. We all spent thirty minutes searching by eye at each site for signs of feeding and larvae. No larvae were seen at either site, but one empty leaf shelter with all the characteristics associated with the larval workings of this moth was found at Langenhoe. Later, in the summer of 2003, light-trapping by Hugh Owen at the Langenhoe site produced six more adults. The first was on 31 July 2003 (*Ent. Rec.* **116**: 134-137) and this was followed by the others on 2 August (two) and 7 August (three). None was found at Chalkney Wood which was light-trapped by Joe Firmin and others on 30 July and 12 August 2003, but not in 2004.

The Langenhoe site is essentially a field boundary with a small copse in the corner of a grassy field. Both the copse and the field boundary contain elms and other elms are present in the hedges of neighbouring field boundaries. Chalkney Wood is a 80 hectare tract of ancient woodland between Colchester and Halstead with part owned by Essex County Council and the remainder by the Forestry Commission. We found immature Wych Elms growing at the junction of two rides where Joe Firmin had operated the light-trap. Joe informs me that there is rumoured to be an old record of the White-spotted Pinion from the site, but the specific details are not available and may have been lost.

Determined to find larvae at Langenhoe, I visited again on 25 May 2004, accompanied by Joe Firmin, Hugh Owen, Ian Rose and Phil Smith. This time we were successful. After the five of us had been searching for larval spinnings by eye for one hour, we found one. It was occupied by a White-spotted Pinion larva 2.5 cm in length, in its black-headed penultimate instar. This appears to be the first ever found in Essex (Joe Firmin, pers. comm.). Our observations are given below in some detail, partly because relatively few spinnings have been found in recent years or described in print (see also *Ent. Rec.* **113**: 135-138 & **114**: 115-117) and because the discovery demonstrates for the first time that larvae can occur on small and rather immature elms in the absence of any tall elm trees. The accompanying photograph (Plate E), shows the exact breeding location. Hugh Owen's right hand shows the position in which the larva was found. Hugh is actually holding his hat under the larval spinning in case the larva should fall. The spinning was on a spray of foliage about 1.5 m above ground, near the edge of a copse, but not on the outer-most leaves at the drip-line. The occupied foliage was quite dense and semi-shaded. The foliage was on a lower side branch and not on epicormic growth from the trunk. The elm tree was no more than 5m tall and its trunk was no more than 25 cm in diameter at shoulder-height. Because of its immature growth form, it is difficult to be certain to which species of elm it belongs. The host tree was standing by a slightly taller Field Maple *Acer campestre*. None of the trees in this overgrown hedgerow and copse could be described as full height or mature. The tallest was less than 10m. All the elms are re-growth from older stumps of trees which have been felled. None have appreciable epicormic growth. The spinning looked very much like that shown in the Waring *et al.* (2003. *op. cit.*), except the upper-most leaf bore three large holes and not many small ones as in the illustration. The spinning consisted of three leaves. The smallest, attached to the uppermost and forming the floor of the "tent", was perforated by many holes and was instantly recognisable as marked by the work of this species. All three leaves were still fresh and green. This was the only White-spotted Pinion larva we found during our hour-long search, which had also produced a fully-grown larva of the Lunar-spotted Pinion *Cosmia pyralina* (D. & S.) and many spinnings of micro-moths. We had used a cherry-picker and a step-ladder to reach spinnings up to about 5 m from the ground. The result indicates that the spinnings of the White-spotted Pinion must be at low density. The larva produced no parasitoids and was successfully reared to adult. Joe Firmin reported the discovery in his wildlife column in the Essex County Standard newspaper of 18 June 2004. Hugh Owen recorded more adults at this site in August 2004 - singletons at light on 7 & 17 August.

During 2003 two adults of the White-spotted Pinion were also light-trapped by David Scott at Ford Farm, Brightlingsea, Essex, both on 6 August. This is the first time the species has ever been recorded on the farm, where David has operated a Robinson light-trap since 1998. However, the species could have remained undetected on the farm prior to 2003 for several reasons. Before National Moth Night on 11 August 2001, when the White-spotted Pinion was the target species, the trap was operated in a site about 100 m from elms. To search for the species on National Moth Night 2001, and subsequently, the trap has been brought to within 30 m of the elms and it captured both of the moths in 2003 in this position. However, the trap is usually only operated every three weeks or so, and could easily have missed the species until 2003. There is also a previous record of the moth from Brightlingsea: Reg Fry recorded a single adult to a light-trap operated by a small wood adjacent to the sand-pit near Moverons (TM 071188) on 1 August 1983, still has the specimen, but in 2002 reported that many of the elms at the site had been felled and the pit fenced off (*Ent. Rec.* **115**: 213-219).

Plate E. Breeding site for *Cosmia diffinis* at Langenhoe, Essex, 25 May 2004. L-R: Ian Rose, Hugh Owen, Phil Smith and Joe Firmin. Hugh Owen's right hand marks position of occupied larval spinning, the first found in Essex.

On 25 May 2004, I visited David Scott's site for the first time, accompanied by Joe Firmin and Ian Rose. We found a hedgerow containing massive elms near the trap-site. The trunk of biggest elm tree was over 1m in diameter at shoulder height and was estimated at over 20m tall. Just across the road is a block of woodland known as Gravesend Wood which contains much elm both as mature trees with epicormic growth and as undergrowth. Elm identification can be notoriously difficult. The bulk of the elm seen here appears to be English Elm, but some of the hedgerow trees have large, smooth, shiny leaves. The structure and composition of the woodland looks just like one of the Huntingdonshire sites where I have found larvae of the White-spotted Pinion in previous years, but despite searching for one hour we failed to find any on this occasion. A ladder was used to reach up to inspect foliage up to about 4m above ground. Several larvae of the Lesser-spotted Pinion *Cosmia affinis* (L.) and one or two of the Lunar-spotted Pinion were found.

David Scott operated his mains light trap on several nights on the farm from late July to mid-August in 2004. Initially he caught only numbers of Lesser-spotted Pinion and Lunar-spotted Pinion, but on 14 August he operated an actinic trap at the edge of Gravesend Wood and captured a single White-spotted Pinion. Hopefully larvae will be searched for and found in this area and at Chalkney Wood in 2005. Other Essex sites with elms will also be investigated.

The above indicates that the White-spotted Pinion appears to have maintained a foothold in Essex to date, despite the ravages of Dutch elm disease. The confirmed breeding on elm re-growth at Langenhoe, in the absence of mature trees, offers encouragement that it may survive in other areas where mature elms have been lost.

I would like to thank all the above-named for light-trapping and for helping with the larval work. The larval fieldwork and preparation of this report was undertaken with financial support from Butterfly Conservation, English Nature and Writtle College, Essex, as part of the Action for Threatened Moths Project to advance the National Biodiversity Action Plan.— PAUL WARING, Reader, Centre for Environment & Rural Affairs, Writtle College, Essex. Contact address: Windmill View, 1366 Lincoln Road, Werrington, Peterborough PE4 6 LS (E-mail: paul_waring @btinternet.com).

Anachronistic appearance of two geometrids (Lepidoptera)

Whilst trapping in Wormley Wood, Hertfordshire (part of the Broxbourne Woods complex) on the afternoon of 11 December 2004, amongst the thousands of *Erannis defoliaria* (Cl.) (Mottled Umber), *Operophtera brumata* (L.) (Winter Moth) and *O. fagata* (Scharf.) (Northern Winter Moth) caught were five *Phigalia pilosaria* (D.& S.) (Pale Brindled Beauty), and three *Agriopis leucophaearia* (D.& S.) (Spring Usher). I also recorded *A. pilosaria* at nearby Cheshunt, in the Lea Valley which separates Hertfordshire from Essex, on 18 December 2004. The generally accepted flight periods of these moths is, in most British textbooks, January/February for *A. pilosaria* and February/March for *A. leucophaearia.*

Colin Plant informs me that of the 116 records of *pilosaria* in the Hertfordshire Moth Database, the vast bulk of those that include specific dates, and which were recorded in the years up to and including 2002, fall between the first week of February and mid March, with occasional examples at the end of March. However, in 2003 and 2004 there was a smattering of January reports as follows:

> 15.1.03 – Codicote (R. Cheeseman); 18.1.03 – Thunderfield Grove (M. Cooper); 27.1.03 – Astonbury Wood (C. W. Plant); 27.1.03 – Royston (J. Chainey); 17.1.04 – Wormley (M. Cooper); "January 2004" – Ware (Liz Goodyear).

Hertfordshire records of *A. leucophaearia* in the same database number 68 – all of which fall after the start of February apart from the following:

> 21.1.98 – Elstree (P. Alston); 17.1.04 – Wormley Wood (M. Cooper); 26.1.03 – Bricketwood Common (C. M. Everett) and 27.1.03 – Astonbury Wood (C. W. Plant).

It seems that there has been a slight shift in the date of appearance of these two species in Hertfordshire in the last two years; this is evidenced at more than one site. Is this, perhaps, an indication of how climate has changed?

Maybe it is about time we renamed some moth species? Spring usher, March moth, November moth, Pale November moth, December moth, Winter moth, Northern Winter moth, July Highflyer all seem to be inappropriately named nowadays. In the opposite direction of time displacement I had a buff footman *Eilema depressa* (Esp.) during October 2004 at Thunderfield Grove, another part of the Broxbourne Woods complex.— MARK COOPER, 37 Hobbs Close, Cheshunt, Hertfordshire EN8 0EB (E-mail: badmotsco@ntlworld.com).

Xylocampa areola Esper (Lep.: Noctuidae) – The Early Grey. Unseasonable record

In May and early June of 2004, specimens of *Xylocampa areola* Esper, the Early Grey, were common at lights run in my garden on the Suffolk coast. It seemed unusual then, to find a specimen in the garden trap again on 24 November 2004. As its occurrence is described in volume 10 of *The Moths and Butterflies of Great Britain and Ireland* as only 'exceptionally recorded in December' I felt that such a sighting should go into print as either a late or a very early Early Grey. A record of *Apamea monoglypha* Hufnagel, the Dark Arches, two days earlier on 22 November 2004, is not so exceptional, but from my experience, is a little out of the usual flight period.— DAVID WILSON, Lark Rise, Dunwich Road, Blythburgh, Suffolk IP19 9LT.

First record of Large Red Damselfly *Pyrrhosoma nymphula* (Odon.: Coenagrionidae) in Shetland

On 29 June 2004, Tony and Beth Gerrard saw a red dragonfly flying over the small pond in their garden at Sandgarth, north of Voe, in the central part of Mainland, the largest island in Shetland. They only saw it briefly but discussion about its identity centred around the possibility of one of the strong-flying and migratory *Sympetrum* species. On 3 July, they managed to photograph the insect and they e-mailed the photographs to me. The photographs clearly showed a male *Pyrrhosoma nymphula.* This species breeds widely throughout the British islands, including Orkney, but it has not been recorded previously from Shetland. Within the Odonata, dragonflies are known to be strong migrants, but the damselflies are not usually thought of as migrants. The garden pond which the Shetland insect frequented had not had any plants added to it for at least two years, and it is in a remote area with no other garden ponds nearby. This would appear to rule out the possibility that the insect arrived as a larva with plants, so it must have arrived under its own steam. The only breeding dragonfly in Shetland is *Enallagma cyathigerum* (Common Blue Damselfly), another species of damselfly from the same family.— M. G. PENNINGTON, 9 Daisy Park, Baltasound, Unst, Shetland ZE2 9EA. (E-mail: mike@pennington.shetland.co.uk).

REDISCOVERY OF *EARINUS TRANSVERSUS* LYLE (HYM.: BRACONIDAE: AGATHIDINAE), A PARASITOID OF *TRICHOPTERYX POLYCOMMATA* (D.&S.) (LEP.: GEOMETRIDAE: LARENTIINAE)

MARK R. SHAW

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Abstract

Recent rearings of *Earinus transversus* Lyle (Hymenoptera: Braconidae: Agathidinae), a probably host-specific parasitoid of the threatened moth *Trichopteryx polycommata* (Lepidoptera: Geometridae), are reported from Britain. This braconid wasp should be seen as an important conservation target as it had not been recorded anywhere in the world since being described from unprovenanced (presumably British) specimens more than 100 years old.

Introduction

Earinus transversus Lyle (Hymenoptera: Braconidae: Agathidinae) was described (in text that was unfortunately split over two years of publication: Lyle 1920-1921) from two females and two males in the Dale Collection in Oxford University Museum and a pair in the Cambridge University Museum. Lyle (1921) didn't express a view but the specimens can fairly safely be presumed to be British – he comments only that they are all "old" specimens, and that only two (both from the Dale collection) bear data labels which, however, he found indecipherable except for the date "1899" on one and words he read (unconfidently) as "ex Polycommata" on the other. If he recognised this as a host name he did not say so, and it has not been widely cited as such – for example there is no entry in Thompson (1944-1958), and Nixon's (1986) revision of European Agathidinae does not include it in the collated list of hosts he gives, although in the species entry he does suggest that Lyle may have been reading the host name *Trichopteryx polycommata* (Denis & Schiffermüller) (Lepidoptera: Geometridae).

Since its original description no further specimens – either in Britain or on the European continent – have been recorded, revisionary works and keyworks (e.g. Fahringer, 1937; Telenga, 1955; Tobias, 1986; Nixon, 1986) merely referring to the original material or to earlier reiterations.

The only apparent exception to this is material determined and recorded by Morley (1936) as *E. transversus*, which relates to specimens in his collection, now in Ipswich Museum, as follows: 1♀ labelled "Bred by Mrs Holmes ex Eupithecia sp.? on Myrica gale in New Forest 1908"; and 1 ♂ labelled "Tuck Tostock 7.vi.99". [Rev J. G. Tuck was the vicar of Tostock, Suffolk, TL95 64 (D. J. Lampard, pers. comm.)]. However, I have examined these specimens and redetermined both as *Earinus gloriatorius* (Panzer). This leaves *E. transversus* completely unknown apart from the 6 specimens of Lyle's original description, which are all about 100 years old or more, despite its being a relatively easy species to recognise (e.g. Nixon, 1986).

Results

It is therefore a pleasure to put on record a series of four females and one male of *E. transversus* (now in the National Museums of Scotland) that emerged 14-20.iv.2004 (in an outdoor shed in Edinburgh; cf. Shaw, 1997) from their tough satiny white cocoons resulting from larvae of *Trichopteryx polycommata* collected by G. M. Haggett from wild *Ligustrum vulgare* at Cranwich, Norfolk on 28.v.2003 and sent to R. Leverton to be reared. Two other cocoons failed to emerge. The bulk of the larvae received by Leverton turned out to be parasitised by this solitary species but one moth was reared, confirming the identity of the larvae. In passing the resulting cocoons on to me in vii.2003, he remarked (in litt.) that the host larvae had seemed less than half grown when they entered the substrate provided to construct pupation chambers, almost as though this had happened an instar early. However, I have measured the head capsules of five of the prepupal host remains left by the parasitoid larva, and all were within 85-95 % of the width of the head capsule of a single blown final instar larva of *T. polycommata* from Wickwar, Avon, preserved in the A. Richardson collection in the National Museums of Scotland. This strongly suggests that the host was stunted rather than having been switched to precocious prepupation an instar early (as is known to be caused by some Braconidae, cf. Shaw & Huddleston, 1991 under Cheloninae).

Discussion

It appears that *E. transversus* may be genuinely host-specific (it has not been recorded from the much more frequently reared *Trichopteryx carpinata* (Borkhausen)), and the apparent scarcity of the parasitoid is probably a combination of having a genuinely restricted host and an early adult flight period rendering casual capture of the adult relatively improbable. It should be noted, however, and duly taken into account (Shaw & Hochberg, 2001), that if *E. transversus* is indeed a host-specific parasitoid then it will inevitably be rarer and more threatened than its host, and therefore conservation effort for *T. polycommata*, which is one of the Biodiversity Action Plan Priority Moth Species (UK Biodiversity Group, 1999; Parsons et al., 2000) should be directed especially towards ensuring the survival of populations of this moth that support, and can continue to support, *Earinus transversus*. The fact that *E. transversus* is known from nowhere else in the world than Britain may, in time, be reversed but, for now, it should provide an additional – perhaps even statutory – impetus for its conservation.

Acknowledgments

I am most grateful to Roy Leverton and Gerry Haggett for combining to donate the cocoons from which the *E. transversus* emerged and for circumstantial information; to David Lampard for loaning the specimens misidentified by Morley as *E. transversus* and for additional information; and to Kees van Achterberg for checking some literature resources at his disposal.

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Cotesia cleora (Nixon) (Hym.: Braconidae, Microgastrinae) and unidentifiable species of *Mesochorus* (Hym.: Ichneumonidae, Mesochorinae) reared from larva of *Apeira syringaria* (L.), the Lilac Beauty moth

On 13 May 2004, Butterfly Conservation held a training day for local members at Newmarket Stud, Suffolk. The meeting concentrated mainly on the habits of the Barred Tooth-striped moth *Trichopteryx polycommata,* a UK BAP Priority Species. We included a search for the larvae by beating Wild Privet *Ligustrum vulgare* along the Devil's Dyke by the horse-training grounds. None was found, but in the process a final instar larva of the Lilac Beauty *Apeira syringaria* was obtained from the Privet, on which it fed subsequently in captivity. However, it then produced cocoons of parasitoid wasps. A total of 23 adult wasps emerged and all had died by 12 June. Interestingly they comprised two species, seven of a black one – *Cotesia cleora* (Nixon) (Braconidae: Microgastrinae) and sixteen of a fawn-coloured hyper-parasite, an unidentifiable species of *Mesochorus* (Ichneumonidae: Mesochorinae), which lays its eggs within the larvae of the *Cotesia* feeding within the Lilac Beauty larva. I am grateful to Dr Mark Shaw of the Royal Scottish Museum, Edinburgh, for the parasitoid identifications. Mark considers *C. cleora* may be specific to the Lilac Beauty. Many species of *Mesochorus* are frequent but their taxonomy is problematic.— PAUL WARING, Reader, Centre for Environment & Rural Affairs, Writtle College, Essex. Contact address: Windmill View, 1366 Lincoln Road, Werrington, Peterborough, PE4 6 LS. (E-mail: paul_waring@btinternet.com).

Scientific versus colloquial names

The article by Barry Goater (*antea* 32-33) and my comments that followed it (*antea* 33-34), concerning the relative priorities given in articles to scientific and colloquial names has generated a colossal response and the Editor's post bag has never been so full. Around 20 letters or cards and 63 e-mails have been received, indicating that this subject evidently is of greater importance to many people than I had imagined! Many opinions are expressed rather too strongly for publication and, in any event, there are too many communications for all to be used in print. Several missed the point entirely – I do not believe that it was Goater's intention that English names should be banned, just relegated to second place. Of the 83 receipts, 10 felt that English names should not be used at all, 41 felt that scientific names ought to be given priority and 32 were in favour of English names taking the fore. A very few of the more significant contributions are included below

Meanwhile, I am interested to discover that in the recent field guide to British macro moths, authored by Waring and Townsend, there is a British macro-moth species, that does not appear to have an English name. *Callopistria latreillei* (Dup.) (Noctuidae), also has no colloquial appellation in the late John Bradley's checklist nor in Harley Books' *Moths and Butterflies of Great Britain and Ireland.* Just in case anybody wants to give it one I do, inevitably, have an English name for it, summarily created during a trip to the Tarn Region of France in October 2004 with Marcel Ashby, Rachel Terry and Martin Townsend, when many examples of this species were attracted to the lights: "The Baggy-trousered Moth" has priority. I will be interested indeed to see if anyone can tell me (informally) why that name is relevant to this species (and you will probably not be able to work it out from a dead, museum specimen). — EDITOR.

Further thoughts on the Continent cut off by fog

How refreshing to read the article by Barry Goater on the naming of British Lepidoptera. This subject has long undergone scrutiny and in spite of repeated criticism from learned authorities has stubbornly refused to settle down to a level of accepted common sense.

The debate has continued now for almost 250 years. William Curtis (1771), author of *Instructions for collecting and preserving insects, particularly moths and butterflies,* praised the binomial Latin nomenclature devised by Linnaeus but added wistfully that 'It were to be wished that our English names were in general equally expressive.' However, Adrian Hardy Haworth (1803), in his *Lepidoptera Britannica,* was not so sure that all the English names should be 'equally expressive' when he commented that 'Some of our English appellations, it is true, are highly fanciful, not to say absurd, and lead to no information.' He may well have been referring to James Petiver who, in 1695, clearly found difficulty in naming some species when he referred to one of the geometers as 'The Common Grey Garden-Moth with Brown Spots.' In 1937, P. B. M. Allan aimed another swipe at the English names of our moths and butterflies. 'The English [names] in use to-day are impossible, even though some of them are older than those bestowed by Linnaeus' – and after noting that 'The Lady of the Woods' referred, perhaps inappropriately, to the Orange-tip butterfly, he went on to ask: 'But what were "The Large Goose Egg," "The Small Old Gentlewoman" and "The Cross Barred Housewife"?' Allan went on to show that continental lepidopterists were just as culpable as their British colleagues and many of the popular names of butterflies and moths in France and Germany were equally absurd.

A few years ago I acquired the Lepidoptera collection of the late Douglas Harrison of Cambridge. I was immediately impressed by the English names that he had used. Harrison used printed labels and most species were accorded the scientific name appropriate for the time followed by two English names. The second English names given were immediately recognisable, but the first name under each species was entirely new to me. Many were seemingly ridiculous. What, for instance, was an 'Arched Dwarf,' an 'Upland Slender' or a 'Rowan Ripple'? Unless the labels were privately printed I would suggest that other collectors may have used them as well. A number of these labels are shown in Fig.1. I would be interested to know the origin of these names and whether or not the printed labels were at one time commercially available.

Fig. 1. Labels from the Douglas Harrison Collection.

Although the classics are taught in few but the independent schools today the binomial system first suggested by Linnaeus is standard throughout the world – and it is surprisingly easy for entomologists to remember the scientific names. Furthermore, the scientific names are simply internationally recognised identification tags and it is quite unnecessary to have studied classics in order to feel at home with them. The innumerable English names on the other hand – some species having been accorded more than six different titles – do little to enhance our knowledge of these insects and merely remind us that Goethe – not Goater - once wrote of the 'fog' surrounding such names that 'a name is but sound and smoke veiling heaven's splendour.'— MICHAEL SALMON, Avon Lodge, Woodgreen, New Forest, Hampshire SP6 2AU.

On the creation of English names for British insects

I will not add to Barry Goater's lament regarding exasperating vernacular names, but would point out that it seems a pity that those who feel they have the need and opportunity to name a newly discovered British moth should do a bit of homework first. The 'Minsmere Crimson Underwing' *Catocala conjuncta* has a perfectly good English name already. A look at plate 17 in W. Wood's – *Index Entomologicus*, published in 1839 refers on page 77:

Linn, names.	Engl. names	Synonyms and new genera	Habitat, and when found
443 Conjuncta	Lesser Crimson Underwing	St.3, p. 135. 6429 *Catocala*	Mr. Stephens's Cabinet; very rare

Then there is the instance of *Harpyia milhauseri* (Fabricius), now known as the 'Tawny Prominent'. R. R. Picketing (1966. *Entomologist's Gazette* 1966, **17**: 100) announced the moth as new to Britain in, but did not raise a vernacular name for it. The first use of the name 'Tawny Prominent' seems to be that published in I. R. P. Heslop's Fourth Supplement to the Revised Indexed Check-list of the British Lepidoptera, (1968. *Entomologist's Gazette* **19**: 147), part of the then on-going Check-list that remains a vast source of curious vernacular names to this day. In Edward Step's *Marvels of Insect Life* (circa 1910), an article on pages 66-69 refers to *Hoplitis milhauseri*, 'The Dragon-Moth', the name referring to the appearance of the larva.

I expect others can add many more, and a quick glance at J. D. Bradley's – Checklist of Lepidoptera (2000) shows duplicate vernacular names for a number of insects recorded over relatively recent years. Surely the publication of a new name even if an English one, is also the responsibility of an editor. Before spattering our literature with duplicate names some check should be carried out to ensure their novelty.— DAVID WILSON, Lark Rise, Dunwich Road, Blythburgh, Suffolk IP19 9LT.

The Scarce Tissue *Rheumaptera cervinalis* (Scop). (Lep.: Geometridae) in Hertfordshire

Single specimens were taken on the nights of 15/16 and 16/17 April 2004, in Geescroft Wilderness, one of the long-running woodland light-traps on Rothamsted Farm (trap No. 22, O.S. grid reference TL 132128).

This species last occurred in this trap in 2000; and indeed, has significantly declined at this site since a peak in 1979, with several gaps of years with no records. The last Hertfordshire record was in 2003, with the previous being 2001 (Colin Plant, personal communication).

As a relatively uncommon visitor to light, this species can often be over-looked, so may be more common than is realised. The fact that it has taken to feeding on cultivated species of *Berberis* means that its range is not affected by the occurrence of its natural foodplant, Barberry (*Berberis vulgaris*).— PHILIP J L GOULD, Co-ordinator, Light-trap Network, Rothamsted Insect Survey, Plant & Invertebrate Ecology Division, Rothamsted Research, Harpenden, Hertfordshire, AL5 2JQ (E-mail: phil.gould@bbsrc.ac.uk).

The Poplar Hawk moth *Laothoe populi* (L.) (Lep. Sphingidae): pink forms in north-west Kent

On 4 July 4 2000, my garden mv light attracted a female of this moth with wings, head, thorax and body a distinct pink in colour, the median band of the forewing being of a more intense shade. *Laothoe populi* is a common species still in north-west Kent and my garden light has attracted over two thousand, almost all males, over thirty-five years. Until the year 2000, I had not encountered any examples of this species that were exceptional in appearance, here or elsewhere.

This experience seems to be in contrast with historical evidence for this area. Tutt (1902. *A Natural History of the British Lepidoptera* **III**: 467), referring to the late 19th century, writes that L. W. Newman had bred at pink example from Bexley, on 5 July 1897, after the pupa had been subjected to heat treatment. He added that Newman bred regularly pink specimens from batches reared from Bexley larvae. Tutt also quotes that W. West of Greenwich had noticed that males in the Lewisham and Greenwich area of south-east London (about five miles to the west of Bexley) regularly possessed a rosy tint. Some sixty years later, Chalmers-Hunt (1962. *The Butterflies and Moths of Kent.* in Suppl. *Ent. Rec.* **74**) noted that D. F. Owen had stated that at Lewisham "decidedly pink females are not uncommon". Plant (1993. *Larger Moths of the London Area*, 111) makes no mention of pinkish forms being present in north-west Kent or the London area in general.

My experience of *L. populi* extends back to the mid-1920s for north-west Kent from Bexley to Gravesend, and widely in Kent, and elsewhere, in the post-war period. Apart from the one observed in 2000, I have not seen a specimen of *L. populi* with even the slightest tendency towards being pink. This will not be a consequence of the species being much less common in recent decades for it is still relatively common in south-east England.

Finding variation in *L. populi* minimal, it is surprising to discover it has some thirty named aberrations, including nine relating to colours such as purplish, rosy, very pink, ferruginous, foxy red, rufous, red-brown, red-yellow and flesh coloured and a frequent emphasis upon their fugitive nature. My specimen seems closest to ab. *roseotincta* Reuter, briefly described as 'Rosy tinted with the dark median fascia ferruginous) although 'ferruginous'; is hardly a satisfactory substitute for 'intensely pink'.— B. K. WEST, 36 Briar Road, Dartford, Kent DA5 2HN.

The Gold-tail moth *Euproctis similis* (Fuessly) (Lep.: Lymantriidae) variation in Kent

Barrett (1896. *The Lepidoptera of the British Islands* II. 297) commented on variation in *Euproctis similis*, noted that it was 'hardly variable but, rarely, a smoky black spot appears near the base at a short distance from the dorsal margin and one or two more near the apex or hind margin'. Thus, he was aware of ab. *trimaculata* Strand. Surprisingly, Chalmers-Hunt (1962. *The Butterflies arid Moths of Kent*) makes no reference to variation in this species. On 12 August 2000 an example of this form visited my garden mv. light This is particularly noteworthy as *E. similis* is no longer a common insect in suburban gardens of north-west Kent. Barrett (*op. cit*) considered it a most abundant species in the south and East of England while Chalmers-Hunt (*op. cit.*) described it as being 'frequent and found in all divisions [of the county]'. The brightly coloured caterpillars may well have been the first of any species I came across in the early 1920s at Bexley as a child, being common in the garden on fruit trees such as cherry, plum, apple and pear. Until the 1970s, the caterpillars remained common objects in the garden, and tumbled out in some quantity when beating for larvae from hawthorn hedges in Kent. It is at least forty years since I last encountered one of these caterpillars casually in my garden or elsewhere, and the moth comes sparingly to my garden mv light averaging less than one per year.

Another aberration to visit this light is ab. *nyctea* Grum Grshimailo, with an additional forewing black spot in the sub-basal area; one example was noted on 12 August 1966. An specimen of ab. *nigrostriata* Cockayne, a melanistic form with forewing black inter-neural streaks, also a male, was obtained in Orlestone woods, East Kent, on 24 August 1960.

It is interesting to find that two standard textbooks although purporting to illustrate normal specimens actually show uncommon aberrations. Edward Newman (1874. *An Illustrated Natural History of British Moths*) shows one specimen, a male, which is of the comparatively rare ab. *trimaculata*; I have not found it depicted elsewhere. Heath *at al* (1979. *The Motha and Butterflies of Great Britain and Ireland* **9**) illustrate both sexes, that of the female possessing a pronounced tornal black spot, which is normally confined to the male. Thus it illustrates the female ab. *punctellata* Lempke.

In lighter vein I must recount that while referring to the various standard textbooks I noticed that the current one by Bernard Skinner referred to *E. similis* by a different vernacular name to that used by me in the title of this note. Why had he not used the familiar 'Gold-tail'? To my astonishment, South (1939. The Moths of the British Isles) also used the name 'yellow-tail', as does Edward Newman (1874. *An Illustrated Natural History of British Moths*). An exception is L. W. Newman and Leeds' book of 1913, which gives both names, with 'yellow-tail' the more prominent.

So, why had I used 'Gold-tail'? Further investigation showed me to be in-very good company – two eminent lepidopterists, Michael Chalmers-Hunt and Barry Goater evidently preferred 'Gold-tail', using it in their local works for Kent and Hampshire respectively. I presume the reason is that some other books on British moths current in the inter-war years used the more appropriate name 'Gold-tail'. — B. K. West, 36 Briar Road, Dartford, Kent DA5 2HN.

***Hylaea fasciaria* L., ab. *prasinaria* D. & S. (Lep.: Geometridae): the Barred Red**

This being my first year running a trap in the garden of my new home in Suffolk, it is going to take a while to become accustomed to relevant frequency and scarcity of different species arriving at light. While getting used to the 'norm' of what I may expect to see in the area a few records have struck me as interesting in any context. One such has been the records of *Hylaea fasciana* L., the Barred Red, and the green aberration, *prasinaria* D.& S. coming to light. I have taken specimens of this ab. in the 1970s and 1980s in the Orlestone Forest, at Hamstreet in Kent, where it was regarded as a regular but scarce insect, and managed to breed it then. I have no recollection of the proportion of type to ab. *prasinaria* taken at light then at Hamstreet, but it was always a pleasant surprise to see.

Here in Suffolk in my first year I have seen just five *H. fasciaria*, but two were of the *prasinaria* form. This is a much higher proportion than I have encountered before. I am aware that this is too small a sample to use as a true guide as to the status of the green form here, but it will be interesting to see what happens in 2005. — David Wilson, Lark Rise, Dunwich Road, Blythburgh, Suffolk IP19 9LT.

SUBSCRIBER NOTICE

The Great Fen Project – an appeal for records

Many readers in the Anglia television region will be aware of the Great Fen Project because of the publicity given to it in the local news programmes, for those who are not familiar with the project I quote the following from the first newsletter published in March 2004. "The Great Fen Project is an ambitious long-term restoration project designed to safeguard important wildlife habitats and species by restoring over 3000 hectares of wetland in the fen landscape of Huntingdonshire. In doing so it will create major access and tourism opportunities as well as facilitate wider economic activities in and around the project area".

The area designated for this project is the land between Woodwalton Fen and Holme Fen. It will also extend westward to the Great Northern railway line, to the north and east to the site of the former Whittlesey Mere and south towards the village of Woodwalton. Woodwalton Fen and Holme Fen are National Nature Reserves of great importance and Sites of Special Scientific Interest. Woodwalton Fen is also a Ramsar Site. One area of land between the two National Nature Reserves has already been purchased and the purchase of a further 60 hectares on the southern edge of Holme Fen will be completed in March. The 83 hectares of Darlow's Farm, which is to the north of Woodwalton Fen was purchased in 2003 and restoration work to return it to wet grassland started in the autumn of 2004.

Apart from the benefits the area will have for local tourism and employment it will be of immense value to wildlife. Areas of shallow water with reed beds are planned along with wet grasslands and carr. Eventually osier beds will develop along with areas of scrub and woodland. The project is not only aiming to provide increased habitats for birds and other vertebrates, but to increase the habitats available for all types of invertebrates. During the last 400 years 97% of wetlands have been lost from the fens making many, once common, invertebrates rare with some becoming extinct. The remaining areas of wetlands are in danger of drying out, so the large increase in habitat that the Great Fen Project will produce will eventually help to redress the balance and it is hoped that in the future populations of now rare and uncommon species will grow.

My involvement with this project, along with members of the Huntingdonshire Moth and Butterfly Group, is to record the lepidoptera that are currently on these fens. This will give future recorders a reference from which to work, as the various species populate the 'new' areas of fen. I am also trying to locate 'old' records of Lepidoptera, so that a complete list of moths known to have occurred on Woodwalton and Holme Fens can be prepared. Many moth trappers have visited Woodwalton and Holme Fens and many of their records are in the reserves file. However, we do know that the records held in the files are not complete. There are notes referring to moth trapping taking place on the fens that are not supported with any records. If anyone knows of or has any records from Woodwalton and/or Holme Fen I would be most grateful if they could send me a copy either by post or e-mail. All records are stored in MapMate and full acknowledgement is given to the recorders. Please give as many details as possible, including dates, equipment used and where the moth trapping took place; compartment numbers or grid references would be preferred, but a rough idea of where the trap was placed is acceptable.

Further details about the Great Fen Project can be found on the projects web site at www.greatfen.org.uk.— BARRY DICKERSON, 27 Andrew Road, Eynesbury, St Neots, Cambridgeshire PE19 2QE (E-mail: barry@eynesbury27.freeserve.co.uk).

Continued from back cover

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DIALECTICA SCALARIELLA (ZELLER, 1850) (LEP.: GRACILLARIIDAE) NEW TO THE BRITISH ISLES

DAVID J.L. AGASSIZ

The Natural History Museum, Cromwell Road, London SW7 5BD.

Abstract

Dialectica scalariella (Zell.) is added to the British list of the strength of a specimen taken in Kent in September 2004, details of life history and distribution are given.

Introduction

At a local microlepidoptera workshop on 8 January, Francis Solly produced an unidentified dead moth in a small tube which he had taken last September. When I saw this it was immediately recognised as a species near *Acrocercops*; reference to Parenti (2000) showed it to be *Dialectica scalariella* (Zeller, 1850). The specimen was relaxed, pinned and set (although the cilia could not be spread) and the identification confirmed.

The species is a typical gracillariid, having long narrow wings and the antennae longer than the forewings, its wingspan is 8-11mm. The head is white. The costal half of the forewing is dark brown with some markings near the apex, and the dorsal half white, the clear dividing line becoming undulating in the outer half of the wing. There is a fine photograph of the species in Parenti (2000) and a line drawing in Medvedev (1990) who also illustrated male and female genitalia.

Biology

The species feeds on vipers bugloss *Echium vulgare* (Stainton, 1867) which is common at the Kentish locality where it was taken. It has also been recorded on several other *Echium* spp. and other members of the Boragacinae which do not occur in Britain. The larva mines on both sides of leaf, sometimes occupying the entire leaf surface. An illustration of the mine is given by Hering (1957) which is reproduced by Medvedev (1990). In the Mediterranean area there are up to three generations a year so the species will be as continuously brooded as the climate permits.

Distribution

D. scalariella is a surprising addition to the British list since the species occurs in Southern Europe from the Iberian peninsula to Greece and Croatia. It also occurs in the Canary Islands, North Africa and the Middle East as far as Turkmenistan. It has been introduced into Australia and New Zealand. It is conceivable that it had extended its range northwards around the Atlantic coast of France where little recording is done. Whether this specimen was an occasional vagrant or is locally established remains to be seen. The sole British specimen, a female, was taken at m.v. light by Francis Solly on Kingsdown Beach on the east Kent coast, 27.ix.2004.

In the British checklist the species should follow *Dialectica imperialella* (Zeller) and in the numbering system of Bradley (2000) its number should be 311a.

Acknowledgements

I am grateful to Willy & Jurate de Prins for providing information and references.

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A very early record of the Clouded Yellow *Colias croceus* Geoff. (Lep.: Pieridae) in the Isle of Wight

Brian Ransom saw a Clouded Yellow *Colias croceus* on the exceptionally early date of 3 February at West High Down, Totland. On the same day two Red Admirals *Vanessa atalanta* L. were seen at Ventnor and a Peacock *Inachis* io (L.) at Porchfield. This is probably the earliest ever sighting of a Clouded Yellow in Britain. Whether it was a migrant or a home bred example remains a matter of conjecture although there were no migrant moths noted at the time and so it could have been a home bred example. This butterfly has been successfully overwintering along the South coast of the Island with the first imagines seen at the end of April. Barry Angell suggests that it could have hibernated in the nearby gorse thickets and Ian Rippey has the following comments: Regarding the speculation by Barry Angell about adult hibernation, there was a. photo of an adult Clouded Yellow which appeared in the Butterfly conservation magazine *Butterfly Conservation News* (now called *Butterfly*) some years ago which was supposedly taken in February 1996 in mine adit in Cornwall. I also have an old book, *British Butterflies* by W. S. Coleman (Routledge, Warne & Routledge, 1860) which states 'The Clouded Yellow has been found hibernating in the chink of an old wall at the end of February, but I am not aware of its coming out again in the Spring, like the Brimstone'.

I should like to thank lan Rippey and Barry Angell for their information and comments.— SAM KNILL-JONES, 1 Moorside, Moons Kill, Totland, Isle of Wight P039 OHU.

SYNTHYMIA FIXA (FABRICIUS, 1787) (LEP.: NOCTUIDAE) — A RE-APPRAISAL OF ITS STATUS ON THE BRITISH LIST

R. J. Heckford

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Abstract

Hitherto in the British Isles, *Synthymia fixa* (Fabr.) (Lep.: Noctuidae) was known only from one specimen, and doubts have been expressed about this record. A second specimen has now been discovered, taken in the same year and at the same locality as the first. The status of the species on the British list is discussed. *Synthymia fixa* is rightly included on the British list, albeit as a vagrant.

Introduction

Until now, the only British record of *Synthymia fixa* was of one specimen, currently in The Natural History Museum, London (BMNH), taken at Start Lighthouse, Devon (VC 3) at an unspecified date in 1937. Doubts have been expressed about the record. A second specimen has now been found in another collection, taken at the same place in the same year, with an exact date, and almost certainly by the same person. Both specimens are females, although the note introducing the species to the British list, not written by the captor, specifically refers to only one, male, specimen. The data relating to both specimens are now considered as well as various publications, and the status of the species on the British list is reviewed.

Historical background

The species was added to the British list by Cockayne (1944: 49-50) on the basis of one specimen taken by a Mr A. W. Godfrey. Cockayne states:

"A male *Synthymia fixa*, F. (*monogramma*, Hbn.), in very fair condition, was taken at the Start lighthouse, S. Devon, in 1937 by A. W. Godfrey and handed to the late Sir Beckwith Whitehouse on 1st October. It is a pretty species with slender thorax and abdomen and orange hindwings, and is about the same size as *Ectypa glyphica*. It is a common Southern European species found in S. France, Spain, Portugal, Italy, Sicily, Malta, and Algeria, and flies in May and June. The foodplant is *psoralea bituminosa*. This little Noctuid has been placed by some authors in the genus *Homopyralis* and the figure of *H. contracta*, Walk., in Holland's Moth book, plt. 30, gives a good idea of its appearance."

The specimen is now in the BMNH. In fact it is a female, the ovipositor being clearly visible. It is pinned with a black brass pin, which has a very small head, and, unsurprisingly for a specimen of macrolepidoptera, it is not stage mounted. It possesses four labels:

1. "Taken at Start Lt House/A W Godfrey/Handed to Sir Beckwith/Whitehouse", and "Oct 1. 1937" on the reverse of the label [in black ink, manuscript]
2. "Start Lighthouse/1937. A.W.Godfrey" [in blue-black ink, manuscript]

3. "Synthymia fixa/Whitehouse Coll/Sale Glendining/22.ii.1944. lot 309" [in blue-black ink, manuscript]
4. "Fig. by Brian Hargreaves/in The Moths and Butterflies/of Great Britain and Ireland" [in type]

The writing on the first label, including the reverse, is in a different hand from the other two manuscript labels, which appear to be in the same hand, and is made with a much thicker nib. The first manuscript label could not have been written at the time of capture and the third manuscript label could not have accompanied the specimen when it was given to Whitehouse, and obviously the typed one was not added until much later. If the second label is in the same hand as the third then it seems likely that both were written at the same time. If so, the specimen does not have an original data label now, if it ever possessed one.

Sir Beckwith Whitehouse was an eminent gynaecologist who died suddenly on 28 July 1943 (Cockayne, 1943: 94). He had an extensive Lepidoptera collection, including continental European and exotic species, which was auctioned by Glendining & Co. during four days between late 1943 and early 1944. Russell (1944: 1-3; 17-18; 33-35; 56-57) reported on highlights from the sale of the British Lepidoptera and at an early stage (1944: 1) remarks cryptically "Rumour says that some of the insects are ultimately doomed to seclusion in a remote provincial Museum, where they will be lost to sight, and this perhaps may be the best thing that can happen to them". Presumably this means that he had doubts as to the provenance of some.

Cockayne (1943: 94) comments that Whitehouse bought insects on a large scale after the outbreak of the Second World War. Russell's account of the sale (1944: *loc. cit.*) lists a number of specimens auctioned, with sale prices, on 16 November 1943, 25 January 1944 and 21 and 22 February 1944. These included the following very rare British species, two of which were each then known only from four British specimens: *Notodonta tritophus* ([Denis & Schiffermüller], 1775), one specimen; *Leucodonta bicoloria* ([Denis & Schiffermüller], 1775), three specimens; *Periphanes delphinii* (Linnaeus, 1758), one specimen; *Acontia lucida* (Hufnagel, 1766), three specimens and *Catephia alchymista* ([Denis & Schiffermüller], 1775), one specimen. I have used the current scientific names. Specimens of the latter three species were sold on 22 February 1944, as recorded by both Russell (1944: 56-57) and Rait-Smith (1944: 142-144), the same day as the *Synthymia fixa*, but, possibly significantly, neither mentions this.

Cockayne's note adding the species to the British list was published in the April 1944 issue of this journal and Russell's report on the auction of 21 and 22 February 1944 appeared in the next month's issue. I do not know whether this report was written before or after Cockayne's note, but in either event points arise. If before, then as shown below, the auction catalogue makes clear that the specimen was a new British species and surely Russell would have noticed this and mentioned it, at least if he had no doubt as to its provenance. If after, then it is equally surprising that the specimen was not mentioned. In either event, it is also puzzling that Cockayne, who was on the editorial board, did not comment on the fact that the specimen had been auctioned, or its whereabouts, when he added it to the British list.

Various points are not clear from Cockayne's published note, namely when was the moth identified and by whom, when Cockayne come to know of it, and how did the moth come to Whitehouse's attention. Other points arise from the data labels, namely who wrote the one recording that the specimen was handed to Whitehouse, and when, and who wrote the other two labels and when. If the specimen were ever shown at the Annual Exhibition of the then South London entomological and natural history Society, the usual forum for exhibiting a species of macrolepidoptera new to Britain, then none of the published Proceedings and Transactions of that Society record this.

It may be significant that in his two reviews of macrolepidoptera added to the British list since South (1907, 1908) de Worms (1951: 153-168; 1963: 101-119) makes no mention of the species, although he includes such casual vagrants as *Raphia frater* Grote, 1864, a North American species taken at light in 1939 and *Utetheisa bella* (Linnaeus, 1758), another North American species taken in 1948, both of which he considered to be accidentally imported. He was extremely interested in the British macrolepidoptera, and a frequent visitor to the BMNH, and it seems unlikely that he was unaware of Cockayne's publication. I assume that his omission was deliberate.

Stidston (1952) published a list of the macrolepidoptera of Devon and he also makes no reference to the species. However, he included certain dubious records without comment, *e.g.* by repeating a record from The Victoria County History for Devon of *Aegeria chrysidiformis* (Esper, 1782) (now *Pyropteron chrysidiformis*) which was allegedly "seen" in North Devon on 7 September 1888, an extremely late date for a species which flies from June to July, and which is currently known only from a restricted area in Kent, and with old records from only a few places in Hampshire, Sussex and Essex. Stidston's omission was probably due to oversight, rather than doubts as to the validity of the record.

Bretherton (1983: 289) makes clear his views by saying that *Synthymia fixa* is:

"Doubtfully British. The only specimen, which is now in BMNH, is a female with strongly projecting ovipositor (not a male, as stated by South (1961)). It is labelled 'Start lighthouse 1937, A. W. Godfrey. Whitehouse coll., sale Glendinning [*sic*], 1944, lot 309'. This agrees with the catalogue of sale of the third portion of that collection on 21 [*sic*] February 1944, where it is described as 'Euclididae species: an extremely rare continental migrant taken Start lighthouse by Godfrey and given to B. W. 1st October 1937".

Although South says that the specimen is a male, he is clearly following Cockayne. Bretherton says that the data label agrees with the sale catalogue. This is correct so far as the first label attached to the specimen is concerned, but for reasons given earlier it seems unlikely that this label was made by the captor. The third label correctly records that the specimen was lot 309, which was sold on 22, and not 21, February 1944.

Bretherton goes on to comment that the specimen sold for £2.00, attributing this to Chalmers-Hunt (1976). In fact Chalmers-Hunt's publication does not record the catalogue detail nor price; this information presumably came from the catalogue then in the possession of Mr J. M. Chalmers-Hunt. The price is interesting. It was believed to be the only British specimen, but it fetched less than the one *Periphanes delphinii* (£4 15s), and the one *Catephia alchymista* (£21) (Rait-Smith, 1944: 144; Russell, 1944: 56-57). This suggests that potential buyers had doubts about its authenticity.

Bretherton remarks that it is surprising that such an experienced collector as Sir Beckwith Whitehouse would have failed to recognise it and record it himself as new to Britain if he had been satisfied of its origin. Cockayne (1943: 94), however, states that Sir Beckwith Whitehouse's "large consulting practice, his duties to the hospitals for which he worked, and his medical publications prevented him from contributing largely to entomological literature". Bretherton also says that the specimen "was identified and recorded as new to Britain without further information or comment by Cockayne (1944)". I am not sure what he meant by this. The fact that Cockayne published a note adding the species to the British list and, if as seems likely from what is set out below, he bought the specimen and gave it to the BMNH shows that he had no doubts as to its origin. Bretherton ends his comments by saying that "A mistake or some transposition of labels before the specimen reached Cockayne's hands cannot be excluded". After referring to the distribution of the species in Europe and North Africa he says that it has not been noted as a migrant.

In passing, it should be mentioned that Cockayne's note published in 1944 referred to by Bretherton is not included in the list of references at the end of that volume of *The Moths and Butterflies of Great Britain and Ireland.*

The Entomology Library of the BMNH has an extensive collection of auction catalogues, donated by Mr J. M. Chalmers-Hunt. This contains two copies of the relevant auction catalogue. An entry on page 20 reads "309 EUCLIDIDAE species, an extremely rare Continental migrant, (taken at Start Lighthouse, by A. W. Godfrey, and given to Sir Beckwith Whitehouse on October 1st, 1937)". Both catalogues have various manuscript comments in the margins with prices and initials. Against this entry on one is "10/- BHS" and against the other "£2 C". This latter catalogue is a record of all the prices actually paid, whereas the former looks as though it is a note of bids to be made on behalf of various clients. This is shown by the fact that as regards lot 310, *Catephia alchymista*, given as "ALCHYMISTA", and lot 312, *Periphanes delphinii*, given as "DELPHINII", the former catalogue has the words "BUY" and "Barton-White/£5.10.0" respectively against these in the right hand margin and the latter has "£21 N" and "4.15 – DN" against them in the right hand margin, which are the prices given by Rait-Smith (1944: 144) and Russell (1944: 56-57). I have not been able to trace what the various initials represent, but it seems likely that "C" meant Cockayne.

With the benefit of those catalogues, it is clear that the specimen was recognised as a rare Continental migrant at the time the catalogue was prepared and that the compiler of the catalogue presumably attributed the information that it was given to

Whitehouse on 1 October 1937 from the manuscript label in thick black ink, which I assume accompanied the specimen. The two other manuscript labels on the pin are likely to have been written by the purchaser of the specimen, or someone on his behalf. The fact that the species is not identified in the catalogue as *Synthymia fixa*, all other species on that page being identified by the then specific, but not generic, names, suggests that it had not yet been determined as that species. If so, this leads credence to the possibility that it was indeed Cockayne who bought the specimen, and then published his note after, presumably, identifying it himself.

Skinner (1984: 141) says that the species is a suspected immigrant, the only British specimen being taken at Start Point Lighthouse in 1937. This is repeated in the second edition published in 1998. Waring & Townsend (2003: 373) say "Rare immigrant. One British record of this mainly day-flying species. A singleton, recorded as collected at Start Point lighthouse, south Devon in 1937, is now in the Natural History Museum, London." They include an Appendix (2003: 405-413) listing species doubtfully recorded in Great Britain and Ireland or recorded as probable imports only but do not include *S. fixa* in this.

Discovery of a second specimen

A second specimen of *S. fixa* has now been discovered, at Overbecks, Sharpitor, Salcombe, Devon, a National Trust property on the south Devon coast. This was also taken at Start Lighthouse in 1937. By coincidence, Overbecks is approximately 10 kms to the west of Start Lighthouse.

Overbecks has a collection of both macrolepidoptera and microlepidoptera, housed in two 36 drawer cabinets. Most, but not all, are of British origin and most were collected by J. M. Jaques; some of the microlepidoptera were taken by A. R. Hayward, who died in 1939, L. T. Ford, who died in 1961 and S. H. Wakely who died in 1976. The collections of the latter two are now in the BMNH and Cambridge University respectively, and so it is likely that specimens taken by Ford and Wakely were donated before their deaths. I have not been able to trace when Jaques died, and indeed have been unable to discover much about him except that the Proceedings and Transactions of the South London entomological and natural history Society show that he was a member from 1942 until 1952-53 and lived at Coulsdon, Surrey. A National Trust booklet produced in 1981 on Overbecks says that this collection "was put together by J. M. Jacques [*sic*] in the 1920s and 1930s. It contains an almost complete collection of British Lepidoptera arranged in series from butterflies to micros." Overbecks houses various collections, for example of birds, shells and fossils, and it is thought probable that the lepidoptera collection was acquired by another National Trust property and then transferred to Overbecks to complement its other collections.

Like the one in the BMNH, the specimen at Overbecks is pinned with a black brass pin which has a very small head and appears to be of the same length and size as that used for the BMNH specimen. It too is a female, the ovipositor being clearly visible, and it has one manuscript label in blue-black ink which reads "Start Point/Lighthouse/23.vi.37". No name of the captor is given. The handwriting does not appear to be the same as that on any of the three manuscript labels accompanying the specimen in the BMNH.

The *S. fixa* is currently in the third row of drawer 24, which otherwise contains only Pyralidae. It is one of two specimens that have below them the label '*polygonalis*'. Like the rest of the microlepidoptera (but none of the macrolepidoptera), these two are stage mounted on individual polyporous strips, with different data labels. The first in the row is indeed *Uresiphita polygonalis* ([Denis & Schiffermüller], 1775), a rare immigrant Pyralid to the British Isles. It has a data label in black type which simply reads "Bautzen/Saxon", with no indication of the captor. The *S. fixa* has no antennae, but otherwise is in reasonable condition. There is no reason to suppose that these two specimens at Overbecks were taken by the same person, and indeed the nature of the data labels, if nothing else, suggests that the captors were not the same.

Discussion

In view of the doubts as to the origin of the specimen in the BMNH implied by Russsell and Rait-Smith in not mentioning this species in their account of the auction of Whitehouse's collection and de Worms' omission of it from his reviews of macrolepidoptera added to the British list, as well as the express doubts raised by Bretherton, although apparently not shared by Skinner and Waring & Townsend, the question arises as to whether the specimens in the BMNH and at Overbecks were indeed taken at Start lighthouse.

This in turn raises the following points. When was the specimen now in the BMNH deposited there and who made the donation? Why did Cockayne, a very experienced entomologist, say that the specimen was a male? If both specimens were taken by Godfrey, why did he, apparently, show Whitehouse only one? If Godfrey took the one now at Overbecks why does that bear a data label which was presumably made at the time, and the one given to Whitehouse, which was taken by Godfrey, bear no contemporaneous data label? If the one at Overbecks had been taken by someone else, why did that person not publish that record? How and when did that specimen come into the Jaques' collection, and where did it come from? His collection shows that he knew well both macrolepidoptera and microlepidoptera. It seems very unlikely that he would have misidentified the *Synthymia fixa* as *Uresiphita polygonalis*, especially as it is clearly different from the true *polygonalis* above it in the same row. Presumably it was staged mounted by someone, possibly a member of the National Trust staff during curation, who thought it was in the Pyralidae.

I try to provide answers to some, but not all, of these points below.

It seems more than likely that Cockayne bought the specimen sold at auction and later bequeathed it to the BMNH, either as an individual donation or part of his collection which went to form the Rothschild-Cockayne-Kettlewell collection at the BMNH. Jacobs (1957: 120-122) records that Cockayne purchased many choice items at auction sales of Lepidoptera to enrich this collection, and also successfully invited donations from private collections. It also seems plausible that some slip occurred when Cockayne wrote his published note in which the specimen is referred to as a male. It is scarcely credible that Cockayne misidentified its sex.

Whitehouse, who lived in Birmingham, Warwickshire, collected on the south Devon coast during at least September 1911, when he took *Mythimna unipuncta* (Haworth, 1809), *Spodoptera exigua* (Hübner, 1808) and *Agrotis exclamationis* (Linnaeus, 1758) (Whitehouse, 1911: 366-367; 409). It is clear that he had various contacts who would provide him with interesting species, because he records (1935: 115-116) that in 1934 he received over 50 pupae of *Acherontia atropos* (Linnaeus, 1758) from potato diggers in Kent. Therefore it is quite likely that Whitehouse knew Godfrey and was handed the specimen during an entomological visit to the south Devon coast. What is unclear is whether Whitehouse knew of the second specimen. If he did then it appears that Cockayne did not.

I do not know how the second specimen reached the Jaques collection. This has no other specimen, of either macrolepidoptera or microlepidoptera, bearing a data label with Start Point Lighthouse as a locality, nor with Godfrey's name.

Some of the matters raised above show that it is understandable why there were doubts as to whether the specimen in the BMNH was genuinely British, but the following points suggest that those doubts should be removed and the species should remain on the British list.

The most important point is the existence of the second specimen with a data label. There is no reason to believe that this specimen was not taken on the date and at the place recorded. The fact that both specimens have similar pins may be a pointer to both being taken by the same person. If Godfrey took the specimen now at Overbecks then it appears that he was accustomed to writing data labels. If that specimen was taken by him then presumably its data label was written before Godfrey handed the other specimen to Whitehouse, so why does that one not bear a label in Godfrey's hand? I suppose that it is possible, although it seems unlikely, that he wrote one which Whitehouse or someone else removed.

Although it might seem extremely unlikely that two specimens of this species arrived at Start Lighthouse either on the same date, or, if not, then in the same year this would not be the only time that a very rare immigrant has turned up twice at the same locality in the same year. On 2 February 1967 Mr D. W. H. Ffennell (1967: 56) had two *Tathorhynchus exsiccata* (Lederer, 1855) at light in his garden and a third specimen the following night. Until then only six specimens had been recorded from the British Isles. A. W. Godfrey worked at Start Lighthouse. According to Dannreuther (1935: 209) Godfrey was the Senior Assistant Lighthouse Keeper there in 1935 and no doubt held the same position in 1937. Godfrey submitted records to Dannreuther for various migration reports which the latter published. Some of those for 1937 (Dannreuther, 1937: 176-180) showed that between 5 and 14 June Godfrey noted 18 *Vanessa cardui* (Linnaeus, 1758) at Start Lighthouse and that during the afternoon of 8 June three *Macroglossum stellatarum* (Linnaeus, 1758) came in from the sea and went north-north-west and on 14 June two others did likewise. On 3 August Godfrey recorded a steady stream of *Autographa gamma* (Linnaeus, 1758) from 0.20 to 4.10 a.m. in calm weather with only about 20 pausing momentarily to rest on the lantern before all flew away due south out to sea, about 200 ft. above sea-level; the temperature was 68 F. and barometer 29° 74″. On the same morning Godfrey observed a single *Hyles galii* (Rottemburg, 1775) coming in from the sea at 1.20 a.m. and flying to the north-north-east, which was captured and found to be in good condition (Dannreuther, 1937: 200-202).

Dannreuther does not make any mention of *Synthymia fixa*, nor is there any published record from Godfrey for the 23 June 1937, the date of the specimen at Overbecks. This is not surprising because Dannreuther's account of migration in 1937 was published, in parts, during the course of that year. This was before the species had been identified, assuming that the entry for lot 309 in the sale catalogue for the 1944 auction of Whitehouse's collection was a correct reflection of the state of knowledge of the identification of that specimen.

It seems likely that Godfrey must have kept written notes of his records, but they are no longer at the lighthouse, if they were ever kept there. Unfortunately I have been unable to find out any other information about him, but it is clear that he was interested in migration of Lepidoptera and made detailed records.

Conclusions

For the reasons given above, I consider that both specimens of *Synthymia fixa* were taken at Start Lighthouse and the species is rightly included on the British list, albeit as a vagrant.

Acknowledgements

I am very grateful to various staff members of Overbecks for allowing me access to the Jaques collection and to Mrs M. Newman (Stoke Fleming) for informing me that Start Lighthouse does not have any records made by A. W. Godfrey. I am also indebted to Mr M. R. Honey (BMNH) for considerable valuable assistance.

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Moma alpium **Osbeck (Lep.: Noctuidae) – decline in awareness of its dimorphic character in Britain**

Edward Newman's 1872 work *An Illustrated Natural History of British Moths* was published when the study of British moths was still in its infancy. Nevertheless, his volume portrayed excellent black and white illustrations of two forms of *Moma alpium* – typical *alpium* and ab. *runica* Stephens, and suggesting that "it is very probable that there are two species combined under one name" and also that J. Stephens was of that opinion. However, Newman made no reference to the relative frequency of the two forms. Barrett (1896. *The Lepidoptera of the British Islands*, 111) illustrated both these forms and a further more lightly marked specimen. It would seem that he was aware of the the relative frequency of the two forms in Britain, labelling the first specimen *orion*, the specific name used for the species at that time, and the second as an aberration obtained by Dr. Chapman – the scarcer form and that accepted as the type form of *M. alpium* to-day. The third important work on British moths produced in the latter part of the nineteenth century was the un-illustrated *British Noctuae and their Varieties* (Tutt, 1891); this demonstrated his awareness of the relative incidence of the two forms, stating "in a long series I have only one specimen that represents the type, all the others having single transverse lines and thus representing ab. *runica*". These volumes have now been largely superseded by modern ones less detailed in character, and the result has been a generation of lepidopterists unaware of the dimorphic nature of *M. alpium*. Early in the twentieth century South (1907. *Moths of the British Isles*) was published in two volumes and rapidly became the main source of information on British moths, not being supplanted until Skinner (1984. *Colour Identification Guide to the Moths of* *the British Isles*). Decline in detail of this species began with South's work and it gave only one illustration, that of ab. *runica*, although both forms are described briefly, but without reference to their significance. L. W. Newman (1913. *Text Book of British Moths*) merely mentions ab. *runica* being a lightly marked variety. Under the editorship of J. Heath (1979. *The Moths and Butterflies of Great Britain and Ireland*) the first volume of a more ambitious project appeared. It too portrays only one form, the scarce type form, and its relative frequency is noted. However, what promised to be a replacement for "South" failed to materialise, and twenty-five years later remains incomplete, necessitating an alternative venture – Skinner's 1984 *Colour Identification Guide to the Moths of the British Isles*. A coloured plate illustrates the common ab. *runica*, not named as such and the species' dimorphism is not mentioned. Chalmers-Hunt (1960. *The Butterflies and Moths of Kent*. Suppl. Ent. Rec. **72-93**) remains the most accurate and detailed local work on the British macro-lepidoptera; uniquely it contains a wealth of information on infra-specific forms recorded within the county, but unaccountably not on *M. alpium*!

During the period 1960 to 1990, I made a number of visits to the woods of East Kent at the time of the moth's appearance, and I estimate the incidence of the type form is about 15%, thus higher than indicated by Tutt's long series. I can find no reference to the subject for the other colonies of *M. alpium* in Britain.

Several other aberrations have been described, including ab. *fasciata* Lenz. This possesses "a joined-up black band in the middle of the forewings". I have one specimen from East Kent in the *runica* form, dated 28.vi.1968. Two lightly marked aberrations have also been described, but I have encountered neither, nor any tendency towards such forms in the East Kent population.— B. K. West, 36 Briar Road, Dartford, Kent DA5 2HH.

Species of Lepidoptera new to the Isle of Wight in 2004

I recorded, ten *Cydia amplana* (Hb.) (Tortricidae) at light in my garden at Totland, between 30 July and 21 August 2004. However on looking through my collection of micros I noticed a series of five of this species taken on 20 August 1996. These appear to be new county records.

Dr David Biggs found, many mines of *Phyllonorycter platani* (Stdgr.) (Gracillariidae), mostly vacated, but some still tenanted, on *Platanus hispanica* at Fairlee, Newport on 27 September 2004.

Dr. David Biggs found one mine of *Cameraria ohridella* Des.& Dim. (Gracillariidae) with actively feeding larvae on *Aesculus hippocastanum* at Pelham Woods, Ventnor on 15 September 2004. He also recorded this species at St. Laurence, Ryde and Newport later in the month.— Sam Knill-Jones, 1 Moorside, Moons Hill, Totland, Isle of Wight P039 OHU.

Timandra comae (Schmidt) (Lep: Geometridae) – the first record for VC 91, Kincardineshire and its status as a probable immigrant in Scotland

A single example of the Blood-vein *Timandra comae* (Schmidt) was netted near a Skinner-type, 125 watt mercury-vapour trap on a coastal cliff top path near Muchalls at grid reference NO 902916 on 4 September 2004 by Steve Hunt. This represents the first record of the species for VC 91, Kincardineshire, and only the second ever record for north-east Scotland (Robert M. Palmer pers. comm.). The specimen has been retained by the county recorder, RMP.

The only previous record in north east Scotland was from VC 92: *Timandra amataria* (Donovan) *nec* (Linn.) near Burnharvie *sic* (now Burnhervie) (Reid, W. 1893, List of the Lepidoptera of Aberdeenshire and Kincardineshire. ***British Naturalist*** 1891-1893). This article was a reprint of a list, apparently privately published, so the exact date of the record is not known.

It is therefore unlikely that *T. comae* is resident in the north east of Scotland and more probably it is a rare immigrant. The weather conditions prior to the evening of 4 September 2004 appeared suitable for migration. September began with a mild south westerly airflow with very warm, humid air reaching Scotland on 4th.

Other immigrant Lepidoptera recorded on the night included *Agrotis ipsilon* (Hufn.) and *Autographa gamma* (L.). The southern subspecies *Celaena leucostigma leucostigma* (Hb.) was also probably a migrant as this species is represented in the north of Scotland by *C. leucostigma scotica* Cockayne. *Discestra trifolii* (Hufn.) is also considered to be an immigrant in the north of Scotland (Waring P. 2003. *Field Guide to the Moths of Great Britain and Ireland*), although its current status is uncertain. During 2004, *D. trifolii* was recorded from several sites in the north east (RMP, pers. comm.) so may have become at least temporarily established in the area as it did in Orkney in the 1970s (Waring P. 2003. *Field Guide to the Moths of Great Britain and Ireland*).

All available published records were examined to assess the status of *T. comae* in Scotland: these are summarised in Table 1.

When the Berwickshire records were summarised in a later paper it was remarked that these were the only two records for the county and so far the first brood had not been recorded (Long, A.G. 1967, The Macro-lepidoptera of Berwickshire. *Hist. Ber. Nat. Club*, **xxxvii**: 157). The distribution of records is typical of an immigrant in Scotland, i.e., coastal and scattered, with a concentration in the south, Shetland and Orkney.

In the nine published Scottish records where dates are given at least to month, no first brood individuals are present. Furthermore, the records coincide with the dates of the second brood of the English populations. If *T. comae* was a rare breeding species in Scotland with a univoltine life cycle its flight period would be predicted to be in between the two broods of the imago in England. This is the phenology of all other species that are bivoltine in the south and univoltine in the north. Suitable conditions for the immigration of this species to Scotland would appear to be more likely to coincide with the flight period of second brood individuals in England.

There are many years with no records and some years with multiple records in quick succession. This can be seen in Table 1 — two records from Orkney in August 1969 and four records (on consecutive nights) from Shetland during 1996. It is not known if the Eswick records could be of the same individual returning to the trap on consecutive nights, or if this was ruled out by retaining specimens. Even if the Shetland records relate to only two individuals at two sites, the pattern of records could indicate scarce migration events.

Table 1. Known published records of *Timandra comae* in Scotland

No.	Date	Location	VC	Recorder	Reference
?	circa 1893	Burnhervie	S. Aberdeen	W. Reid	*British Naturalist* 1891-1893.
1	circa 1900	Linwood	Renfrew	W.S.	Fauna, Flora & Geology of the Clyde Area 1901.
?	circa 1900	Arran	Clyde Isles	J.J.W.	Fauna, Flora & Geology of the Clyde Area 1901.
1	26/08/1960	Birgham	Berwick	G.A. Elliot	*His. Ber. Nat. Club* **xxxv:** 188-189.
1	12/08/1961	Gavinton	Berwick	A.G. Long	***His. Ber. Nat. Club*** xxxv: **328-329**.
1	08/1969	Quoyberstane	Orkney	R.I.Lorimer	*Ent. Gaz.* **21**: 73-101.
1	08/1969	Kirkwall	Orkney	R.I.Lorimer	*Ent. Gaz.* **21**: 73-101.
1	11/08/1996	Ocraquoy	Shetland	G. Petrie	*Ent. Rec.* **109**: 265-279.
1	12/08/1996	Eswick	Shetland	?	*Ent. Rec.* **109**: 265-279.
1	13/08/1996	Eswick	Shetland	?	*Ent. Rec.* **109**: 265-279.
1	14/08/1996	Eswick	Shetland	?	*Ent. Rec.* **109**: 265-279.
1	04/09/2004	Muchalls	Kincardine	S. Hunt, J.Waddell	*Ent. Rec.* **117**.

The above Shetland records were preceded by a low pressure centred off the west coast of Ireland on 9 and 10 August 1996 (*Weather*. Royal Meteorological Society, 1996). This produced a southerly airflow over Shetland and could have resulted in a small influx of *T. comae*.

It should also be noted that a similar species from Scandinavia *Timandra griseata* (Petersen) could also possibly occur as an immigrant to Scotland. This possibility was investigated by submitting clear digital photographs of the Kincardineshire specimen to Dr. Lauri Kaila (Finnish Museum of Natural History, University of Helsinki) who confirmed the identity as *T. comae*. Nevertheless, any *Timandra* sp. caught in the north-east of Scotland (including Orkney and Shetland) during periods suitable for continental migration should be critically examined to determine the species. If specimens exist to support the above-mentioned Orkney records they should be critically examined as two recorded in Orkney on 8 August 1969 coincided with other immigrant moths of suspected Scandinavian origin (Waring P. 2003. *op. cit.*).

Thanks are due to Robert M. Palmer for help with determining the Kincardineshire specimen, providing details of old records and commenting on a draft of the note, to Dr. Lauri Kaila for confirming the identification, Keith P Bland for providing references of published records and to Chris Harlow for taking digital photographs.— JEFF WADDELL, Bonavista, Heatheryett, Galashiels, Selkirkshire TD1 2JL (E-mail: jeff.waddell@ukf.net) and STEVE HUNT, 13 Venlaw Quarry Road, Peebles EH45 8RJ.

Hazards of butterfly collecting. 'Fossil on a pin' – Keele University, UK, 1993

In 1993 I was asked to give a paper on butterfly conservation needs in Africa as part of 25th anniversary symposium organized by the British Butterfly Conservation Society (BCS) at Keele University. This was a lively and interesting affair. Some of the most impressive presentations were those of the several studies on the reasons for the decline of butterflies in the UK. Many have been drastically reduced in both numbers and distribution over the past 50 years. The proceedings were published in an attractive book (Pullin, A. S. (ed). 1995. *Ecology and Conservation of Butterflies*. Chapman & Hall, UK).

The contrast between how much is known about so many of the few species of butterflies occurring in the United Kingdom and how little is known about most of the 4,000 species occurring in Africa could not have been more apparent. This also leads to some very different attitudes to the study and collecting of butterflies.

In the discussion following my talk, where I had emphasized habitat conservation as the over-riding issue in Africa, a member of the audience asked me about the collecting of butterflies – a potentially fraught topic amongst a large company of the august membership of Butterfly Conservation. I quoted a letter I had just received from a couple who had recently been to Yemen, one of my old haunts, and part of the Afrotropical Region: "We also saw a nymphalid that is not illustrated in any of your Arabian books and papers. We therefore knew it must be very rare and obviously we did not catch it." "When I get a letter like that", I said – beginning to make the motions of throttling someone with my bare hands – "I feel very, very frustrated". I was not very sure how this would go down, but as the audience gradually caught on to what my hands were illustrating, a gratifying murmur of laughter slowly rippled through the auditorium: "How are we going to think about butterfly conservation when we do not even know what we have got?" Here was an important opportunity missed through a thoroughly confused attitude to conservation. No harm could possibly be done by taking a few butterflies out of a place which had not seen a butterfly net since I was there in the 1980s. The benefit of a complete picture of Yemen's fauna for future conservation efforts is evident.

Actually the issue is even more critical than that. In most tropical parts of the world a butterfly or any other insect that is correctly labelled and placed in a safe collection may a few years from now be a "fossil on a pin". During the late 1960s I collected extensively in two interesting forests in western Nigeria, Ilaro and Olokemeji. They were the two forests closest to the Dahomey Gap, a tongue of savannah country stretching to the coast of Togo and Bénin, separating the West African fauna from that of Nigeria and Central Africa. I have hundreds of butterflies from there. All are now effectively "fossils" – the forests are gone ... not just degraded, but is no more - like Monty Python's parrot.

Near Ilaro Forest – in 1969 – I collected a most distinctive forest butterfly that was named *Euriphene kiki* Bernardi & Larsen, 1980. I went back to the locality to find some more ten years later, but no forest was left anywhere in the vicinity. None has been located in other collections. It now sits in the Paris Natural History Museum – a fossil on a pin that tells us at least something about an organism that has now most probably disappeared in nature. The inset photo shows an Ilaro instant fossil of a small member of the curious African Lipteninae branch of the Lycaenidae. It belongs to the *Liptena alluaudi/albicans*-complex, which probably comprises four or more species between Côte d'Ivoire and western Nigeria that I still have not sorted out to my satisfaction. I have seen no Nigerian material from this group of species since the one figured was caught (I still remember a lovely picnic with my parents on 21 June 1967).

I am afraid that the welcome emphasis on conservation has had unwelcome side-effects. Collecting insects in most parts of the world has become increasingly difficult. Nowhere was this better illustrated than when we were living in the Philippines. A group of entomologists from a university in eastern Europe was trying to develop a molecular profile of different populations some dangerous groups of mosquitoes, especially those responsible for dengue fever. To my mind this was a most noble objective – my wife and I had just managed to contract dengue fever. It was a benign form, but we still wandered about our house for two weeks in a zombie-like condition. The intrepid team of researchers was taken to jail in handcuffs while working on Palawan ... they had tried to get formal permission to catch mosquitoes in the Philippines, but never had a reply from the Department of the Environment. Eventually they decided to 'just do it'. Their ambassador had to travel down from Jakarta to secure their release. They left behind 22 vials of dead mosquitoes in alcohol – which presumably now are in the 'black museum' of the environment department as a major triumph.

At the same time Manila was plastered with posters on how to kill as many mosquitoes as possible in dozens of ingenious ways. Newspaper cartoonists and editorial staff had a field day. Slap a mosquito while having dinner on your porch and the troops of the Department of Environment would arrest you. Tropical biodiversity might have a value that should go to country in question ... but a sense of proportion really is necessary as well!

My own attitude is clear. Any insect from a tropical country on a pin, in alcohol, or in papers, with good locality data is potentially an instant fossil of great value. But surely butterflies are different? So many collectors ... so much interest in rare species. I disagree. Virtually nothing is known about any African butterfly. Steve Collins and I have just described a new species called *Charaxes chevroti*, known only from the tiny, isolated Kagoro Forest in northern Nigeria, which may by now almost be destroyed. This is possibly one of the few insects in Africa that could reasonably be placed on a list of protected species – but to be honest, I would be prefer to see another specimen on a pin. The butterfly used to be quite common in the forest. If the forest has gone, so has the butterfly. If the forest survives, the butterfly will be just fine. Latest report from Kagoro are not encouraging. — TORBEN B. LARSEN, UNDP Vietnam, c/o Palais des Nations, 1211 Geneva 10, Switzerland (E-mail: torbenlarsen@netnam.vn).

News on the conservation of some UK Biodiversity Action Plan moths in 2004

This article follows in the foot-steps of similar annual reviews since 2000 in which the author has reported on some species and projects with which he is personally involved to achieve the objectives and targets of the UK Biodiversity Action Plan – see *Ent. Rec* **113**: 121-129 (for 2000), **114**: 149-153 (for 2001) **115**: 213-219 (for 2002) & **116**: 134-137 (for 2003). For brevity only selected highlights and key results from 2004 are included. In every case the author is indebted to Writtle College for support in writing up these results in his post as Reader within the Centre for Environment and Rural Affairs at the College and in some cases for financial help in conducting aspects of the fieldwork. Other partners and colleagues are acknowledged within each section and I am most thankful to all of them. Private land-owners and some others are generally not named, for reasons of privacy and security, but their help is also greatly appreciated. Where indicated, the studies are part of Butterfly Conservation's Action for Threatened Moths Project, which is part funded by English Nature, and the author is indebted to nominated officers Mark Parsons (BC) and David Sheppard (EN) for helping to ensure continued funding. Other aspects of the Action for Threatened Moths Project are reported elsewhere, in particular in the *Lepidoptera Conservation Bulletin*, issued annually by BC, which continues the National Moth Conservation Project News Bulletin which the author started in 1987 and which ran to ten issues, the last in 1999.

Barberry Carpet *Pareulype berberata* (D. & S.)

The recent successes in establishing additional populations of the Barberry Carpet moth were reported and reviewed at the end of 2004 in *Journal of Insect Conservation* **8**: 167-171. Just after the article had gone to press in early June, there was another piece of good news. The author succeeded in beating a young larva on 29 June 2004 from a bush of Barberry *Berberis vulgaris* at a site in Lincolnshire where it was thought that an establishment attempt had failed. This larva is six generations after the last release of the moth onto the site, so the population must be well established, but at low density. See *Ent. Rec.* **116**: 262-263 for more details.

Further plantings of Barberry have taken place in the last year, with a view to extending existing populations of the moth and establishing new ones. For example, in January and February 2005 in Northamptonshire 60 plants specially grown by Westonbirt Arboretum, Gloucestershire, were planted into gaps in a hedge and on an adjacent field near to a site where the moth has already been established on existing hedges. The latter population was monitored for larvae in 2004 and is continuing to thrive. Two larvae, one in its final instar, were found by beating at a single spot on a hedge, on 25 June, and were returned to the bush once a recording on video-tape had been made. On 11 September a final instar larva of the second generation was also recorded and released from a beat at a single spot on one of the bushes.

A comprehensive programme of monitoring the native and establishment sites was not possible in 2004 but, in addition to inspecting the sites in Northamptonshire and Lincolnshire, I visited one of the Wiltshire sites. This was in passing on a journey on 26 September 2004 with Nick O'Keeffe. The bushes were in good condition and had not been trimmed so far that season. No larvae were found when one of the bushes was beaten. This was as expected because most if not all of the larvae would have pupated by this date. An occupied hedge of Barberry nearby, which had been far too severely trimmed by the farmer in August 2003, had been cut much more lightly in 2004 which was pleasing to see because this will benefit the moth. As in 2003, the most successful establishment site in Wiltshire was monitored by locally-based volunteers. They reported a strong population of larvae well-distributed throughout the site again in 2004 (Godfrey & Michael Smith, pers. comm.).

I am now leading the conservation work on this species from a base at Writtle College. The College have joined Hillier Gardens, Westonbirt Arboretum and others in growing Barberry of various provenances, and in helping to support other aspects of the project. Ian Hughes continues to co-ordinate members of the Zoo Federation and others in maintaining captive stock for future establishment projects. Planting projects for new stands of Barberry are underway at London Zoo and Whipsnade Wildlife Park, with the ultimate aim of establishing wild populations of the moth there also. Major plantings previously reported in Wiltshire, Gloucestershire and Northamptonshire are continuing.

Black-veined moth *Siona lineata* (Scop.)

During May, June and September 2004 I examined the four remaining British sites which support populations of the endangered Black-veined Moth. All four sites have been monitored by weekly transect counts of adults by day for more than a decade. I started the present transect routes at two of them in 1987 and at both of these sites there are earlier counts of somewhat similar routes extending back to 1976 (see *Nota Lepidopterologica.* Suppl. **5**: 51-64). Since 2002, the transects have been walked by Sean Clancy. The monitoring and my inspections both indicate that the populations at two of the sites are fair, at a third site there has been a substantial decline in the last few years and at the fourth the population is at such precariously low levels that none were seen in 2004, on the three monitoring visits (3, 9 & 16 June), nor on my separate inspection on 9 June. The numbers of adult moths have been vanishingly small at this last site ever since the land-owner machine-cut the whole of the occupied field in February 2001. The species is known to thrive in rough, tussocky chalk grassland swards where various herbs such as Marjoram *Origanum vulgare* are frequent.

The moths were recorded in reasonable numbers right up to the cutting but not since. In June 2001 none were seen at all on the transect counts (*Ent. Rec.* **114**: 152) and just one, which flew away from the site during a watch at dusk. In some years prior to the cutting the population density on this site was higher than on any of the other three sites, with sightings on a single day in double figures. The cutting would have interfered with the over-wintering larvae roosting on the dry grass stems standing in the tussocks. Some larvae may have been killed during the cutting operation and suitable cover for the rest was massively reduced, leaving them much more vulnerable to predators and to a changed micro-climate.

This case is extremely important in that it shows without any doubt that a single act of cutting at the wrong time of year can have disastrous effects on the population of a highly localised and endangered insect. The cutting was contrary to all the ample management advice supplied and is now regretted by the farmer. The situation has been exacerbated by over-grazing in three of the four subsequent winters (Sean Clancy, BC report, 2004). There were signs that the Black-veined Moth was staging a recovery in 2002, when four adults were seen, but the subsequent grazing appears to have prevented this. In 2003 only one adult was recorded, on 10 June. Visits on 5 & 18 June produced none. Sean and I both consider that it is critically important that this site is allowed to rest, free of any disturbance, for the next two years at least. We also recommend that annual monitoring should continue for a minimum of five consecutive years of negative results after the most recent sighting so that, in the event of extinction, this is properly documented. If extinction happens, this case will certainly become a text-book example of bad management.

My three visits in 2004 were as supervisor and technical advisor to a student dissertation project on the Black-veined moth by Stephen Hunt at Writtle College. The visits enabled me to record the condition of all the sites and to continue my annual observations and monitoring of these moth populations which I began in 1987. There are several valuable and encouraging items of news from these visits:

On 5 May I found three final instar larvae of the Black-veined moth. The records are of interest because relatively few larvae have been found previously and larval feeding in the wild only observed on a handful of occasions, mainly on Marjoram, but also on knapweeds *Centaurea* spp. and Common Bird's-foot Trefoil *Lotus corniculatus*. One of the larvae in May 2004 was found by day at rest on a dry stem by leaves of Marjoram bearing typical feeding damage. One of the two larvae found by night was roaming through the sward and the other was feeding on a leaf of Hairy St John's-wort *Hypericum hirsutum* (*British Wildlife* **15**: 433).

On 8 June, we watched adult moths on the wing at dusk in increased numbers on a grassy bank where grazing had been relaxed after our observations from previous years indicated that numbers had declined in response to over-grazing. Numbers of adults had not declined during this period on a nearby bank where there was no over-grazing. We also found a good population in 2004 on a grassy mound within the same site that was colonised naturally by the moths a few years ago when grazing was adjusted to provide a suitable sward.

On 29 September Steve Hunt and I swept a Black-veined moth larva from a sward 16 cm tall (Boorman drop-disc method), predominantly of Tor-grass *Brachypodium pinnatum* and Marjoram. It was the only Black-veined moth larva we saw in a total of seven samples (each of five minutes and 300 swings duration) on two occupied sites. The larva was 2 cm in length. A larva of the Clouded Buff *Diacrisia sannio* was also obtained in the same spot and we have evidence that the two species benefit from similar management to maintain a tussocky, small-scale mosaic of grasses and mixed herbs. Steve reports finding two Black-veined larvae again on 18 October in the same place, in a similar sward 22 cm tall but again none in nine similar samples elsewhere on the site, suggesting larvae were either sparsely distributed or poorly extracted by sweeping at this time of year (*British Wildlife* **16**: 133). I have obtained the younger larvae much more readily by sweeping on warm, dry days in August.

The author thanks English Nature and the three private land-owners for continuing their management efforts to conserve the Black-veined and co-operating with these studies. Sean Clancy undertakes the transect counts and habitat monitoring as part of the BC Action for Threatened Moths Project.

Barred Tooth-striped *Trichopteryx polycommata* (D. & S.)

Many searches for the Barred Tooth-striped moth took place throughout Great Britain during 2004, more than in any year previously. This special effort was co-ordinated and promoted by the BC Action for Threatened Moths Project, of which the work below was a part. Because the moth flies early in the year and comes only occasionally to light-traps, even where there are sizeable populations, it is easily overlooked and often under-worked. Furthermore, few people seem to have tried beating for the larvae in the years prior to inclusion of the species in the UK Biodiversity Action Plan. Consequently a fair proportion of sites from which the moth has been recorded in the past have only old records that need to be updated. There are also concerns and evidence that the larval food-plant, Wild Privet *Ligustrum vulgare* has become either overgrown and shaded by other plants at some sites or has been removed or greatly reduced in amount as a result of site management or construction of roads and buildings. All of this is particularly true in the Midland counties of England, in which the author and colleagues undertook searches in 2004 and to which this brief report is confined. A more detailed article on these and other searches for this moth is in preparation by the author and the national results will be drawn together by BC for the national database. In summary, the author, sometimes accompanied by others, searched Bedford Purlieus NNR (on 26 March, 7 & 22 April, 4, 14 & 25 May & 4 June, mainly with Mick Beeson but also the Northamptonshire Moth Group on the first date); the following sites with Mick Beeson: Castor Hanglands NNR (2, 9 & 16 April), Oxey Wood and Ben Johnson's Pit (both 24 March) (all VC 32 Northamptonshire); Monks Wood NNR (9 & 30 March, with Nick Greatorex-Davies and a posse of about a dozen people) (VC 31 Huntingdonshire); the Devil's Dyke and Newmarket Stud (13 May for larvae) (with Sharon Hearle and John Dawson) (on the border of VC 29 Cambridgeshire and VC 26 West Suffolk) and Hell Coppice in Bernwood Forest (22 May for larvae, BENHS field meeting) (on the border of VC 23 Oxfordshire & VC 24 Buckinghamshire). The four sites marked with asterisks have previous records of the moth, the last records for which are Bedford Purlieus: 30 March 1987 (two adults at bushes, Andy Foster & Mark Parsons); Castor Hanglands: 18 April 1986 (one adult at bush, John Ward), Monks Wood: 16 March 1997 (one adult in Rothamsted light-trap, Nick Greatorex-Davies) and Hell Coppice: 28 March 1950 (several adults, Maitland Emmet). No adults or larvae were seen during searches at any of these sites during 2004. This does not mean the species is absent, but it suggests that any populations that survive must be at very low density and possibly highly localised. The search techniques included looking for the adult moths at rest and on the wing around the bushes after dark and operating actinic light-traps in March and April and beating for larvae around dusk in late April, May and early June. While the search period was underway, it was most helpful and encouraging to receive the news sent out by e-mail from BC and others concerning the positive results of similar searches in southern England, north-west England and western Scotland and to know that our timing for adults and larvae was largely appropriate for the locations and type of season in 2004.

Particular thanks are due to Mick Beeson for his help, particularly at Castor Hanglands, and to Sharon Hearle, BC Regional Officer for East Anglia, for obtaining travel expenses for the author to help search some of the above sites and for organising the logistics at Devil's Dyke and Newmarket Stud. BC Cambridgeshire & Essex Branch contributed to the searches at Monks Wood and all the other volunteers are thanked.

Buttoned Snout *Hypena rostralis* (L.)

The following news on the Buttoned Snout *Hypena rostralis* comes from a three-year joint project between Butterfly Conservation Cambridgeshire & Essex Branch and Writtle College, with funding from English Nature. Study this year centred on observing the life-cycle in a large outdoor cage erected at the College to investigate key aspects of behaviour and ecology such as overwintering, mating, nectaring, egg-laying and larval feeding. The moth is also resident on the College estate. Additional field survey work was undertaken elsewhere in Essex, where larvae have now been found in most 10 km squares, and in Cambridgeshire. Indications from work in 2002 and 2003 that populations are mainly in the south of Cambridgeshire, and are much more thinly distributed than in Essex, have been confirmed by the work in 2004. For example two larval searches (on 25 July & 11 August 2004) of a large stand of the foodplant (Hop *Humulus lupulus*) in the north of the county between Etton and Glinton (modern Cambridgeshire but vice-county Northamptonshire) proved negative, for the second year running (see also *Ent. Rec.* **116**: 77-78). Another substantial stand at nearby Maxey was searched on three dates (13 & 25 July & 11 August 2004), for the first time, and also produced negative results.

Discovery of larvae during a BENHS field meeting led by the author in the grounds of London Zoo on 17 July 2004 was one of the highlights of this event and was reported in an illustrated article in *Lifewatch*, the magazine for members and supporters of the Zoological Society of London (Autumn 2004: 4). This is the first UK BAP species to be recorded wild in the Zoo and the first time that invertebrates other than butterflies have been surveyed there.

The observation cage at Writtle College was manned mainly by Graham Watkins, with assistance from Robin Field and others. A great deal of time was spent watching adult moths that were placed in the cage and searching for the eggs, larvae and pupae that resulted. Observations indicated that the adults were mainly active around dusk and much less so after dark. Nectaring was never seen, despite placing a range of seasonal flowers freshly gathered from the college estate alongside the potted Hop plants in the cage. The adult moths hardly roused from hibernation when the sallows *Salix* spp. were in bloom and did not appear to be tempted when flowers of Blackthorn *Prunus spinosa* and Common Hawthorn *Crataegus monogyna* were added later on. No mating was observed and individual moths tended not to roost alongside each other. Although plenty of larvae were produced in the cage, no egg-laying was seen. No eggs were found in searches of the undersides of growing Hop plants, suggesting they are either tucked out of sight on the plant – perhaps into the leaf axil – or on surrounding debris. A hibernating individual is currently under observation in an old garage, the third year running that this building has been used, and a roost with a large number of adults in a war-time gun emplacement has been visited, but even here adults tend to be dispersed singly on walls rather than in association.

Four-spotted Moth *Tyta luctuosa* (D. & S.)

Four-spotted Moths *Tyta luctuosa* were recorded by the author on a transect walk at Peterborough, Northamptonshire, with positive results every week from 10 May to 13 July in 2004. The peak count, of 29 sightings on 30 May, is the highest since the counts began in 2000. On 14 June, when 19 adults were seen, a pair was found mating at 14.30 hours, the first time this has been observed on the transect. This suggests that fresh females were continuing to emerge at this date because female moths are usually mated in their first days of adult life. The distinctive and nationally scarce tortricoid moth *Commophila aeneana* (photo) was also recorded on the site for the first time.

Highlights of 2004 included the discovery of a population of the moth on a protected roadside verge near Littlebury in Essex at last, after a tantalising record of an adult nearby in 2000 (Charles Watson) and subsequent exploration of the area. The population was found by Richard Fowling who saw about six adults on 28 May and there were subsequent sightings by Sharon Hearle (one on 3 June) and the author (four on 9 June). There was confirmation that the moth is still present on two sites in Oxfordshire (Paul Waring and Richard Lewington). Four individuals were seen in one day (10 June, by the author) at a site in the Sharnbrooke area of Bedfordshire where there are concerns that the species may be lost unless there is some management intervention. Good numbers were reported again in 2004 at the Portland Bill Bird Observatory light-trap, Dorset, with adults seen from 21 May to 19 June and from 11 July to 14 August, with a peak count of eight in the trap on the night of 29 July (Martin Cade).

As in past years, there was a scatter of records of single individuals at light-traps in south and central England in 2004, including a very welcome probable sighting (not confirmed by photograph or specimen) from a former breeding site in Nottinghamshire. At least some of these moths are likely to indicate the existence of nearby undiscovered populations. In one case this is known. Geoff Moss reported that on 27 July 2004 he had a female in good condition in his garden at an 6W actinic light-trap at Lavendon, near Olney, Buckinghamshire. Geoff has been operating this trap at his home there since 1980. This is his second Four-spotted moth, the first was on 26 June 1999. Both records follow a proliferation of Field Bindweed *Convolvulus arvensis*, the larval foodplant, after up-grading of local farm-tracks using limestone chippings. In addition Lavendon is only 7 km south-west of the Sharnbrooke area of Bedfordshire where the moth is resident.

There is good news from the single known but large population in Lincolnshire. The main population was discovered in the 1980s by Tony Smith and is within a SSSI covered by a management agreement with English Nature. On 8 June 2002 James McGill and I counted a minimum of 62 adult Four-spotted moths on the grassy valley-side containing the SSSI. In this and subsequent years a few moths have been noted in an adjacent open field of similar habitat but it was not clear if they were resident or simply wanderers from the SSSI. This field has a different ownership and the owners are interested in the moth and other wildlife. On the evening of 29 June 2004 Paul Waring searched this area for larvae after dark to see if breeding could be confirmed here. This is an important issue because the owners are entering the land into the government's Countryside Stewardship Scheme (CSS), through which they will receive financial help to manage it to favour wildlife. It is good to report that larvae of the Four-spotted moth were found at each of four likely-looking spots which were searched, throughout the upper slope of this property, spread over a distance of just over 100m. A total of nine larvae were found during a forty minute search, which started at midnight, and covered only a fraction of the promising habitat. If the whole of the site had been searched, undoubtedly a great many more larvae would have been discovered.

One disappointment is that no populations have yet been located in Somerset, despite a number of records of adults from certain areas in recent years and several searches of likely localities, particularly by James McGill and David Evans. The pattern of records strongly suggests the moth is resident in the county but James and David report concerns that changes in habitat condition may be a problem at some of the former and more obvious sites.

The above work took place as part of a national project on the Four-spotted Moth, being coordinated by Writtle College and the Cambridgeshire and Essex Branch of Butterfly Conservation, with funding from English Nature and the help of many volunteers. The author would particularly like to thank Robin Field, Chairman of this Branch of BC, for all his help with the running of this project, and the private owners of the sites for their cooperation and interest. Contributory funding and support for the monitoring and site management advice at the Peterborough site is also gratefully received from Cambridgeshire County Council, the Environment Agency and Peterborough City Council.

Marsh Moth *Athetis pallustris* (Hb.)

On 1 & 2 June 2004 BC & BENHS jointly held a search organised and led by the author for the Marsh Moth *Athetis pallustris* at its single known British site on the Lincolnshire coast, concentrating on seldom explored parts of the site. A total of eight adult males was light-trapped in the central part of the site, several hundreds of metres from the traditionally known breeding grounds where they were also recorded, by Tony Davis, Mark Parsons and Paul Pugh on 27 May and Sean Clancy on 28 May (see *British Wildlife* **15**: 434).

The results of this event are important in demonstrating that the Marsh Moth is not confined solely to the well-known location, but still occurs on the central part of the reserve where it was first found by Bernard Skinner (pers. comm.) in the 1970s. The central part of the reserve differs from the traditional spot in that it is not cut for hay. From a management point of view it is most helpful to know that the moth is not restricted to a single part of the reserve and that it has survived under two different management regimes. From a scientific point of view, the results open up a much larger area within which to study the ecology of the Marsh Moth and to compare and contrast different breeding situations.

No Marsh Moth larvae were found during the routine litter-pile monitoring of the traditional breeding area when the piles were inspected on 9 October 2004. Twenty-four litter-piles had been assembled, just before the August Bank Holiday, in a grid pattern which has now become standard. Ten lepidopterous larvae and one pupa of other species were recorded. Unfortunately, it has become unusual to find Marsh Moth larvae in the piles in recent years, in contrast to the late 1980s and early 1990s when double figures and even in excess of one hundred larvae were being found by this method. It is hoped that litter-piling can be tried in the central part of the reserve in 2005 to see how the results compare, possibly leading to a clearer explanation of the reasons why larvae enter the piles at all. This will be a great help in interpreting the monitoring results. Perversely, one possibility is that larvae accumulate in litter-piles in numbers only when conditions are LESS favourable elsewhere, rather than indicating that the population is high, and this needs to be examined.

The author is co-ordinating a national project on this moth, as part of the BC Action for Threatened Moths Project. In 2004 the fieldwork concentrated on Lincolnshire. The author thanks particularly all those who participated in the visits to survey for adults, John Walker, Assistant Site Manager, English Nature, for construction of the litter-piles, much reconnaissance, liaison and habitat management work, and Graham Weaver, former Site Manager, for help sifting the litter-piles.

Reddish Buff *Acosmetia caliginosa* (Hb.)

In Britain the Reddish Buff moth *Acosmetia caliginosa* is confined to a complex of small sites in various ownerships in a single locality in the north-west of the Isle of Wight, having formerly occurred also in Hampshire. The author rediscovered this remaining population in 1988 and monitored adult numbers annually until 2002 inclusive, latterly as part of the English Nature Species Recovery Programme, also conducting a number of surveys of the larvae. In 2002 virtually the entire breeding area was notified by English Nature as a Site of Special Scientific Interest and the Hampshire & Isle of Wight Wildlife Trust completed protracted negotiations to become the new owners of the largest portion of the occupied ground. In 2003 and 2004 monitoring was undertaken by Martin Harvey, working for the Trust, with support from English Nature, to cover both the Trust and non-Trust parts of the SSSI. Martin has continued light-trapping for adults but has also been experimenting with a small portable suction sampler for daytime survey of the larvae (see BC News 85: 27 for illustration). On 21 July 2004 I joined Martin on site with the main aims of observing and evaluating suction-sampling as a technique for detecting larvae of the Reddish Buff; to see the numbers of larvae obtained in fixed effort samples and to see how the occurrence of larvae compared with predictions based on the results of different methods of larval and adult sampling used by the author in previous years. Other aims were to see and record on video-tape the condition of the habitat in key locations and to meet up with some of the site owners.

In brief, it was noted that after about 30 seconds of continuous sampling, the sampler can become somewhat full of vegetation and other debris so individual samples of longer than 30 seconds duration are likely to diminish in effectiveness. Consequently a standard 30 second sample was adopted for collecting results. Each of the samples was timed using a Casio battery-operated wrist-watch. The sampling was filmed on video-tape. During the sampling on 21 July 2004 a single Reddish Buff larva was found in three of five 30 second samples from areas where the author had found larvae in previous years. The larvae were 12, 8 and 6 mm in length respectively, i.e. less than half-grown on this date. There was no evidence that any of these larvae were harmed in any way by the sampling technique. The swards in which larvae were found on this date varied from ankle-deep mixtures of Ling Heather *Calluna vulgaris*, various grasses, Gorse *Ulex europaeus* and Saw-wort *Serratula tinctoria* (the sole larval foodplant) to clumps of knee-deep Blackthorn and Gorse, as in previous years. The Saw-wort was never less than frequent. The sampling took place between 14.00-16.00 hours, during which the weather was warm and calm and the vegetation on the open ground was dry. In some previous years more advanced larvae have been seen by the author at this time. Martin confirms that the method does succeed in collecting late instar Reddish Buff larvae - some were found using the same equipment in 2003. Consequently, it would appear that 2004 was a somewhat later season than some previous years. (In contrast, 2003 certainly an early season for many species of moth). As larvae were as small as 6 mm, it is quite possible that others were even smaller or unhatched at this date. It is also very likely that the numbers of larvae seen in the suction-samples are an under-estimate of the larvae present in the sward covered by the sampling because vegetation in the sward acts to prevent some larvae from being extracted into the vacuum-sampler.

The condition of the breeding habitat was very variable on the inspection but substantial areas were in fair condition. Some parts are still recovering from fires and gorse-clearance and in these Saw-wort is sparse. At the other extreme there are areas which are becoming severely overgrown with woody growth and are in urgent need of management. A more detailed report has been supplied to English Nature and the Wildlife Trust. Quantities of Saw-wort were observed in some parts of the new and widened access routes through the scrub and woodland to the Trust land and this will have extended the breeding areas.

The author was not surprised by any of the larval survey results, which were well within the range of his previous experience of larval numbers, condition and behaviour on these sites. However, the visit was invaluable in seeing and recording this type of sampling on these sites and in keeping up to date with the condition of the habitat and other site issues. His time was provided by Writtle College and he is grateful to English Nature for covering his transport costs. Hopefully, with the SSSI notification, the efforts of Martin Harvey and other members of the Hampshire & Isle of Wight Wildlife Trust and continued funding assistance from English Nature, the future of the Reddish Buff in this locality is more secure than previously.

The author also made a site visit on 15-16 April 2004. This allowed closer examination of the effects of winter management operations and more time to be spent with some of the land-owners, whose continuing co-operation is greatly appreciated.

Square-spotted Clay *Xestia rhomboidea* (Esp.)

The main high-lights of work on the Square-spotted Clay *Xestia rhomboidea* in 2004 were the discovery in March of wild larvae in Wester Ross, Argyll, Essex and Hertfordshire, all for the first time ever (*Brit. Wildlife* **15**: 361-362 and *Ent. Rec.* **116**: 275-277). The larvae in Scotland were found as part of a BENHS-sponsored survey of sites where adults had been recorded in recent years and are the first larval records for the whole of Scotland. This survey was undertaken by Robin Field and Tim Gardiner (both of Writtle College at the time) with assistance from local BC staff and others. A total of three larvae was found, two on 22 March on Primrose *Primula vulgaris* in Wester Ross and one on 26 March on Dog's Mercury

Mercurialis perennis in Argyll. The adult moth has been recorded from a very wide scatter of sites in Scotland and some of these were searched without success during the survey. The author and Robin Field mounted the first successful search in Essex on 15 March, joined by members of the Moth Groups of Essex and Hertfordshire who subsequently used their newly acquired skills to find six larvae in a site in Hertforshire (a small conservation wood near Meldeth) on 16 March (Jim Reid) and two in another site in Essex (an elm copse in Langley Upper Green) on 17 March (Ted Ponting).

Various other nocturnal searches for larvae took place, some involving quite large numbers of people. For example fourteen people, including the author, Nick Greatorex-Davies, Barry Dickerson & Henry Arnold, searched Monks Wood and nearby Riddy Wood, Huntingdonshire, for larvae on 30 March 2004. The Square-spotted Clay is present on the list of moths recorded for this famous site, apparently on the basis of a single adult captured in 1974 in the light-trap of the Rothamsted Insect Survey. There appear to be no other records of this species for the site despite the fact that the light-trap is still in operation nightly (pers. comm. Nick Greatorex Davies, who records the catches, and Barry Dickerson, County Moth Recorder for Huntingdonshire). We spent 10 man-hours searching at Monks Wood between 21.00-22.00 hours , mainly in the "Owl Ride" portion of the wood and near elms and by the edge of the wood. There were lots of young plants of Common Nettle *Urtica dioica* (a favourite larval foodplant locally, see *Atropos* 17: 37-41) and lots of larvae of other noctuid species were seen, including several Broad-bordered Yellow Underwing *Noctua fimbriata*, four Angle Shades *Phlogophora meticulosa* and at least three additional species. It was evidently a good night for searching for larvae. The sky was clear, the air calm and relatively warm (7°C within wood, 6°C outside), the vegetation was dry and it was moonlit, but we saw no Square-spotted Clay larvae. A previous search of the site on 9 March 2004, involving most of the same people, also produced numbers of noctuid larvae but none of the Square-spotted Clay. We could not cover the whole of the wood however, and it remains possible that a small or localised population of the moth could be present but overlooked.

In contrast, a larva of the Square-spotted Clay was found by the author, searching with Mick Beeson and Roy Goff at Bedford Purlieus, Northamptonshire, at 22.40 hours on 7 April 2004. It was feeding on young nettle growth in a cross-rides within the wood. This record is important because it is the first time the larvae has been found at this site and it is some decades since the adult was last seen here. The last record appears to be of an adult recorded by S. W. P. Pooles at some time prior to 1961 (John Ward, County Moth Recorder for Northamptonshire, pers. comm.) but there are more recent records from the surrounding area.

During a search at Oxey Wood, near Helpston, Northamptonshire, on 24 March 2004, Mick Beeson and I found that the roadside verge where we discovered a Square-spotted Clay larva on 28 March 2003 (see *British Wildlife* **14**: 362) had been severely disturbed by a burst water-main and by the subsequent clean-up operation. This event occurred at the end of 2003 and the area is now bare mud. Any young larvae present at the time might have been washed away, but they are unlikely to be confined to this area.

Efforts were made to observe the behaviour of wild females in their natural habitat. A group led by the author and Robin Field confirmed that mated females as well as males visit flowers for nectar at dusk. On the evening of 11 August a total of six Square-spotted Clay, all in fresh condition, were observed nectaring at flowers of Teasel *Dipsacus fullonum* at Overhall Grove, Cambridgeshire. The six included three males and three females. Fertile eggs were subsequently laid by one of the females in isolation, confirming that she was already mated. Access to such flowers may improve the suitability of sites as breeding grounds. Unfortunately, no egg-laying was seen during nocturnal observation sessions in August and no eggs were found subsequently in day-light searches. Possibly the searches in 2004 were slightly too early because the year was not as advanced as 2002 and 2003.

At the time of writing, larvae are already showing some activity. Two were seen after dark on 10 January on the first search of the winter. They were both climbing onto Ground-ivy *Gelechoma hederacea* at Fulbourn Fen nature reserve, Cambridgeshire, but feeding on this plant was not confirmed (John Dawson). The larvae were just 10 & 12 mm in length respectively.

The above work on the Square-spotted Clay was largely undertaken as part of a three-year joint project between Butterfly Conservation Cambridgeshire & Essex Branch and Writtle College, with funding from English Nature. The searches in Scotland were funded by a grant from the Maitland Emmet BENHS Research Fund.

White-spotted Pinion *Cosmia diffinis* (L.)

The main high-light of work in 2004 on the White-spotted Pinion moth was the discovery of the first larva ever found in Essex, thereby confirming a breeding area, at Langenhoe. Until then evidence of breeding in Essex had been lacking and the only records in recent decades are of very occasional singletons at light (Brian Goodey, 2004, *The Moths of Essex*). An illustrated report of the discovery at Langenhoe is in press. The search followed on from the capture of an adult in a light-trap there on 18 August 2002. This was the first record of the species from Essex since a single individual was captured at Saffron Walden in 1997 by Maitland Emmet (*British Wildlife* 14: 285-288). The following spring the area was searched for larvae without success on 22 May 2003, although a suspected larval spinning was noted (Joe Firmin, Hugh Owen, Phil Smith and myself, see *Ent. Rec.* **116**: 134-137). Later in the year six additional adults were recorded at the site, the first on 31 July 2003, followed by two on 2 August and three on 7 August (Hugh Owen). Determined to find larvae at Langenhoe, the site was searched again on 25 May 2004, by Joe Firmin, Hugh Owen, Ian Rose, Phil Smith and the author and after the five of us had been searching for one hour, I found a larval spinning, occupied by a White-spotted Pinion larva 2.5 cm in length, in its black-headed penultimate instar.

During 2003 two adults of the White-spotted Pinion were also light-trapped at another site in Essex, by David Scott at Ford Farm, Brightlingsea, both on 6 August. This is the first time the species has ever been recorded on the farm, where David has operated a Robinson light-trap since 1998. Accordingly, a search for larvae also took place here in 2004, on 25 May (Joe Firmin, Ian Rose, David Scott and the author). No larvae were found in the time available, but two areas of very promising habitat were located. A single adult was captured on 14 August 2004 in an actinic trap at the edge of one of these. Hopefully larvae will be searched for and found in this area and at Chalkney Wood in 2005, where a single adult was recorded on 16 August 2002 (Joe Firmin, Ian Rose & David Warner). Other Essex sites with elms will also be investigated.

Huntingdonshire and Cambridgeshire are the current strongholds for the White-spotted Pinion and indications are that the populations have increased in recent years and perhaps colonised some new sites. The first adult of 2004 was one recorded at Earith on 27 July (David Griffiths). Between 1-9 August Barry Dickerson (BD) (Huntingdonshire County Moth Recorder) noted the moth at a number of sites around the county, including the first records for the species at Midloe Grange Farm. Poor weather prevented sampling all the known sites but thirty individuals came to a single light at Raveley Wood on 14 August, the largest number BD has ever recorded at one light in about 15 years of trapping for the moth. This suggests the species had a particularly good year, perhaps as a result of the warm, dry weather in 2003. Meanwhile, seven individuals were caught in the Rothamsted trap at Monks Wood in 2004, between 6-25 August (Nick Greatorex-Davies). This is the largest number ever recorded at this site too, the previous highest total was six in 1997. Twice as many have been recorded at this site in the fifteen year period from 1989-2003 (24 moths) as in the previous fifteen year period from 1974 (when trapping started) to 1988. The trap is not near the main stands of elms in the wood, suggesting this wood also supports a strong population.

However, Dutch elm disease is continuing to damage elm populations in the places where the White-spotted Pinion breeds. A stand of tall elms which supports one of the populations of the moth at Dry Drayton, Cambridgeshire, showed severe symptoms of advanced Dutch elm disease when the author visited on 11 August 2004. Of a dozen main trees, all but one were largely bare of foliage. Light-trapping here on 3 & 11 August 2004 produced one and five adults respectively. It will be interesting to see if numbers of the moths crash in 2005. Dutch elm disease is also affecting increasing numbers of trees in Raveley Wood.

Meanwhile, no White-spotted Pinion were recorded at Coppice Wood, Riseley, Bedforshire, on the BENHS field meeting on 12 August 2004, despite operation of six light-traps all night. This was the site of the last record of the moth in Bedfordshire (in 1985) until rediscovery at a single site in the county in 2002 (single adults captured by John Day at a garden light-trap near Sandy on 2 Aug. 2002 and on one night in August 2003). The only elm specialist seen during the BENHS meeting at Coppice Wood was a single Lesser-spotted Pinion *Cosmia affinis* the despite the wood being full of elm re-growth.

Eggs laid by a gravid female captured in 2003 failed to hatch. The intention was to rear some larvae during 2004, to study their feeding behaviour and any preferences, sleeving some outside on growing foodplant. The foodplants are well-established and ready and hopefully more eggs will be obtained in 2005.

My work in co-ordinating a national project on this moth is part of the BC Action for Threatened Moths Project. The work has involved a large number of people, but in addition to the above, the author would particularly like to thank Barry Dickerson and John Dawson ((County Moth Recorders for Huntingdonshire and Cambridgeshire respectively), Ruth Edwards (site owner and moth enthusiast), Will Kirby (RSPB), John Comont (Bedfordshire County Ecologist), Charles Baker, David Manning and everyone else who helped with searches.— PAUL WARING, Reader, Centre for Environment & Rural Affairs, Writtle College, Essex. Contact address: Windmill View, 1366 Lincoln Road, Werrington, Peterborough, PE4 6 LS (E-mail: paul_waring@btinternet.com).

Valenzuela atricornis (McLachlan, 1869) (Psocoptera: Caeciliusidae) in Yorkshire

Among a general collection of insects taken by myself at the Haverfield Quarries Site of Special Scientific Interest, East Yorkshire (VC 61; O.S. grid reference TA 3219), on 17.ix.1996, but not fully worked up until recently, was a single specimen that keyed to *Caecilius atricornis* in T. R. New, 1974, Psocoptera, *Handbooks for the Identification of British Insects* Vol. 1, Part 7. New *(op. cit.* p. 52) states that this species is rare, perhaps local, and found on low vegetation. My specimen was beaten from a Sallow bush beside reed-fringed water in a shallow gravel and shell-sand quarry close to the North bank of the Humber. This is apparently the only known record from Yorkshire. I am grateful to Bob Saville, Lothian Wildlife Information Centre, and Dr Charles Lienhard, Museum of Natural History, Geneva, for confirming the identification and indicating the present generic placement of the species.— WILLIAM R. DOLLING, Brook Farm, Elstronwick, Hull HU12 9BP.

Observations of butterflies in remote parts of the Scottish Highlands

My main interest is hill walking, and I have a particular fondness for Scotland. I walk frequently in very remote parts of the Highlands, which are not often visited even by very keen walkers. I have, for example, climbed not only the 284 3,000 foot peaks known as Munros, but the 227 subsidiary peaks above 3,000 feet as well. Only 399 people are known to have done this since records began in 1901, completions of the lists being registered with the Scottish Mountaineering Club.

I have been interested in butterflies for many years now, and a couple of years ago joined the Butterfly Conservation Society. However, I must stress that I am very much an amateur, and so a different weight must be placed on my observations than would be given to, say, one of the editors of the *Millennium Atlas*.

But my observations may nevertheless be of value, in that they are from areas which are especially remote and difficult of access.

I have two general impressions of the distribution of butterflies in the Highlands:

- many of the kilometre squares in the Highlands in the *Atlas* are blank, indicating no record exists. My view is that this is because in many of these squares there *are* no butterflies, rather than that there are but the area has simply not been visited by a recorder because of its remoteness
- despite this, I believe that species are more widespread in their distributions than is generally believed

The weather in Scotland can of course be dire, even at the height of summer. On several occasions in July I have been in heavy snowstorms on the tops. But there is the occasional magnificent day of sunshine. Even on such days, the striking feature of long walks over many hours through remote areas is how few butterflies are actually seen. This is particularly the case not only on the high tops, but in the boggy, low-lying glens which make up much of the rest of the landscape. It is possible to walk for literally hours without seeing a single butterfly.

However, there is the occasional surprise. Here are three records, in increasing order of implausibility as far as current records and wisdom on distributions of species is concerned.

Mountain Ringlet *E. epiphron*

The weather on 29 June 2003 was superb. I set off from the ski centre in the forest North of Ben Nevis and the Aonachs at grid reference NN 173775. I went on tracks through the forest and climbed Aonach Mor by its remote North East ridge. I went from there over Carn Mor Dearg and then climbed Ben Nevis via the Carn Mor Dearg arête, an easy scramble rather than pure walk. My descent was to the car parking at the road head of Glen Nevis via the summit of Carn Dearg South West at NN 155701, descending from there into the Coire Eoghainn and down into the glen.

This descent route from the Ben is very rarely used, being continuously steep over much rough, pathless terrain. It should only be attempted by experienced walkers, and indeed there is a notice board in Glen Nevis which proclaims "Danger. This is not a route to Ben Nevis".

I saw some Small Whites along the initial forest tracks, and then no butterflies at all until I was about to descend out of the Coire Eoghainn at around 6 pm on a sunny evening. The corrie is grassy and south-facing, and at approximately NN 165702 at an altitude of some 650 metres I saw a Mountain Ringlet. I understand that this is the first report of the species on Ben Nevis since 1984 (private communication from Butterfly Conservation). I should mention that I have seen Scotch Argus on several occasions, sometimes in considerable numbers, so I believe I am able to distinguish the two species.

Chequered Skipper *C. palaemon*

I believe that the distribution of this butterfly is considerably wider than is currently recognised, although the *Millenium Atlas* does mention in the discussion on this species the problems of obtaining records in remote areas in weather which is often inclement.

On 28 May 2002, the weather was overcast but bright. I walked to and from some remote Munros above Loch Monar, in the west of Scotland but much further north than the accepted range of *C. palaemon*. I imagine that the only people who visit this area are serious Munro baggers, along with the occasional forestry or estate worker. Both on the way out and the way back, I saw some six to eight butterflies which, I thought at the time, must be Chequered Skippers. On inspecting the *Millennium Atlas* on my return home I could not see how I could have confused them with any other species. The specific location is on a track going east/south east then south from Craig (NH 040493) on the A890. The butterflies were in the area from roughly where the track leaves the forest (NH 066487) to where it turns almost due east (NH 075468 – on the map just to the left of 'Pollan Buidhe'). The track is near but above the Allt a'Chonais stream, and the surrounding ground is moor-like rather than boggy.

I believe I have also seen this butterfly in the long, remote glens in the Cairngorms, in the east of Scotland. The terrain is similar to that described in the above paragraph. More specifically, the locations are in the upper parts of Glen Derry as it runs north to south bounded by Derry Cairngorm to the west and Beinn Breac and Beinn Chaorainn to the east, and in the long approach from the North to Braeriach on leaving the Rothiemurchus forest.

White Letter Hairstreak *S. w-album*

Many of my walks are done solo, but on this occasion I had a companion. This turned out to be fortunate. Indeed, even with a witness I have only felt able to mention this because of a fortuitous meeting with Roger Dennis, who has been very encouraging. My fear was that it would be regarded as so implausible as to remove all credibility from any future reports I made.

At the end of May 2003, we were at the Linn of Dee, which is about six miles west of Braemar and is the road head for excursions into the Southern Cairngorms. On the road was a single but perfect wing of a White Letter Hairstreak. My companion at the time is not into butterflies, but I picked it off the road and took it back to where we were staying in Braemar and we both checked it on the Internet. There is no doubt that it was and, as I say, I have a witness! One possibility of course is that it was hit by a car in a completely different location, and just happened to fall off there.

On a final point, I have been willing for some time to submit negative records to Butterfly Conservation. In other words, details of walks in remote areas in favourable conditions in which no butterflies are seen at all. These seem to me to be useful in helping to differentiate kilometre squares in which there really are no butterflies, and squares in which there are, but which are very remote and have not been visited by a recorder. Unfortunately, I have not received an encouraging response to this suggestion.— PAUL ORMEROD, 35 The Avenue, Kew, Richmond, Surrey TW9 2AL (Email: pormerod@volterra.co.uk).

The editor invited Butterfly Conservation to comment on the above article and their response is reproduced below

We do recognise that negative records can be very important in assessing the status of species. Indeed negative counts are quite acceptable as part of butterfly monitoring transects. However, the difficulty with butterfly distribution recording is that there is no standard methodology and it is consequently extremely difficult to make assumptions about negative records. One recorder's visit to a site might be very different from another's in terms of the time they spend searching, their observational skills, the areas that they search, whether they look for immature stages as well as adults and how well they know the ecology of the species concerned. Timing will also be critical depending upon the flight period of the species in question. Then of course there is the weather. I visited a large number of known Pearl-bordered Fritillary *Boloria euphrosyne* colonies in Scotland in early June 2004, as part of a national survey for this UK Biodiversity Action Plan Priority Species. All but one of the sites were negative for the species. However, I cannot conclude very much from this. Perhaps the species had finished early, there were certainly some Small Pearl-bordered Fritillary *B. selene* around, and this butterfly is usually a little later than my target species. Also the weather was overcast and cool during all visits. I saw other butterflies at most of the sites, including the previously mentioned Small Pearl-bordered Fritillaries, but I cannot assume that the conditions were therefore also suitable for my target species; perhaps they were all roosting. Finally, there is the spatial element. Although fritillaries are quite large and obvious, I might simply have missed the main flight areas whilst searching hectares of shoulder-deep bracken hillsides. This factor was brought home to me when, after walking over several kilometres of apparently suitable but unoccupied habitat for other specialist butterflies, including Chequered Skipper *Carterocephalus palaemon* and Green Hairstreak *Callophrys rubi*, I stumbled on a small patch of bluebells, no bigger than a kitchen table, upon which four Chequered Skipper and 21 Green Hairstreak were perching and nectaring. Had I not seen this tiny patch of ground, I might have concluded that the area was devoid of butterflies too.

It is not my aim to detract from the hard work put in by many volunteer butterfly recorders, simply to highlight the difficulties for a national recording scheme in interpreting negative records. On the contrary, we are deeply indebted to thousands of recorders who devote so much of their spare time and expertise to maintain the distribution data sets upon which almost all conservation efforts for butterflies rely. However, on the eve of the 11th recording season for the Butterflies for the New Millennium project, it is an appropriate time to consider changes to the aims and methods and Butterfly Conservation (and our project partners) will revisit the question of negative records and see if there is any constructive way that these can be incorporated into the national recording scheme.— RICHARD FOX, Surveys Manager, Butterfly Conservation, Manor Yard, East Lulworth, Wareham, Dorset BH20 5QP.

Some potential recent Lepidoptera colonists in Suffolk

In the summer of 2002 singletons of *Cynaeda dentalis* (D. & S.) (Pyralidae) were recorded at light at two coastal sites in Suffolk with the initial record being mentioned in Langmaid and Young (2003. *Ent. Rec.* **115**: 249-272). Although there are references to this species occurring in Suffolk; Beirne (1952, *British Pyralid and Plume Moths*. Warne.), Parsons (1993. *A review of scarce and threatened pyralid moths of Great Britain*. JNCC) and Goater (1986. *British Pyralid Moths*. Harley); there appears to have been no recent records prior to 2002 and I have not been able to trace details of the record referred to in Beirne. As the foodplant, Viper's Bugloss *Echium vulgare*, occurs sporadically along the coast of Suffolk in 2003 I went searching for the cocoons formed by the larvae at the base of the foodplant. The tough cocoons, formed from shrivelled leaves of the foodplant, are reasonably easy to find if present, although groping around the bases of many Viper's Bugloss plants can be a rather prickling experience. In the end I found five cocoons in only one small area along the coast, near where one of the adults had been found at light. Three cocoons were taken home to confirm their identity and subsequently produced five adults, suggesting that cocoons may be shared by larvae and that a single plant may support more than one larva. In 2004 I repeated the search and found over fifty cocoons at the same site but again with no evidence of it occurring elsewhere along the coast. This leads to the question as to whether this species has been resident in the county undetected, possibly at low density, or whether it maybe a recent colonist or re-colonist. The site where the cocoons were found is a reasonably well recorded site, at least in terms of light-trapping effort, so if previously present it might have been expected to have turned up at light at some stage in the past. One might also have expected it to be present at other sites with the foodplant and similar habitats along the coast if it has been established for a long time in the county.

I am aware of two occasions of the Toadflax Brocade *Calophasia lunula* (Hufn.) being recorded at light in Suffolk; at Landguard (Nigel Odin & Mike Marsh, 2001) and at Rendham (Matthew Deans, 28 May 2004) and at the time these were thought to be migrant records. After hearing of the 2004 Rendham record and while visiting another Suffolk coastal site a large stand of Common Toadflax *Linaria vulgaris* as noticed. Without much expectation of being successful Neil Sherman and myself visited the area on 4 September 2004 to search for larvae at night. This resulted, after sweeping and searching by torchlight, in three nearly fully-fed larvae being recorded. In the following week I heard from Nigel Cumings – he had seen two larvae at another coastal site on the same date but during the daytime. This raises the question as to the source of the records at light – were these migrants or wanderers from established colonies on the coast. As the species is reported to come to light poorly it may have remained un-detected for some period of time.

In recent years L-album Wainscot *Mythimna l-album* (L.) has been recorded from most of the regularly recorded Suffolk coastal sites; Landguard (Nigel Odin & Mike Marsh, 2000 to 2003), Orford Ness NNR (Jim Askins, 2002 and 2003) where regular recording started in 2001 and a single record from Dunwich Heath (Mark Cornish, 2002) where regular recording began in 2002. Recording at Bawdsey Manor, another coastal site between Landguard and Orford Ness NNR, was started on a regular basis in 2003 by Matthew Deans and a single L-album Wainscot was recorded on 1 October 2003. The use of MV light traps at the site was started in June 2004 and in June and July L-album Wainscot was recorded on three occasions (one on 16 June, two on 1 July, one on 8 July). The situation became more interesting when in September and October a total of 87 individuals were recorded at Bawdsey on fifteen nights between 10 September and 19 October. At Hollesley, a short way inland from Bawdsey, Nick Mason was also finding the moth in his MV trap, mainly singletons recorded on ten occasions between 13 September and 9 October. A single individual was also recorded by Matthew Deans on 22 September at East Lane, another coastal site a short distance north of Bawdsey. Searches with light at this time at Shingle Street and Aldeburgh, further north along the coast, all proved negative. Other records of the species in the county for the year include two at Orford Ness NNR on 5 and 9 October (Jim Askins) and at Landguard on 17 July, 27 September and 4 October (Nigel Odin & Mike Marsh). As the species was being recorded at Bawdsey on nights when other migrants were absent from the traps and considering the numbers and frequency of recording it would suggest the possibility of a local population. The lack of similar numbers of records at other coastal sites over the same period provides additional support to the idea of a population in the area of Bawdsey. It may also be that some recent records of this species at Landguard and Orford Ness NNR may have been local vagrants rather than migrants, as is normally assumed.

Future recording should hopefully help clarify the status of these species in the county and whether any local populations are more than just transitory. From a local recording viewpoint it is interesting that the three species discussed are resident on the south coast and it makes one wonder what else from this area might be expected to turn up in Suffolk.— TONY PRICHARD, 3 Powling Road, Ipswich, Suffolk, IP3 9JR. (E-mail: tony.prichard@btinternet.com)

Danaus chrysippus (Lep.: Nymphalidae, Danainae) on the droppings of the gemsbok _Oryx gazella_ in Gemsbok National Park, Botswana/South Africa

I visited Gemsbok National Park in late February 1991. The park lies in both the extreme south-west of Botswana and in north-western South Africa. More details of the butterflies in the park can be found in Larsen (1992. The butterflies of the Gemsbok National Park in Botswana (Lepidoptera – Rhopalocera) *Botswana Notes and Records*, 24:181-204). *Danaus chrysippus* L. was fairly common, though not exactly numerous. I was therefore somewhat surprised to find an agglomeration of more than males on a pile of gemsbok *Oryx gazella gazella* droppings. All were males.

It is not unusual to find members of the Danainae on various foul substances such as carcasses or urine. They are also seen on excrement, though mainly on that of carnivores and monkeys. However, I have never previously seen such numbers or such density in one site. Cowpats and elephant dung are also visited, but only when fresh, and probably more for moisture rather than nutrients. Gemsbok droppings are always very dry – after all these animals often have to derive practically their entire water intake from forage and dew. And the droppings on which the butterflies were sitting were not fresh.

So the situation seemed very unusual. What was going on? The attractant could not be moisture, while salts or amino acids are also normally derived from moister substances. It was only the next morning, over breakfast in camp, that a possible

Danaus chrysippus aggregating on gemsbok droppings; about half the total assemblage is included in the photo.

cause struck me. The Danainae males need to ingest pyrrolizidine alkaloids to synthesize metabolically the sex pheromones necessary for successful courtship. These are not present in the larval host plants (Asclepiadaceae) so the first activity of a newly hatched male will be to find plants that contain the appropriate alkaloids; such plants are scattered over the plant kingdom, but even within a given genus, only some species are used. *Heliotropium* (Boraginaceae) and *Crotalaria* (Fabaceae) are common alkaloid sources, and dried parts or upturned roots are most attractive. The Danainae are quite willing to seek out pyrrolizidine compounds wherever they occur. They can be lured in numbers by hanging up baits of dried Heliotrope and in Bangladesh I saw at least seven different *Euploea* of several species coming to a dead *Tirumala agleoides*.

I immediately went off to gather a sample of the droppings for analysis, but it was six kilometres away in featureless sub-desert, and I could not find the exact spot again. The gemsbok that left its droppings might have been foraging on such pyrrolizidine-rich plants. The alkaloids were probably not absorbed by its digestive system and the dry dropping might even have had an unusually high pyrrolizidine content. The fact that all the *Danaus chrysippus* in the picture are quite fresh lends further support to this explanation.

However, there are also two counter-indications. First, pyrrolizidine alkaloids are known to be serious toxins that cause death in domestic grazers, though usually avoided (Mark Williams pers. comm.. Second, the gemsbok is essentially a grazer, and no grass is known to contain pyrrolizidine alkaloids. However, gemsbok stomach content has been found to contain up to 17% non-grass dry matter, so the possibility still remains. Should anyone ever be in my situation, please make sure that a sample of the droppings are collected for analysis.— TORBEN B. LARSEN, UNDP Vietnam, c/o Palais des Nations, 1211 Geneva 10, Switzerland (E-mail: torbenlarsen@netnam.vn).

Chrysodeixis eriosoma (Doubleday, 1843) (Lep. : Noctuidae) in Hampshire

In October 2002 I was brought a larva which was found by Adrian Butterworth of Brockenhurst in a bunch of *Chrysanthemum* bought for his wife. The flowers had been purchased locally in the New Forest. When I received the larva, which was green and obviously a plusiid, it was preparing to pupate. This it did in an extensive, tough, greyish spinning on the underside of a leaf of the foodplant. It duly emerged on 1 November 2002 and proved to be a *Chrysodeixis* species. I had previously bred a short series of *Chrysodeixis chalcites* (Esper) and also have two wild caught specimens in my collection. I did not think this insect was *chalcites* and initially thought it might be *C. acuta* (Walker), which I only knew from the literature. When I showed the moth to Bernard Skinner he considered it was a dark *chalcites* and certainly not *acuta*.

During 2004, I had the pleasure of meeting Michael Fibiger, by chance, in Lappland and during our conversation he told me of a third species in the genus, *C. eriosoma,* which was turning up in Europe. I subsequently visited the Natural

History Museum, London where Martin Honey very kindly helped to confirm that this moth is almost certainly a male *C. eriosoma*. It has slightly narrower forewings than *chalcites* and is generally darker with less reflective gold scales. It also has the two gold spots on the forewing fused together although this is a character which seems to occur occasionally in both species and is not typical of *eriosoma*.

There are problems associated with this taxon, however. No clear distinction in genitalia has been identified and for this reason my specimen has not been dissected, but is identified on superficial characteristics. The museum holds an extensive series of *chalcites* and *eriosoma* and there is clearly overlap with some specimens being superficially indistinguishable from some in the other taxon. In series, however the taxa are distinct and the specimen in question closely resembled a number of *eriosoma* and did not resemble any of the *chalcites* so closely. The type locality for *eriosoma* is New Zealand and it has an Oriental-Pacific and Australian distribution. In the case of *chalcites* the type locality is Italy and it has an African-western Palaearctic distribution. The specific distinctness of the two insects is unclear. It seems that *eriosoma*, which is a common species in the Far East, may eventually prove to be the eastern expression, as a vicariant sibling species, of *chalcites* which is essentially western. *Chrysodeixis acuta* on the other hand is quite distinct.

In many parts of the World this species, which is known as the green garden looper, is considered a pest. It is a general feeder and attacks a range of vegetable and ornamental crops including chrysanthemum and orchids.

Turning to the question of what it was doing in Brockenhurst, it is possible that it has arrived in Europe as a consequence of horticultural trade and it could have been imported to England with flowers. The origin of the flowers containing this larva is not known. In any case it seems extremely unlikely that the moth could arrive here without artificial assistance. The species has been continuously present in the 'Alaris-Schmetterlingspark' at Luther-stadt, Wittenberg in Germany since 1998, when they were apparently unintentionally introduced with imported plants. The species was first recorded in Sweden when a female specimen was hatched indoors from an orchid bought in December 2002 in Kalmar, in the province of Småland in south-eastern Sweden (Palmqvist, 2003. Intressanta fynd av storfjärilar (Macrolepidoptera) I Sverige 2002. *Entomologisk Tidskrift* **124**(1-2): 47-58). This specimen was originally reported as *C. acuta* and corrected when a good female genitalia illustration of *acuta* became available (in Goater, Ronkay & Fibiger, 2003. *Catocalinae & Plusiinae* in *Noctuidae Europaeae*, **10**: 183). The determination as *eriosoma* was checked by Michael Fibiger.

Chrysodeixis chalcites has been more regularly recorded in the United Kingdom in recent years and the main purpose of this note is to draw attention to the existence of this further species so that suspected *chalcites* and *acuta* may be critically examined in future.

I would like to acknowledge the help of Michael Fibiger, Martin Honey, Goran Palmqvist and Bernard Skinner.– TONY PICKLES, 2a Park Avenue, Lymington, Hampshire SO41 9GX. (E-mail: ajpickles1@aol.com).

ELACHISTA NOBILELLA ZELLER, 1839 (LEP.: ELACHISTIDAE), A MICRO-MOTH NEW TO BRITAIN

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Abstract

Elachista nobilella Zeller is introduced to the British list, characters for separation from similar species described, and its biology discussed.

Introduction

On 5 June 2003 GAC was surveying for the UK BAP priority leaf beetle *Cryptocephalus nitidulus* Fabricius (Col.: Chrysomelidae) at White Downs near Dorking in Surrey. As usual, other insects encountered were recorded and these included a small elachistid moth, assumed in the field to be *Elachista gleichenella* (Fabricius).

On closer examination at home this provisional identification was called into doubt. The wings were black with silvery markings but the pattern more resembled *Elachista apicipunctella* Stainton. Bland (1996) keys *apicipunctella* among the species with metallic sheen to the pale markings of the forewing, while Traugott-Olsen & Nielsen (1977) include it in the species with white markings. However, *apicipunctella* has a white head and this specimen did not. Clearly dissection was called for, and this is where things started to go wrong.

The macerated specimen, a female, showed characters that were clearly wrong for *gleichenella* and for the other species with silvery markings. The signum was obviously different, but, more interestingly, the ovipositor lobes were strongly flattened and heavily sclerotised, quite unlike any British species. Unfortunately, between examining the genitalia and attempting to make a mount the signum was lost and only the ovipositor lobes could be mounted. A glance through Traugott-Olsen & Nielsen (*loc. cit.*) suggested *nobilella* as a potential candidate, and it was decided to look for more material the following year.

On 31 May 2004 both authors were looking for bilberry associated species on the Surrey greensand at Hurtwood near Peaslake. JP, whilst sweeping the bilberry, caught a specimen of an elachistid which was black with silvery spots. By sweeping the bilberry and nearby grasses we were both able to find a few more specimens. Examination at home suggested that these were the same species as GAC had taken at White Downs the year before. The site was visited again on 9 June with John Langmaid and Bob Palmer, and good numbers of the moth seen. By this stage there was little doubt that the moth was *nobilella*, a species not previously recorded from the British Isles.

Identification

Elachista nobilella (Fig. 1) is amongst the smaller species of elachistid, with a wingspan of 6.5-8 mm. The forewing is dark fuscous with silver markings comprising a basal area, extended a little along the dorsum, a complete fascia just before the middle (occasionally interrupted at the fold), a costal and a tornal spot together with a third spot between the apex and tornus. The head is dull-metallic leaden and the antennae dark becoming greyish-white apically, the apical third weakly serrate.

Fig. 1. *Elachista nobilella* – adult

As mentioned previously, the position of the markings resemble *apicipunctella*. However, in that species the markings are white as is the head. It also resembles *gleichenella*. In that species the apical spot is usually united with the costal and tornal spots to form a chevron, but in worn or damaged specimens this is not always obvious. Both these species are rather larger than *nobilella*.

Male genitalia

The components, illustrated in a format comparable with Bland (1996) are shown in Fig. 2. The uncus lobes are short and widely separated. The valva is narrow at the base, the costa well developed and with a hump distally, and the cucullus rounded with no apical hook or projection present. The juxta processes are narrow and with pointed apices. The vinculum is rather long with a prominent saccus. The aedeagus is straight and slender, slightly more bulbous at the base and minutely bifurcate (cleft) at the apex; there are no cornuti.

Female genitalia

The components, illustrated in a format comparable with Bland (1996) are shown in Fig. 3. The ovipositor lobes are large, flattened, leaf-like, heavily sclerotised plates, quite unlike any other British or Scandinavian species. In dried specimens they can often be seen projecting beyond the abdomen (Fig. 4). The signum is characteristic too, being narrow and flat at one end and expanded at the other. The flat end has a strong, raised spine, and the bulbous end has 2-3 more.

Differences between the genitalia of similar species are shown in Table 1.

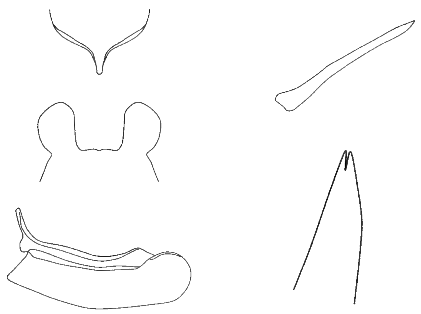

Fig. 2. Male genitalia of *Elachista nobilella*: vinculum, uncus lobes, right valva and aedeagus (to scale), and tip of aedeagus (enlarged).

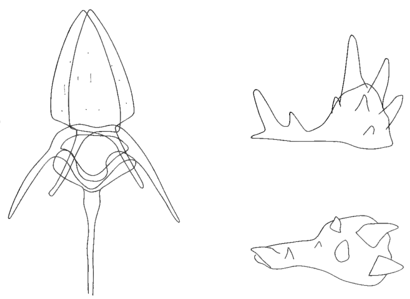

Fig. 3. Female genitalia of *Elachista nobilella*: ovipositor lobes and antrum, signum from lateral aspect (i.e. along plane of membrane of corpus bursae) and conventional view.

Fig. 4. *Elachista nobilella* – female abdomen

	nobilella	*gleichenella*	*apicipunctella*
Male			
uncus lobes	short, widely separated	vestigial	short, widely separated
valva – costa	with well developed hump distally	without hump	with moderately well developed hump distally
valva – apex	rounded, dorsally level with costa	rounded, and extending dorsally well above costa	rounded, dorsally level with costa, sacculus extended as point below apex[1]
aedeagus	slender, minutely cleft at apex	broad, with single, large cornutus and preapical "bend"	slender, acutely pointed at apex
Female			
ovipositor lobes	triangular, flattened, sclerotised	normal, fleshy	normal, fleshy
signum	asymmetrical, pointed at one end, bulbous at the other with several prominent teeth	elongate oval, broadest in middle, finely dentate	elongate, constricted medially, finely dentate

Table 1: Differences between the genitalia of Elachista species.

[1] Traugott-Olsen & Nielsen (1977) show the sacculus of E. apicipunctella to be produced into a point distally, below the cucullus. Bland (1996) and Pierce & Metcalfe (1935) show the cucullus smoothly curved into the sacculus without a point. Examination of Pierce's original material in the Natural History Museum, London, shows that a point is present.

Biology

Traugott-Olsen & Nielsen (*loc. cit.*) give a number of species of grass and sedge as foodplants, including *Bromus*, *Festuca*, *Agrostis stolonifera*, *Holcus lanatus*, *Dactylis* and *Carex*. The most common foodplant, though, seems to be *Deschampsia flexuosa*. At the Hurtwood site this was the dominant grass and a number of moths were seen flying around and among its leaves. Several were seen to alight on the grass, run up and down the stem and to pause for a moment before moving on. Pale coloured swellings on the leaf were noticed but under the microscope were found not to be eggs. In the vast majority of elachistids the egg is laid flat on the surface of the grass, only in *Stephensia* is it partially inserted into the foodplant. The almost unique form of the ovipositor suggests that something different must happen in *nobilella*, either insertion into a leaf or between leaves, but this has not yet been observed.

The mine is said to be short and whitish and occurs from April to May. In *Deschampsia*, which has extremely narrow leaves, it might be assumed to be very low on the plant.

The moth is univoltine, flying from early June (or, in this case, late May) to early July.

The preferred habitat is stated to be "open, half-shaded places in deciduous forests, never or rarely in dark coniferous woods." The exact circumstances of the capture of the White Downs' specimen cannot be recalled; although much of the site is open downland, it is thought that the capture site was along woodland edge. Hurtwood is best described as mixed woodland. Most of the deciduous trees are restricted to the ride edges and surround mature Scots pine plantation with a bilberry understorey. The moths, and the probable foodplant, were found along fairly wide and open rides.

It is widely distributed in Europe and occurs throughout Denmark, in parts of Sweden and Norway and as far north as southern Finland. Traugott-Olsen & Nielsen's comment "but not from the southern parts of Britain" suggests that they expected it to occur here, and its discovery in two localities, in one of them in good numbers, is strong evidence that it is indeed resident in Britain.

Conclusion

Elachista nobilella can be added to the British list and considered an overlooked resident. Due to its similarity to worn specimens of *gleichenella*, it is recommended that museum specimens are reappraised.

For those who are keen on such things, it is suggested that 601a is a suitable logbook number.

Acknowledgements

We thank John Langmaid for confirming the identity of the moths and for commenting on the draft of this article, and Kevin Tuck and Martin Honey for access to the collections at the Natural History Museum, London.

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Acontia lucida (Hufn.) (Lep.: Noctuidae) the Pale Shoulder in Suffolk

Between 12 and 17 August 2004, a small but interesting number of migrant moths appeared at light in traps I was running here at Blythburgh. *Agrotis ipsilon* Hufnagel, Dark Sword-grass, *Spodoptera exigua* Hb., Pale Mottled Willow, *Udea ferrugalis* Hb., Rusty-dot Pearl, *Ematurga atomaria* L., Common Heath, *Mythimna albipuncta* D.& S., White-point, all with the exception of the latter, suggested a degree of migratory movement.

On the night of 18 August a very violent storm passed over the area around dusk, the first wave of which led me to turn off the lamps as well as my computer, and I expected to have to find the Robinson Trap components all over the field in the morning. The first part of the electrical storm passed and I turned the traps back on but with the passing of another very squally period a bit later in the night, I did not hold out much hope of more than drowned moths in the morning. The old metal Robinson traps stood up to the worst that the weather could throw at them and were intact and almost bone dry inside in the morning. On top of the first egg carton that I looked at was an *Acontia lucida* (Hufn.), the Pale Shoulder. There followed something of a frantic chase through the trap before this moth was boxed. There were few other moths and nothing of migratory interest in the traps.

On 19 August, moths such as *M. albipuncta*, *Nomophila noctuella* D.& S. the Rush Veneer, *A. ipsilon* Hufn. and *E. atomaria* (four specimens) came to light. *Mythimna albipuncta* D.& S. is so common here over such a long period that I am unable to differentiate between resident and possible immigrant specimens, even though there are some interesting colour variants. On 24 August there were about twenty *E. atomaria* in the traps.

I have heard of several records of *A. lucida* from the south coast in 2004, but this seems to be first sighting on the east coast as well as a new record for Suffolk.— DAVID WILSON, Lark Rise, Dunwich Road, Blythburgh, Suffolk IP19 9LT.

Still further thoughts on The Continent cut off by fog

Following my further thoughts on 'The Continent cut off by fog' (*antea* 88-90), I have received a most helpful letter from Harry E. Beaumont of Rotherham, South Yorkshire. I asked for information regarding the curious labels placed with specimens in the Douglas Harrison collection of British moths. Mr Beaumont writes: 'The labels were published as *A label list of British Macro-lepidoptera* by the AES as their pamphlet No. 4, dated 1946, which ran to 32 pages and was printed by T. Buncle & Co. of Arbroath. The authors were Mr B. A. Cooper and Mr A. F. O'Farrell who state in their introduction that scientific names from two sources are given, the first are names used in the BM(NH) based largely on the most recent edition of "South" and the second those used in the Kloet & Hincks (1945) *Checklist of British Insects*. Where the two agree only a single name is printed. They go on to say that two English names are also given, the first are the proposed revised names of the authors and the second the names used by South. The authors go on to express the hope that the former will gradually supersede the latter. The cover price of the list is 3/6d, but by the time I obtained my copies (late 1950s or early 1960s) they were presumably already regarded as outdated as they cost me one shilling per copy. One I cut up and used as labels, these were eventually discarded (I suspect when the 1979 Bradley & Fletcher logbook was published) and the other I retained intact and this has been the source of the information given above.

My personal hope, now that Mr Beaumont has cleared the fog obscuring the origin of these labels with their curious vernacular names for British moths, is that they be consigned to entomological history. I can see no real use for them today.— MICHAEL A. SALMON, Avon Lodge, Woodgreen, New Forest, Hampshire SP6 2AU.

EDITORIAL COMMENT: The lively debate on the matter of scientific versus colloquial names has all been had before! Readers are referred to a short, but interesting note by A.D. Irvin, entitled *On learning Latin* in this journal, volume 74, pages 253-255, published in December 1962.

Five new records of the Autumnal Snout *Schrankia intermedialis* Reid (Lep.: Noctuidae) from Devon

On the night of 13/14 September 2003, the Rothamsted Insect Survey light-trap at Yarner Wood in Devon (site No. 589, O.S. grid reference SX 786789) caught a single male specimen of *Schrankia intermedialis*, the seventh known in Britain. Subsequently, in 2004 another four specimens, all male, were recorded: one on the night of 5/6 September; two during the period 6-9 September; and a singleton on the night of 11/12 November. The six British records prior to these findings were all from the south-east of the country: four from the Broxbourne Woods complex in Hertfordshire and two from Fagg's Wood in Warehorne, Kent (also a Rothamsted trap). All were males, caught from late September into October.

There are 17 non-British specimens, all also male. The first was netted by Henrik Jeansson at bait in a wooded area of Bejershamn on the Baltic Island of Öland, Sweden on the night of 4/5 October 1995. The specimen was determined from its genitalia by Ingvar Svensson and the finding published (Remarkable records of Macrolepidoptera in Sweden 1995. *Ent. Tidskr.* **117** (1-2): 35-48). Despite the fact that both *S. taenialis* and *S. costaestrigalis* occur in Sweden, this specimen was considered a migrant, having appeared during a fortnight of southerly and south-westerly winds. Other migrants, such as the Gem *Orthonama obstipata* (Fabr.), Pearly Underwing *Peridroma saucia* (Hb.) White-speck *Mythimna unipuncta* (Haw.) and *Hypena lividalis* (Hb.) were recorded during the same period; the latter two, along with *S. intermedialis*, being new to Sweden.

From 1997 to 2004, as many as 15 individuals have been recorded in Latvia, by Nikolay Savenkov and Ivars Sulcs. They have all been collected as singletons at light between the end of September and early October, from six separate localities, covering almost all of Latvia; although they have occurred predominantly in the west of the country. It is interesting to note that the most productive site, Kemeri, also produces specimens of *S. taenialis* (even though this is rare in Latvia) and *S. costaestrigalis*. In 2004, these records were reported, by the recorders, in "New and rare Lepidoptera for the Latvian fauna: Report No. 15" (*Baptria* **29**: 52-58).

S. intermedialis has also been recorded in Finland, where the only specimen was caught in Virolahti by Marko Mutanen on the night of 20/21 September 2001 and later determined by Jaakko Kullberg of the Finnish Museum of Natural History. This individual, like the Swedish example, was not considered native, having been trapped during a period of strong migration from the south-east. A full report by Kullberg, Albrect, Kaila and Varis can be found in *A Checklist of Finnish Lepidoptera – Suomen perhosten luettelo* (*Sahlbergia* **6**: 45-190).

Currently in the U.K., *S. intermedialis* is generally considered to be a rare hybridisation between the White-line Snout *Schrankia taenialis* (Hb.) and the Pinion-streaked Snout *Schrankia costaestrigalis* (Steph.). As its name suggests, it is intermediate in form between these two species, and has only occurred at sites where both others are found. Pairing could occur between the two "parent" species as they both have a July-August flight period, with the hybrids then on the wing later in the year, as seen in *S. intermedialis*. As yet no female specimens have been recorded and the immature stages are unknown.

As with the other British sites, Yarner Wood annually catches good numbers of *S. taenialis* and *S. costaestrigalis*, and this supports the hybrid theory. The 2004 specimens encompass both the earliest and latest British records thus far, although this may relate to the particular season rather than suggest any new information regarding its status as a species. Further studies to investigate this moth at Yarner Wood are underway, with the hope that a female specimen will be obtained.

Many thanks to Adrian Riley for his assistance in determining these specimens by genitalia; and to Phil Page and Albert Knott of English Nature for their efficient operation of the light-trap at Yarner Wood. Thanks also to Göran Palmqvist for information regarding the Swedish specimen; Jaakko Kullberg for details of the records from Finland and Latvia; Nikolay Savenkov for further information about the Latvian specimens; and Michael Fibiger for providing contact details of fellow continental lepidopterists.— PHILIP J. L. GOULD, Co-ordinator, Light-trap Network, Rothamsted Insect Survey, Plant & Invertebrate Ecology Division, Rothamsted Research, Harpenden, Hertfordshire AL5 2JQ (E-mail: phil.gould@bbsrc.ac.uk).

EDITORIAL COMMENT: Access to the type locality (Hoddesdon Park Wood) for *S. intermedialis* is currently "difficult" but light traps have been run over several years at the two other localities within the Broxbourne Woods National Nature Reserve where the moth was found by orginally Jim Reid. At these sites, and in other parts of the woodland complex, *S. costaestrigalis* is caught regularly and *S. taenialis* occasionally, but no examples of *S. intermedialis* have been seen since 1982. As Hertfordshire Moth Recorder I would be very keen indeed to hear from anyone who has records that are not yet "in the system".

A possible female Remm's Rustic *Mesapamea remmi* (Rezbanyai-Reser) (Lep.:Noctuidae) in Warwickshire

Several *Mesapamea* specimen were sent to MAB for dissection to confirm the presence of the Common Rustic *Mesapamea secalis* (L.) and the Lesser Common Rustic *M, didyma* (Esp.) for the forthcoming publication *'The Larger Moths of Warwickshire*. This was supposed to be a routine operation and it was with some surprise that a female dated 18 July1994 from DCGB's garden was found to have a notched ostium. It also lacked the diagnostic feature for differentiating these two common species of a left or a right facing bulbous swelling on the ductus bursae. A light staining with chlorazol black showed that the surface of the bursa copulatrix had many convoluted ridges (Figure 1). Unfortunately, despite using a recessed slide, the ostium distorted slightly when the cover slip was put in place. However, the notch and dark ridge with many very fine setae on either side of the entrance of the ostium can be seen (Figure 2). This is quite unlike either *M. didyma* or *M. secalis*

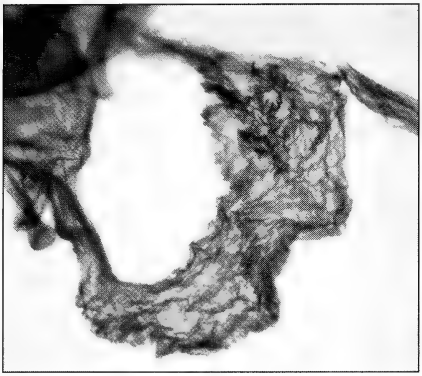

Fig. 1. Bursa copulatrix.

Fig. 2. Ostial entrance area.

and is a match for the description given by Jordan (1987. *Mesapamea Remmi* Rezbanyai-Reser, 1985, (Lep,:Noctuidae) a species new to Britain. *Ent. Rec.* **101**: 161-165) and the drawing by Nowacki (1998. *The Noctuids (Lepidoptera, Noctuidae) of Central Europe*. Slamka, Bratislava) for *M. remmi*.

There is a body of opinion that *M. remmi* may be a hybrid between *M. didyma* and *M. secalis* (M. Honey *pers. comm.*). Nevertheless we thought it worth recording that a specimen akin to Michael Jordan's description had been located. In case anyone is in a position to take this further, for example through DNA analysis, we wish to record that the specimen is lodged with DB and the dissection slide with MAB. — M. A. BAILEY, Holly Cottage, Tyning, Timsbury, Bath, BA2 0HG & D. C. G. BROWN, Jackson's Lawn, Charlecote, Warwickshire.

BOOK REVIEW

World Catalogue of Insects, Volume 5: Tortricidae (Lepidoptera) by **John W. Brown & collaborators.** Apollo Books, Stenstrup 1-741. 741 pp., 175 x 245 mm., ISBN 87 88757 41 2 (ISSN 1398 8700 for the series). Apollo Books, Kirkeby Sand 19, Stenstrup, DK-5771, Denmark, 2005. 960 Danish Kroner (approx £88 at April 2005). A 10% subscription discount for the series is available directly from the publishers. The publishers can accept payment in English pounds.

A catalogue, as the name suggests, is not exactly bedtime reading. The bulk of a book is a list of names that will be of interest only to taxonomists. The book begins with an introduction stating how many tortricid moths there are, estimates ranging from 112,000 to 225,000. Their importance and habits are briefly mentioned. There is then a detailed description of how the tortricid names are arranged, and from where the data have been assembled. This is carefully and clearly set out and is essential reading for anyone using the book. The nomenclature used follows the 4th edition of the Code published by the International Commission for Zoological Nomenclature except in one respect - the names are given as originally spelt, rather than making any attempt at species agreeing in gender with their genus. This is very welcome, otherwise whenever a species is transferred to another genus there is a danger of the end of the name changing. Further opening chapters describe the history of the project and list the collaborators who are specialists in particular tribes of the Tortricoidea. Literature cited is listed, the main museum collections where type specimens are held are given abbreviations and there is a long list of the abbreviations used for references.

Then follows the body of the book. All tortricid genera are given, with their synonyms and under each all the species world-wide are listed in alphabetical order, together with subspecies and synonyms. Each name is given its original reference, the genus in which it was first placed, and details about the type material such as the sex and place of deposition. Clearly an enormous amount of work has gone into the compilation of such a catalogue and it should save much time for those studying the Tortricidae. It is stated that all the names have been checked against the original spelling where they were published.

One only discovers the merits and shortcomings of such a work by trying to use it. So I wondered what it said about a new name for a Tortricid which we have long known as *Cydia splendana* (Hb.), but which in Razowski's recent books on tortricids (Razowski, J., *Tortricidae (Lepidoptera) of Europe. Volume 1 : Tortricinae and Chlidanotinae* (2002) and *Volume 2 : Oleuthreutinae* (2003). Slamka, Bratislava) has been called *triangulella* (Goeze). The index took me to the name *triangulella* where I was directed to a short section of notes at the back of the book. There was given a short history of the use of this Goeze name and then "because it is impossible to verify this synonymy ... for the purposes of nomenclatorial stability, we follow the traditional, long standing convention of including *triangulella* as a synonym of *Eudemis profundana*, and retain *splendana* as a valid name." So that was very helpful, and no doubt popular.

Another species I have recently been involved with is *Acleris emargana* (Fabr.) so I also looked there. Among its synonyms given are *effractana* (Hübner,1822) and *excavana* (Donovan, 1794). In fact the date of Hübner's illustration is 1799 and the name *excavana* although mentioned by Donovan a page later than stated, was not used as a specific name until by Haworth in 1811. For another species I found the name ended with *-i* in the text but ended with *-ii* in the index. This means that a researcher, in order to be sure he is right, still needs to consult the original texts to check spellings and dates, but in the vast majority of cases this catalogue contains correct and well presented information. With virtually all the world's tortricid specialists involved the work is truly authoritative.

David Agassiz

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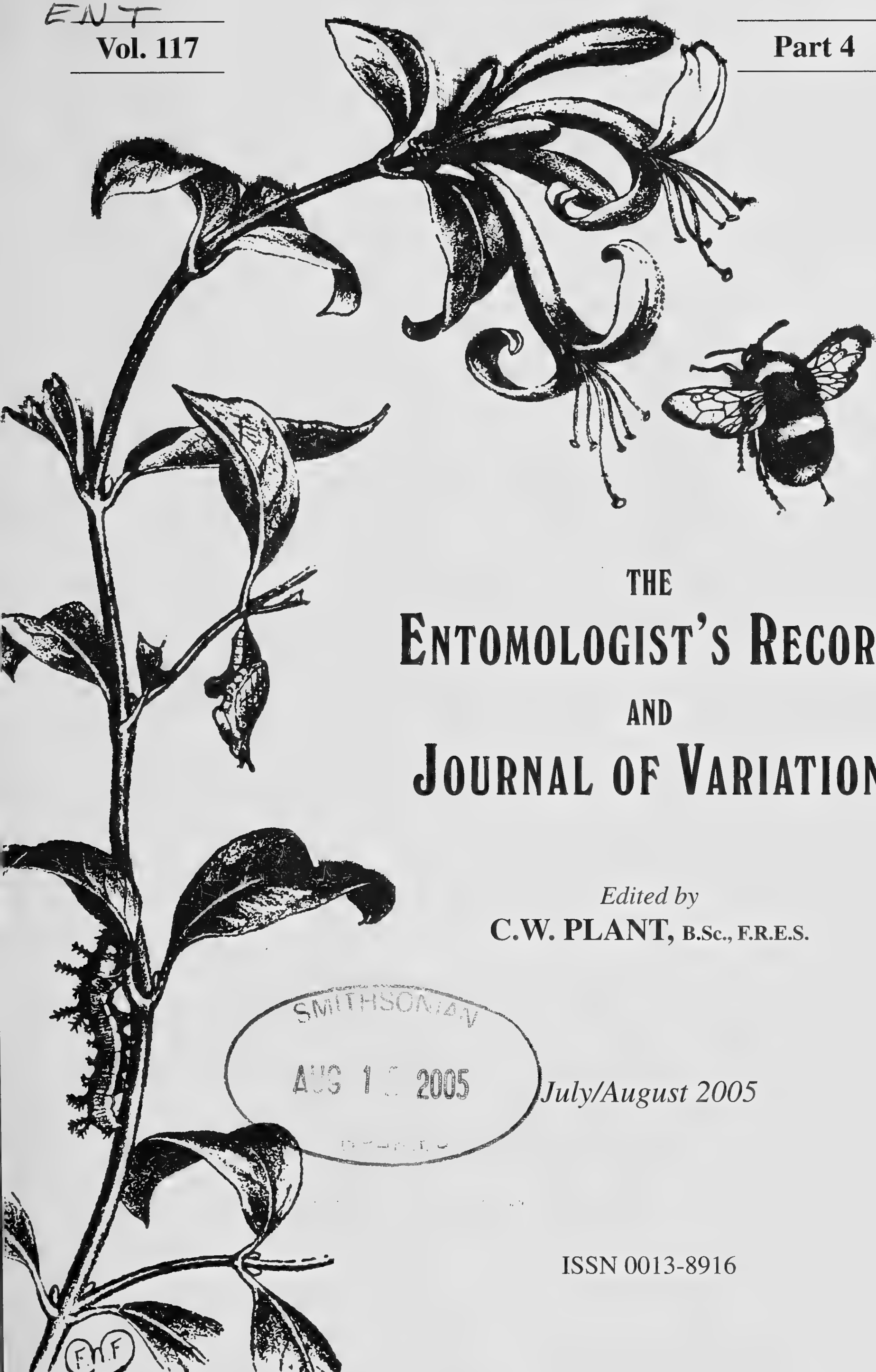

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CHANGES IN THE NAMES OF BRITISH MICROLEPIDOPTERA

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Abstract

Changes in the list of British microlepidoptera since 2000 are given. These comprise 17 species where research into type material or early literature has led to a change in the specific name. Additions to the British fauna are also listed. These are made up of 14 species newly discovered in Britain, six adventive species and species added on account of species splits or changes of status to specific rank. Four further additional taxa are mentioned which have been reported in the literature, but which require further research before formal addition to the checklist.

Introduction

It is now five years since the publication of Bradley (2000), the latest British checklist, and there have been a number of changes and additions. Since this list with its numbers assigned to each species is widely used, it seems worthwhile keeping it up to date.

Firstly we deal with the changes. Nobody likes changes in names and Bradley himself often resisted them. There are a number of names which were regarded as *nomina dubia* since it could not be ascertained with certainty to which species they belonged and there is no type specimen to decide the issue. A number of these are attributed to Goeze (1783) whose book assigned names to descriptions made by others before the Linnean system was adopted. Some of these have been brought into use by Continental authors and once they are in circulation, and there has been no confusion about the species they are associated with, it is difficult to suppress them, especially if this happened before the 4th edition of the ICZN Code (2000).

In order to fall into line with Continental lists they are here accepted. Other changes come about if misidentifications of early material are discovered, or senior names come to light. The changes in Blastobasidae will probably be unwelcome since these species have become so familiar in Britain. It is regrettable that the recently added species cited in Emmet & Langmaid (2002) as *wolffi*, with the express consent of the authors, has now a different name and *wolffi* is used for a different species.

We also list additions of which we are aware, but have kept adventive species separate from those which have arrived from Europe by migration or range extension. It is too early to guess which of these might become resident.

Name changes

No.	Name and synonymy	Notes & references
175	*Narycia duplicella* (Goeze, 1783)	
	= *monilifera* (Geoffroy, 1785)	Karsholt & Razowski, 1996: 302

180	*Diplodoma laichartingella* (Goeze, 1783) = *herminata* (Geoffroy, 1785)	Karsholt & Razowski, 1996: 302
182	*Bankesia conspurcatella* (Zeller, 1850) = *douglasii* auctt.	Agassiz & Langmaid, 2005
183	*Bacotia claustrella* (Bruand, 1845) = *sepium* (Speyer, 1846)	Karsholt & Razowski, 1996: 302
343	*Phyllonorycter esperella* Goeze, 1783 = *quinnata* (Geoffroy, 1785)	Schnack, 1985: 27
441	*Paraswammerdamia nebulella* (Goeze, 1783) = *lutarea* (Haworth, 1828)	Karsholt & Nielsen, 1998: 115
564	*Coleophora virgaureae* Stainton, 1857 = *obscenella* Herrich-Schäffer, 1855	Baldizzone & Tabell, 2002
617	*Elachista obliquella* Stainton, 1854 = *megerlella* auctt.	Kaslov & Kaila, 2001: 3-10
672	*Depressaria heraclei* Retzius, 1783 = *pastinacella* (Duponchel, 1838)	www.faunaeur.org
873	*Blastobasis adustella* Walsingham, 1894 = *lignea* Walsingham, 1894	Karsholt & Sinev, 2004: 421-423
874	*Blastobasis lacticolella* Rebel, 1940 = *decolorella* (Wollaston, 1858)	Karsholt & Sinev, 2004: 404-406
875a	*Blastobasis rebeli* Karsholt & Sinev, 2004 = *wolffi* auctt.	Karsholt & Sinev, 2004: 427-428
1075	*Phiaris micana* (Denis & Schiffermüller, 1775) = *olivana* (Treitschke, 1830)	Karsholt & Razowski, 1996: 315
1119	*Eucosma rubescana* (Constant(i), 1895) = *catoptrana* (Rebel, 1903)	Karsholt & Nielsen, 1998: 102
1255	*Cydia ulicetana* (Haworth, 1811)* = *succedana* auctt.	Razowski, 2003
1284	*Dichrorampha vancouverana* McDunnough, 1935 = *gueneeana* Obraztsov, 1953	Miller, 1999: 74
1369	*Uresiphita gilvata* (Fabricius, 1794) = *polygonalis* auct.	Karsholt & Razowski, 1996: 326

*The identity of *Cydia succedana* (Denis & Schiffermüller) is uncertain, but in Razowski (2003) the name has been used for a different species, therefore we use *ulicetana* (Haworth) which is certainly applicable to the species found in Britain.

Additions

24a	*Ectoedemia hannoverella* (Glitz, 1872)	Prichard & Clifton, 2004
36a	*Ectoedemia heringella* (Mariani, 1939)	Honey & van Nieukerken, in press
203a	*Infurcitinea captans* (Gozmany, 1960)	Heckford, 2004
311a	*Dialectica scalariella* (Zeller, 1850)	Agassiz, 2005
366a	*Cameraria ohridella* Deschka & Dimic, 1986	Honey, in press
601a	*Elachista nobilella* Zeller, 1839	Collins & Porter, 2005
642a	*Metalampra italica* Baldizzone, 1977	Beaumont, 2004

847a	*Syncopacma albifrontella* (Heinemann, 1870)	Heckford, 2002
875a	*Blastobasis rebeli* Karsholt & Sinev, 2004	Dickson, 2004
896b	*Cosmopterix pulchrimella* Chambers, 1875	Parsons, 2003
898a	*Pyroderces argyrogrammos* (Zeller, 1847) -	Sterling *et al.*, 2004. (Channel Isles only)
990a	*Dichelia histrionana* (Frölich, 1828)	Sterling & Ashby in prep.
1454b	*Dioryctria sylvestrella* (Ratzeburg, 1840)	Parsons & Radford, 2002
1466a	*Anyclosis cinnamomella* (Duponchel, 1836)	Sterling, in prep.

Adventive species

449a	*Prays citri* Millière, 1873	Langmaid & Young, 2001: 246
877a	*Stathmopoda diplaspis* Meyrick, 1887	Heckford, 2003
897a	*Anatrachyntis badia* (Hodges, 1962)	Heckford & Sterling, 2004
897b	*Anatrachyntis simplex* (Walsingham, 1891)	Heckford, 2004
1397a	*Diplopseustis perieresalis* (Walker, 1859)	Mackay & Fray, 2002
1402a	*Diasemia accalis* (Walker, 1859)	Agassiz, 2004

Changes of status and species splits

257 *Leucoptera orobi* (Stainton, 1870) is restored to full specific status. (Kaila & Wikström, 2004).

593 is comprised of three species (Kaila & Langmaid, in press.):

593 *Elachista regificella* Sircom, 1849

593a *Elachista geminatella* (Herrich-Schäffer, 1855)

593b *Elachista tengstromi*, Kaila *et al.* 2001.

1062 is comprised of two species (Karsholt *et al.* in press):

1062 *Acleris emargana* (Fabricius, 1775)

1062a *Acleris effractana* (Hübner, 1799)

1200 is comprised of three species (Agassiz & Langmaid, 2004):

1200 *Eucosma hohenwartiana* (Denis & Schiffermüller, 1775)

1200a *Eucosma parvulana* (Wilkinson, 1859)

1200b *Eucosma fulvana* (Stephens, 1834).

Further possible additions requiring confirmation

Arenberger (2005) gives data for the following additional taxa from the British Isles:

Stenoptilia gallobritannidactyla Gibeaux, 1985

Stenoptilia plagiodactylus (Stainton, 1851)

Stenoptilia scabiodactylus (Gregson, 1869)

Stenoptilia serotinus (Zeller, 1852).

Although it is likely that *S. bipunctidactyla* (Scopoli) may comprise a group of species we are not including these, nor assigning numbers to them, until further research has been carried out which makes the differences clear.

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Two new records of microlepidoptera from Bedfordshire – *Caloptilia falconipennella* (Hb.) and *Eucosma tripoliana* (Barrett), and the confirmation of one from a hundred years ago

The Rothamsted Insect Survey trap at Cockayne Hatley (near Potton, Bedfordshire; O. S. grid reference TL 2549) has operated daily since 1976, and 2004 was the eleventh successive year in which all the microlepidoptera have been identified and counted. During this period twenty-four species of microlepidoptera from this trap have been added to the County list.

The two following species are new records for Vice County 30 (Bedfordshire) during 2004.

Caloptilia falconipennella (Hb.). Single moths were recorded in the weeks commencing 23 April and 19 November 2004. Both were males, identified by genitalia examination. These records are the first for this alder-feeding species in the Midlands / East Anglia.

Eucosma tripoliana (Barrett). A single specimen of this coastal salt marsh species was recorded in the week commencing 6 August, confirmed by genitalia examination.

In addition, one specimen of *Cnephasia communana* (H.- S.), caught in the week commencing 4 June 2004, was identified by genitalia examination. This is the first record in Bedfordshire since the *Victoria County History* (Barrett, 1904. *Lepidoptera*. In Doubleday, H.A. & Page, W. (Eds.) *The Victoria History of the County of Bedford.* Constable, Westminster).— DAVID V. MANNING, 27 Glebe Rise, Sharnbrook, Bedford MK44 1JB & IAN P. WOIWOD, Rothamsted Research, Harpenden, Hertfordshire AL5 2JQ.

The Sub-angled Wave *Scopula nigropunctata* Hufn. (Lep.: Geometridae): A first for the Channel Islands

On the night of 2/3 July 2003, the Rothamsted Insect Survey light-trap at Trinity, Jersey (site No. 547) recorded the first specimen of *Scopula nigropunctata* known to have occurred on any of the Channel Islands.

On the British mainland, this *Red Data Book* moth is confined as a breeding species to the extreme south-east, in the Folkestone Warren area of Kent. However, its occurrence as a migrant may be increasing, again with most specimens being recorded in the south-east and it has also been found along the south coast as far as Dorset. Therefore, it is not too surprising that this specimen has found its way from the continent to Jersey.

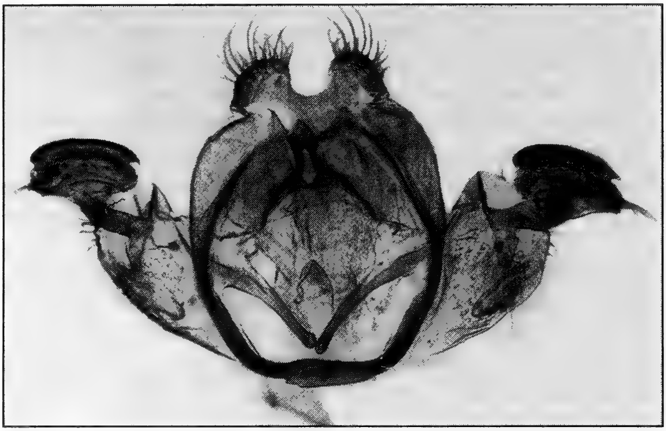
My thanks to Roger Long for drawing my attention to this record and to Alex Vautier for her long-standing hard work in operating the light-trap.— PHILIP J L GOULD, Co-ordinator, Light-trap Network, Rothamsted Insect Survey, Plant & Invertebrate Ecology Division, Rothamsted Research, Harpenden, Hertfordshire AL5 2JQ (E-mail: phil.gould@bbsrc.ac.uk).

A hitherto unrecorded larval food plant of the Marsh Fritillary *Euphydryas aurinia* (Rottemburg) (Lep.: Nymphalidae)

After perusing Abadjiev (2001. *An Atlas of the Distribution of the Butterflies in Bulgaria.* Pensoft.) I had not expected to see the Marsh Fritillary during my stay at Primorsko on the southern Black Sea coast in May 2004, there being no records of the species nearer than a hundred or so kilometres from the coast. In the event, though, this species proved to be common and widespread throughout the district. I was struck immediately by the apparent absence of any of the usual larval host plants where the butterflies were flying. There was, however, invariably present a quantity of a species of teasel *Dipsacus laciniatus* L. On 16 May, in an extensive colony near the village of Pismenovo I decided to search for ova on the teasel. Almost at once I found a batch and soon many more, and witnessed oviposition on many occasions. In the course of the next week I found eggs and saw females laying on *Dipsacus* in all localities where *aurinia* was present. In one instance I found five large egg batches on the underside of a single leaf of teasel. Teasels are biennial, and so I wondered if the butterflies would show a preference for laying on the smaller first year rosettes, but this turned out not to be the case, so that many larvae would have to wander after hibernation in search of pabulum. The adult insects in this area agreed very well in appearance with the subspecies *bulgarica* Fruehstorfer, as depicted by Lewington in Tolman (1997. *Collins Field Guide – Butterflies of Britain and Europe.* HarperCollins.) It would be interesting to know if a preference for *Dipsacus* as a larval food plant is general for, and possibly unique to, this race. According to Tolman *(op. cit.)* two species of *Dipsacus* have been recorded as larval host plants for the closely related *Euphydryas desfontainii* (Godart).— MICHAEL J. SKELTON, 42 Grosvenor Gardens, Bournemouth BH1 4HH.

Opostega spatulella H.- S. (Lep.: Opostegidae) in Essex

During 2005, I have been identifying smaller microlepidoptera collected by Martin Heywood from the Rothamsted Insect Survey light trap at Writtle College, Essex (O.S. grid reference TL 678066). This trap is run more or less nightly and is situated in the grounds of the college, an area of mostly short grassland with a scattering of amenity trees. Amongst approximately 500 examples of worn, scale-less *Elachista* species dissected, one specimen, taken on the night of 25 May 2005, has proved to be a male of *Opostega spatulella*.



Male genitalia, ventral view of *Opostega spatulella* (Writtle, Essex, 25.v.2005).

There are, apparently, only three previous British occurrences published in the literature: Southend-on-Sea, Essex (Stainton, 1860. *Entomologist's Annual* **1860**: 126 – 136), Witham, Essex (Cansdale, 1877. *Entomologist's Monthly Magazine* **14**: 139 – 140) and North Curry, Somerset (Barrett, 1877. *Entomologist's Monthly Magazine* **26**: 8). These records date from 1859 to 1877 with moths recorded in June and September and are summarised in Pelham-Clinton (1976. *In* Heath, J.(Ed.) *The moths and butterflies of Great Britain and Ireland* **1**:271. Curwen Books). In this work, Pelham-Clinton suggests this species has possibly been overlooked, and that nothing is known of its life-cycle although there are tentative links with elms. The disparate nature of two of the early locations and the fact that only eighteen years separate the earliest and last of these records is interesting.

The adult is figured in Pelham-Clinton (*op. cit.*), but a somewhat better illustration may be found in Johansson, R., Neilsen, E.S., van Nieukerken, E.J., and Gustafsson, B., (1990. *The Nepticulidae and Opostegidae (Lepidoptera) of north west Europe* **23, 2**: 471). Pelham-Clinton does not figure the genitalia. Although the figures in Johansson et al (*op. cit.*) are excellent, this work is not widely represented in the personal entomology libraries of British lepidopterists and so the opportunity is taken here to illustrate the genitalia of the Writtle specimen.— BRIAN GOODEY, 298 Ipswich Road, Colchester, Essex CO4 0ET (E-mail: brian@essexmoths.org.uk).

Female sex bias in captive-bred March Moth *Alsophila aescularia* (D.&S.) (Lep.: Geometridae)

The note by Lewis and Smart (*Ent. Rec.* **117**: 48-49) about female sex bias in adults produced by captive-reared larvae of Winter Moth *Operophtera brumata* prompts me to record a similar instance in a brood of March Moth *Alsophila aescularia.*

In spring 2002, Mark Shaw kindly sent me a large batch of eggs of this species, produced by laboratory stock used in studies of parasitism. The stock originated from various different localities and was by then several years old. When the larvae hatched, I fed them on hawthorn in a single large container, adding fresh supplies as needed. Once the caterpillars were large enough to handle easily, in their second instar, I cleaned out the container thoroughly for the first time. There were far fewer caterpillars than expected, yet it did not seem possible that any could have escaped, nor was there any sign of corpses. Still, ample remained, and I reared them through to pupae with little or no subsequent mortality.

Next spring all 19 pupae produced female moths, a ratio far greater than could be expected from chance. Fortunately it was females I had wished to rear, never having seen one in the wild. I contacted Mark Shaw, and he told me that such a sex bias had not been observed with this stock in his own laboratory. We agreed that some male-killing agent, presumably a bacterium as described by Majerus (2002. *Moths*, Harper Collins), was the most likely cause. This would also explain why there were far fewer caterpillars than expected from the size of the egg batch. Unfortunately I did not check at the time for un-hatched eggs, nor would these have been easily noticed beneath their covering of scales from the female's anal tuft. Another possibility is that males were disproportionately affected by inbreeding of the laboratory stock.

This is the first time I have ever encountered an obvious sex bias when rearing broods of caterpillars. Admittedly it was from laboratory stock already several generations old, rather than from a wild female. Even so, it is interesting that it occurred in a species where, as in the Winter Moth and many Psychidae, the female is flightless.

I thank Mark Shaw for the eggs and for his comments.— ROY LEVERTON, Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS.

Alternative to a nectar source for a thirsty Speckled Wood *Pararge aegeria* L. (Lep: Nymphalidae, Satyrinae)

On 16 June 2004, a hot day (25°C), a male Speckled Wood butterfly was observed to land on a nettle (*Urtica dioica*) in a hedgerow under tree cover in Alderley Edge woods, Cheshire, crawl to the underside of a leaf and feed off cuckoo spit held in the fold of the leaf; the fluid noticeably contracted in the process. Nectar sources were in short supply in this part of the woodland and presumably this formed a useful substitute.— R. L. H. DENNIS, Remar, 4 Fairfax Drive, Wilmslow, Cheshire SK9 6EY.

Rearing *Thyridopteryx ephemeraeformis* (Haw.) (Lep:. Psychidae)

The evergreen bagworm moth *Thyridopteryx ephemeraeformis* is one of the better known New World Psychidae. Its larvae are polyphagous, feeding on a vast range of plant material including Cupressacaea, Pinaceae, Poaceae, Asteraceae, Brassicaceae, Chenopodiaceae, Ericaceae, Fagaceae, Rosaceae and Salicaceae, among others. Consequently, it is of economic importance in the New World. Unusually for a New World species, the type locality is Great Britain. Wood, in his 1839 *Index Entomologicus*, figured Haworth's 1803 type specimen, which is now lost, under the vernacular name of "beltless clearwing" and stated that it was taken by Mr. Bolton in Yorkshire (presumably some time before 1803). It was not until 1841 that Edward Doubleday (Remarks on some North American Lepidoptera *Entomologist* 7, 97-101) established that it is a denizen of the New World. Davis, in his authoritative *Bagworm Moths of the Western Hemisphere* (published by the Smithsonian Institution in 1964), gives an explanation for the inclusion of this species on the British list. The type specimen was most likely to have been collected by John Abbott in Georgia, then sent to Francillon, a London dealer in entomological specimens. Francillon is known to have mislabelled foreign material and sold it as British, so this specimen presumably found its way from him to Adrian Haworth who, describing it in 1803 (*Lepidoptera Britannica*), assigned it to the genus *Sphinx*. However, the possibility of its accidental import into Britain cannot be ruled out as the species pupates in mid summer but does not hatch until late autumn. Furthermore, it overwinters as an ovum in the female's case, so there would be scope for the importation of early stages from the New World, perhaps with plant material, even with the slow means of transportation available at that time.

Recently I have gained some experience in rearing this interesting bagmoth. On 10 March 2003 a colleague gave me around 100 newly hatched first instar larvae of *T. ephemeraeformis*. These originated from two female cases collected on 29 November 2002 by Gaden S. Robinson at the Lake of the Ozarks, Laurie, Missouri in the United States of America. As these larvae are polyphagous extreme care was taken while rearing them to ensure that none escaped. All waste material from the culture vessels was frozen at -80°C for two weeks or longer prior to disposal. This, and the fact that this species reproduces sexually (i.e. it is not parthenogenetic, as are some members of this family), ensured successful confinement.

First and second instar larvae were fed on soft new growth of *Thuja orientalis* (Linn.), a food plant not listed for this species by Davis (1964). Subsequent instars were fed on the coarser but easier obtained leyland cypress, *Cupressocyparis leylandii* (Dallim. & Jacks.). The various larval stadia (Table 1) were identified by virtue of the larvae fixing and sealing their cases prior to ecdysis. For this species, head capsule size was found to be unreliable for identifying the different instars, as male larvae are about 2/3 the size of female larvae in the same instar.

During instars 1 to 4 the larvae were uniformly dark purple/black in colour. Instar five was characterised by the presence of pale white/cream stripes and spots on the head and thoracic plates, which intensified in later instars so that eventually the ground colour of these parts was pale, with variable dark brown/black spots. In the 9th instar the prothoracic plate had a group of three dark spots on each side, each group arranged in a triangular pattern (Figure 1). Observations showed that the final (10th) instar occurred within the larval case that had been previously fixed by the larva to the intended pupation site (usually a twig) with silk. No feeding occurred during this instar as the anterior end of the case had been closed and fixed to the food plant at the end of the 9th instar. Evidence for this 10th instar was provided by a case containing a 9th instar larva, found fixed prior to pupation on 5th June. This case was isolated in a Perspex box still fixed to its twig. Shortly after this the larva began reinforcing its case by laying down layers of pale flossy silk internally. This silk contracted with time, shrinking the case slightly as it did so. Impatient to know

Table 1. Approximate chronology of larval developmental stadia.

Larval instar	**Approximate dates when these developmental stages dominated the culture**
1	10 March (newly hatched)
2	20 March
3	7 April
4	20 April
5	1 May
6	16 May
7	24 May
8	30 May
9	15 June
10	15 July

what was happening inside, on 26 June I carefully cut the anterior end off the case to find that the larva had reversed its position so that it was now facing the posterior end of the case. Its anal claspers were visible at the cut anterior end of the case. On 1 July a cast larval skin (that of the 9th instar) was expelled from the cut end of the case, but the insect within was evidently still in the larval stage (now instar 10) as its anal end was projecting from the opened end of the case. On prodding it, the larva retreated within the case and remained there subsequently. Further reinforcement of the case with silk followed, then on the 15 July a second larval skin (that of the 10th instar) was expelled from the open anterior end of the case. Impatience again got the better of me, and on 22 July I carefully cut the case open length-wise to find it contained a live male pupa. This sequence of events occurred with other "pupating" larvae, no feeding taking place between instars 9 and 10. Therefore, it appears that this stadium is solely for the purpose of reinforcing the larval case prior to pupation.

During the first five instars the larval case was conical, constructed from brown silk with a papery texture and devoid of any plant material. From instar six, lengths of foliage were attached length-wise to the exterior of the cases. Their attachment occurred in the anterior region and their ends projected as far as the posterior end of the case, often splaying out slightly. The amount of added plant material increased significantly with subsequent instars until finally some cases had the appearance of spiky galls or cones (Figures 2 and 3). At this stage cases could be easily sexed on the basis of their size, those containing females being much bigger than those containing males.

On emergence of the male moths (Table 2), their wings were covered with dark lanceolate scales. However, these scales were so loosely attached (deciduous) that they were lost during the insect's first flight (usually an hour or two, post emergence), leaving the wings almost completely transparent. These scales were preserved in-situ with some specimens by carefully removing the adults to a deep freezer prior to any scale loss. Having frozen them, they were carefully set, allowed to dry for a month then carefully removed from the boards. A paper shield was then cut and placed around the pin to cover the antennae, hairy thorax and abdomen. A light spray with artist's pastel fixative was then applied to the upper surfaces of the wings. This had the effect of fixing the deciduous scales without matting antennae or body hairs. This technique will probably work with other deciduous scaled Lepidoptera.

The eclosion of the first two males (the second one being crippled) could not be assigned even to a time interval, due to the erratic frequency of my observations at this time. Subsequently, the frequency of observations was increased and from the ensuing eclosion data (Table 2) it is clear that, where the precise emergence time is known (14 individuals with fully scaled wings), the majority (12) emerged during the afternoon to evening, i.e. between 13.30h and 20.30h (mean ~17.00h). Only on two occasions was male eclosion observed during the morning (07.10 and 08.00h), but these were exceptions to the norm.

This pattern of eclosion was seen by Morden and Waldbauer, in their paper on seasonal and daily emergence patterns of adult *Thyridopterix ephereraeformis* (*Entomological News* **82**:219-224, 1971), during their studies of seasonal and temporal emergence patterns of *T. ephemeraeformis*. One of their experiments, carried out in Champaign County, central Illinois, used field-collected populations of larvae from a *Juniperis virginiana* shrub. These they held under natural conditions of photoperiod and temperature, and observed that 90% of male eclosions (169, n=185) took place during the afternoon (noon to 18.00h). This would appear to demonstrate the important influence of photoperiodicity on eclosion time. However, additional experiments (Morden and Waldbauer *loc. cit.*) with populations maintained under artificial photoperiods (16-h lighr/8-h dark vs 50/50 light/dark) and constant temperatures (25°C vs 29°C) showed no link between eclosion and photoperiod; eclosions occurred with the same frequency throughout the day with both groups. Thus, they concluded that a certain minimum temperature was required for male eclosion to occur, and surmised that this was around 18°C and above. However, they pointed out that they had not conclusively demonstrated this.

For those males where emergence reported here could only be assigned to a time interval (13), at least six emerged during the evening, with another seven emerging sometime during an extended period from the morning to the evening. Of those in the latter group, it is probable that the majority emerged later in the day rather than earlier, as five had wings that were scale-less but not worn, indicating eclosion within the previous 2 hours or so. The remaining two had worn their wings to stubs, indicative of eclosion some considerable time earlier.

Table 2. Eclosion data for male *T. ephemeraeformis* (n = 29)

Date	**Time**	**Date**	**Time**
1 Aug.*	by 16.00	20 Aug.*	16.00 - 18.10
4 Aug.* §	by 16.00	20 Aug.**	16.00 - 18.10
8 Aug.+	08.00	21 Aug.*	15.00 - 17.30
12 Aug.*	13.00 - 17.00 (n = 2)	21 Aug.*	17.30 - 22.10
13 Aug*	08.30 - 16.30 (n = 3)	22 Aug.+	07.10
16 Aug.+	15.30	22 Aug.*	08.45 - 15.30
16 Aug. +	15.45	23 Aug.+	17.00
16 Aug.+	17.00	24 Aug.+	13.40
17 Aug.+	14.10	24 Aug.+	19.00
17 Aug.	15.50	25 Aug.+	18.05
18 Aug.**	08.00 - 17.10	26 Aug.+	08.00 17.20
18 Aug.+	20.30	26 Aug.*	08.00 - 17.20
19 Aug.**	08.40 - 17.10	27 Aug.+	17.00

+ = fully scaled wings, indicating fresh emergence

* = wings devoid of scales, indicating emergence during the previous two hours

** = wings battered, so emergence occurred earlier rather than later during the time interval

§ = fore wing deformed due to injury of pupa during premature opening of pupal case

With the females it is harder to say with certainty the times when eclosion occurred (Table 3), on account of their concealed habit. The vermiform females of this species do not leave their pupal exuvia until oviposition is complete, and even then rarely leave their bags, making close observation of eclosion times difficult. Indeed, Moeden and Waldbauer (*loc. cit.*) did not consider female emergence periodicity for this very reason. On "emergence" females split their pupal case in three places behind the head plate, and project only their head and thoracic segment out of their pupa. Hence there is a point at which eclosion can be said to have occurred, even though the bulk of the female's body remains within its pupa.

As part of my containment plan, pairing was prevented by isolating pupae. This enabled female emergence to be observed by carefully cutting the female cases length-wise to expose the pupae within. By this means, limited data (Table 3) were gathered which indicated a lack of periodicity in the emergence of this sex, although this conclusion is somewhat tentative due to the small sample size where emergence time could be identified (n=10) compared with the larger male sample size (n=18). This procedure was used after 16 August, when 11 emerged females were found by opening the female pupal cases. These had hatched some time before this date, most probably several days earlier.

Table 3. Eclosion data for female *T. ephemeraeformis* (n = 29)

Date	Time
16 Aug.+	12.00 (n = 11)
18 Aug.	02.00 - 08.30
19 Aug.	08.40 - 17.10 (n = 4)
20 Aug.	02.00 - 07.30
21 Aug.	08.00 - 22.10 (n = 3)
22 - 23 Aug.	22.10 - 00.40
23 Aug.	19.55 - 20.35
24 Aug.	16.10 - 17.35 (n = 2)
25 Aug.	15.00
26 Aug.	17.20
29 Aug.	02.30
31 Aug.	00.20
9 Sep.	08.10

+ females extracted from cases may have hatched several days previous to this date.

Emerged females were found to have shed large amounts of short yellow-coloured hair scales at their anterior and posterior ends. In an attempt to preserve as much of this material in-situ as possible, freshly emerged females were killed by freezing while still within their pupal exuviae. These were then pinned directly through the pupal shell and dried in a low oven for five or six hours. The pupal shell was then fractured and removed piece by piece from around the dried female. In this way the anterior yellow hair scales were found attached ventrally to the vestigial leg buds of the female, while the posterior hair scales were retained as a brush-like structure around the ovipositor. In the normal course of events these scales are lost due to therepeated movements of the female abrading them against the inside of the larval bag (anterior scales) and pupal shell (posterior scales). Their presence in this form (loose) may aid penetration of the bag and pupa by the male when pairing occurs.

In conclusion, it appears that day length and photoperiod may be important cues for male eclosion in *T. ephemeraeformis* (although the work of Morden and Waldbauer casts some doubt on this, emphasising the role of temperature). These factors appear to be less important for female eclosion. If day length and photoperiod are important environmental cues for male eclosion it should be possible to predict the date and time of emergence for male *T. ephemeraeformis* in their native Missouri habitat. The male eclosions described here took place in Reading, which is at approximately 51.5° latitude, 0° longitude, while the Lake of the Ozarks is at approximately 38° latitude, 93° longitude. Using the GraphDark software package it can be seen that the average time of male emergence in Reading, 17.00-h, is 2.5-h before the onset of astronomical twilight on the mean date of male emergence (13th August). At Laure, Missouri, the onset of astronomical twilight occurs at 18.00-h on this date. Assuming that male emergence also occurs 2.5-h before the onset of astronomical twilight at this locality too, it is predicted that the main period of male eclosion should be around 15.30-h during mid August at the Lake of the Ozarks. It may be coincidental that this is almost midway between the emergence times for males observed by Morden and Waldbauer, who gave a range of 12.00 – 18.00h for male emergence of a field population commencing on 15th September in Champaign County, Illinois (40° latitude, 89° longitude).

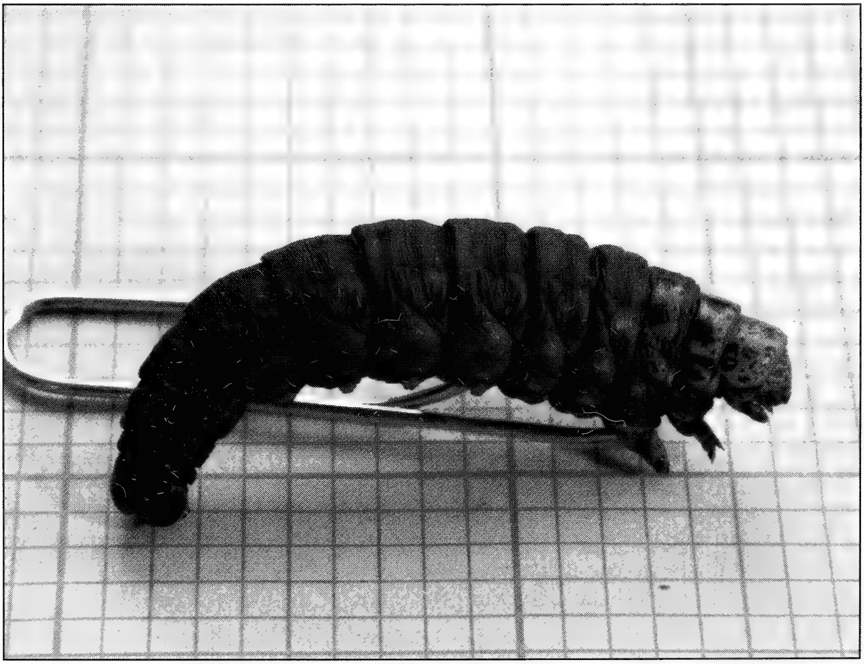


Figure 1. Final instar larva of *Thyridopterix ephemeraeformis* showing three large dark markings on lateral side of pro-thorax, arranged triangularly.

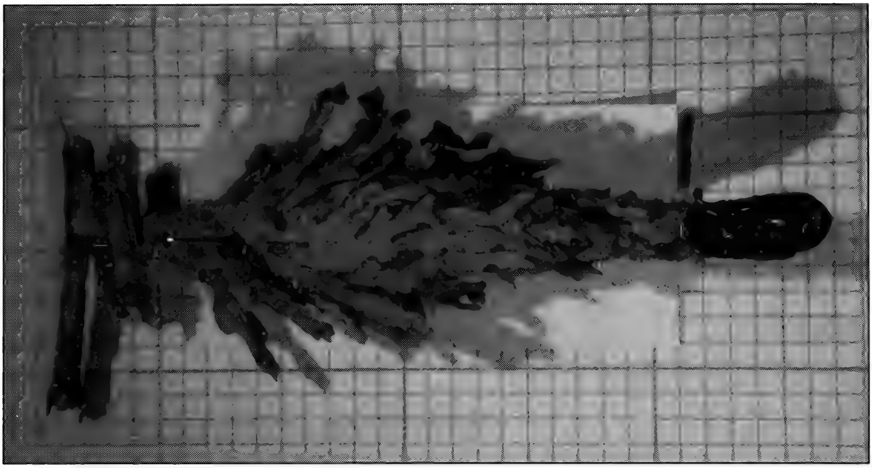


Figure 2. Male case of *Thyridopterix ephemeraeformis.*
(Grid squares = 2/2mm, i.e. $4mm^2$)

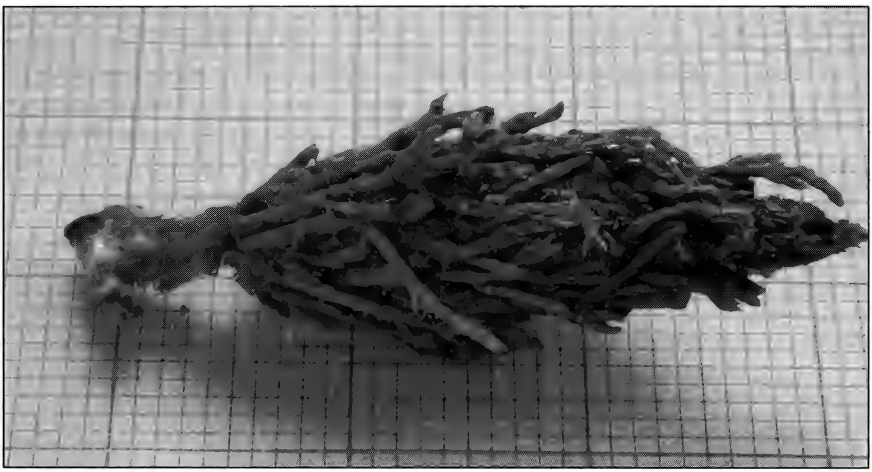


Figure 3. Female case of *Thyridopterix ephemeraeformis.*
(Grid squares = 2/2mm, i.e. $4mm^2$)

Of course, these data shed no light on the role that temperature plays in the date and timing of male eclosion with this species as, regretfully, temperature data were not recorded. However, temperature has been found to be less important than photoperiod in influencing eclosion date and time with some of the lower Psychidae (Sims, *Ent. Rec.* **12** 29-30, *Br. J. Ent & N. H.* **12** 17-25, *Br. J. Ent & N. H.* **15** 71-78).

The concept of Growing Degree-Days (GDD), as outlined by the Cornell Cooperative Extension (www.cce.cornell.edu/suffolk/grownet/ipm/gdd.html), for insect pest management is of interest in this respect as it relates larval development to temperature. For every °F that the mean daily temperature between 1 March and 30 September is above 50, one GDD is accrued. For example, if the average of the minimum and maximum temperature on one day during this period is 55°F, 5 GDDs are added to the accrued total. The aim is to enable horticulturalists to estimate the most appropriate timing for pest control procedures (pesticide application). With *T. ephemeraeformis*, they recommend taking precautions between 600 and 900 GDDs. Although not of immediate relevance to the timing of male eclosion, this demonstrates that predictions can be made regarding larval development rates, based on the influence that temperature has on larval development of this insect.– IAN SIMS, 2 The Delph, Lower Earley, Reading, Berkshire. RG6 3AN.

***Biston strataria* Hufn. (Lep.: Geometridae): Melanic forms in north-west Kent**

On 19 March 2005, a melanic *Biston strataria* was found at my garden m.v. light at Dartford. The pale areas present in normal specimens are obscured by dark scaling; it was identified as ab. *robiniaria* Frings. Chalmers-Hunt (1976. The Butterflies and Moths of Kent, *Suppl. Ent. Rec* . **88**: 156) mentions several specimens from East Kent (VC 15), but none from West Kent (VC 16). The aberration is depicted in Ford (1955. *Moths*. Plate 8.4). It would appear to be comparatively rare in Britain; it is quite distinct from the more extreme melanic ab. *melanaria* Koch, uniformly black and resembling ab. *carbonaria* Jordan of *B. betularia* L., which has become common in Holland, but here remains known from but two or three specimens.

Thus there has been considerable resistance to the development of industrial melanism in Britain in this species. However, in north-west Kent until very recently many specimens have displayed a tendency towards melanistic development by the white areas becoming sullied by dark scaling to a varying degree. Thus, ab. *intermedia* Lempke might be regarded as a melanistic form representing a half-way stage to ab. *robiniaria* with its somewhat darkened white areas. It has been a not uncommon variety here, but no longer so. I have two specimens dated Eynsford 14.iii.1961 and Dartford 2.iv.l995. Chalmers-Hunt (*op. cit.*) does not mention this form as occurring in Kent. It is important to note that such specimens are not heterozygotes for ab. *robiniaria* which in fact are very similar to the homozygotes (note appended to a long series of bred ab, *robiniaria* in the National Collection).— B. K. WEST, 36 Briar Road, Dartford, Kent. DAS 2HN.

OCCURRENCE OF THE EUCALYPTUS PSYLLID *CTENARYTAINA EUCALYPTI* (MASKELL) (HOM.: PSYLLOIDEA) AND ITS PARASITOID *PSYLLAEPHAGUS PILOSUS* NOYES (HYM.: ENCYRTIDAE) IN THE ISLE OF MAN

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Abstract

The eucalyptus psyllid *Ctenarytaina eucalypti* (Maskell) (Hom.: Psylloidea) and its parasitoid *Psyllaephagus pilosus* Noyes (Hym.: Encyrtidae) are reported from the Isle of Man. The source and mode of entry of *P. pilosus* and its distribution in the Isle of Man are discussed.

Introduction

The eucalyptus psyllid *Ctenarytaina eucalypti* (Maskell) (Hom.: Psylloidea: Spondylaspidae), also known as the eucalyptus sucker, was first noted in the Isle of Man by J. H. Martin on 15.vii.1996 feeding on *Eucalyptus* sp. at Royal Avenue, Onchan (SC3977) (JHM pers. comm. 27.i.2004). I was unaware of this record when on 6.viii.2002 I collected specimens on *Eucalyptus* sp. in the Curraghs Wild Life Park, Ballaugh (SC3794). Adults of an encyrtid were also collected and these, as well as adults reared from mummified nymphs of *C. eucalypti*, were identified by J. S. Noyes as *Psyllaephagus pilosus* Noyes (Hym.: Encyrtidae) a parasitoid introduced into the United Kingdom and Ireland for biological control of *C. eucalypti*.

The eucalyptus psyllid, a native of Australasia, has been transported around the world on cultivated *Eucalyptus* spp. Hodkinson and White (1979) report that it was "uncommon on ornamental eucalyptus in S. England and Channel Islands. Ireland." With the cultivation of *Eucalyptus* spp. for the production of ornamental foliage and pulp timber production *C. eucalypti* became a pest of sufficient importance in eucalyptus nurseries in Wales and Ireland to warrant the introduction of natural enemies (Hodkinson, 1994). The encyrtid, *Psyllaephagus pilosus* Noyes, also of Australasian origin (Noyes, 1988), was obtained from California {where it had been successfully introduced in 1992 (Dahlsten *et al.*, 1998)} and released in a eucalyptus nursery in Wales in June 1994 (Hodkinson, 1994). Successful biological control was achieved and the parasitoid rapidly dispersed to other areas (see Hodkinson, (1999) for an excellent account of this and other programs for the biological control of this psyllid). The parasitoid was introduced into Ireland in 1998 from France (Malausa and Girardet, 1997); establishment occurred readily (O'Connor *et al.*, 2000). Successful control in the eucalyptus plantation in County Kerry where the parasitoid was first released had occurred by late 1998 and natural spread to other plantations up to 30 km away was reported (Purvis *et al.*, 1999; Hodkinson, 1999).

As I could find no record of *Psyllaephagus pilosus* ever being purposely introduced into the Isle of Man I made inquiries to attempt to ascertain the source and method of its introduction. Also, to determine whether the psyllid and its parasitoid were widespread in the Isle of Man, I visited several plant nurseries and garden centres and examined eucalyptus trees in several private gardens during the period July, 2002 to July, 2004. The following notes give an overall indication of the status of *Ctenarytaina eucalypti* and its parasitoid *Psyllaephagus pilosus* in the Isle of Man.

Observations in the Isle of Man

Following the discovery of *C. eucalypti* and *P. pilosus* in the Wild Life Park the Park Manager told me that eucalyptus plants for the Park had been obtained from two local plant nurseries. Both nurseries were visited in August 2002; one, at Jurby (SC3497), periodically obtained plants from a supplier in Lancaster whereas the other, at St Johns (O. S. grid reference SC 2881), grew plants from seed. Inspection of eucalyptus plants at both nurseries failed to detect the psyllid and its parasitoid. On a return visit to the nursery at St. Johns on 12.iii.2003 a few small nymphs and one large mummified nymph were found on one plant of *Eucalyptus nitens* Maiden but no evidence of the psyllid was seen on other plants of this species and of *E. gunnii* Hook, *E. globulus* Labill., and *E. pulverulenta* Sims. {These species commonly support large breeding populations of the psyllid in Britain (Hodkinson 1999)}. A female of *P. pilosus* emerged from the mummified nymph on 18.iii.2003. When revisited on 13.ix.2003, none of the plants had young succulent growth and, despite careful inspection, no trace of the psyllid was found. The psyllid was not found on subsequent inspections on 4.v.2004 and on 19.v.2004 although succulent new growth was present. However adults of the psyllid but no mummified nymphs were found on a small tree planted in the garden of another nursery about 2 km distant on the same day.

During a visit to a garden centre near Douglas (SC 3475) on 14.viii.2002 ten or more plants of a recently received consignment of *Eucalyptus gunnii* (originating in the Netherlands but transhipped via England) were infested with the eucalyptus psyllid suggesting that it might be imported routinely on nursery stock (all of these plants were sold within a fortnight). The parasitoid was not detected in samples from this consignment of plants. Inspection of another consignment of potted plants of *E. gunnii* at this garden centre on 13.viii.2003 yielded a single adult of *Ctenarytaina eucalypti*. The psyllid was not detected when a consignment of eucalyptus plants recently received from the Netherlands was examined on 5.v.2004.

On 1.ix.2002 all stages of the eucalyptus psyllid and a female of the parasitoid were found on eight 3-4 metre high eucalyptus plants in the Ronaldsway Airport car park (SC 2769). The origin of the plants was not ascertained. Three mummified psyllid nymphs were collected; ten days later two females of *P. pilosus* emerged from the mummified psyllids. When the same plants were re-inspected on 18.vi.2003 only a few psyllid nymphs and adults were found on the lower shoots of one plant that were protected by shrubbery; a few of the larger nymphs were collected but they failed to mummify. During a further inspection on 22.vii.2003 only the tip of one branch was infested; a few psyllid adults and small nymphs were seen but there was no evidence of *P. pilosus*. Again on 3.viii.2003 only a few nymphs and adults of the psyllid were found. On 14.ix.2003 no stages of the psyllid or of the parasitoid were seen; none of the plants had young succulent growth. Several large nymphs and a few adults of the psyllid were collected on 4.iv.2004; most of the nymphs developed to adults, none were parasitised. No psyllids or parasitoids were seen during inspections nor on foliage samples examined through a microscope on 8.iv., 4.v., 3.vi., 1.vii., and 22.vii.2004.

On 8.x.2002 both insects were present on 2-3 metre tall plants of *Eucalyptus gunnii* and *E. pulverulenta* at two other garden nurseries. The plants at one centre (SC 3676) were obtained from a supplier in Devon whereas those at the other (SC 3075) were reportedly grown on site from seed. When the former was revisited on 12.ii.2003 all stages of the psyllid including eggs and adults were present on the same plants of *E. pulverulenta*, but scarce or absent on *E gunnii*; several of the larger psyllid nymphs were parasitised (mummified). One male and three females of *P. pilosus* emerged from the mummified nymphs during the following fortnight. Infested foliage of *E. pulerulenta* collected on 12.iii.2003 yielded 11 adults of *P. pilosus*. On 30.vii.2003 several adults of *P. pilosus*, numerous mummified nymphs, many with parasitoid emergence holes, and all stages of the psyllid were present. A collection of mummified nymphs yielded over 50 adults of *P. pilosus*; no hyperparasitoids were reared. On 13.ix.2003 there were numerous mummified nymphs, all but two with emergence holes; no live stages of the psyllid were noted nor was there any young succulent growth of the type usually attacked; one female of *P. pilosus* emerged from one of the mummified nymphs. (These were the same potted plants first inspected on 10.x.2002). When revisited on 5.v.2004 all of the plants had been sold.

On 7.ix.2003 several potted plants of *Eucalyptus gunni* in a garden centre at Tynwald Mills (SC 2882) were examined. In the absence of vigorous young plant growth only a few psyllid adults but no eggs or live nymphs were found. However numerous mummified nymphs (35 on one leaf, all but one with parasitoid emergence holes) were present – a male of *P. pilosus* emerged from the intact mummified nymph on 13.ix. The origin of the plants, supplied by a local nursery, was not ascertained. When I inspected those plants that had not been sold on 1.xi.2003 no psyllids were found. However three adults of the psyllid were collected from one of the same plants on 19.v.2004.

A small eucalyptus tree in a garden in Minorca (SC 4384) had a light infestation of *C. eucalypti* when first inspected on 23.ii.2003; several live small and medium nymphs, 9 empty mummified nymphs with parasite emergence holes, one with an emergence hole contained a dead adult of *P. pilosus* and one intact mummified nymph were present on a small sample of foliage. When dissected on 20.iii. the intact mummified nymph contained a dead adult of *P. pilosus*. On 4.vii.2003 all stages of the psyllid were present but only one mummified nymph was found. A female of *P. pilosus* emerged from it between 7-17.vii. No trace of the psyllid or parasitoid was found when the plant was examined on 31.x.2003, 9.1.2004 and 4.vi.2004.

Well established eucalyptus trees were examined in several gardens throughout the island. Invariably these were free of the psyllid.

Nymphs of *C. eucalypti* were present on eucalyptus foliage in a floral arrangement delivered to Laxey by a florist in Douglas on 26.i.2003. Psyllid adults and two males of *P. pilosus* were reared from the nymphs. It was determined subsequently that the flowers and foliage used in the arrangement had been imported by air from the Netherlands.

Another floral arrangement examined in a shop in Ramsey on 18.iv.2003 contained eucalyptus foliage infested with numerous nymphs and a few adults of *C. eucalypti*; although the nymphs were allowed to develop on foliage for several days none mummified.

On 14.v.2003 a shoot of eucalyptus foliag from the Netherlands obtained from the Douglas florist had over 100 psyllid eggs and 20 small nymphs; no mummified nymphs were found on the foliage.

Discussion

Whereas the time and source of the first entry of *P. pilosus* to the Isle of Man cannot be ascertained with certainty it undoubtedly occurred after its deliberate importation into Britain in 1994, or to continental Europe and Ireland in 1997 for the control of the eucalyptus psyllid. It is well documented that *P. pilosus* spread, unassisted, from the original release sites in Britain sites over distances greater than the distance between mainland Britain or Ireland over a relatively short space of time (Hodkinson, 1999) Although it cannot be entirely ruled out that adults of *P. pilosus* could have flown, or been carried by the wind from mainland Britain this possibility is much less likely than its arrival and establishment from specimens arriving on imported nursery plants or on cut foliage. The frequent importation of psyllid-infested plants by garden centres and plant nurseries strongly suggest that the psyllid, and its parasitoid, gained entrance to, and have been distributed widely in, the Isle of Man by this means. Based on results in Britain (Hodkinson, 1999) the parasitoid could have spread to most areas of the Island from a single introduction of psyllid-infested plants but the present observations suggest that there have been, and will continue to be, multiple introductions of the parasitoid along with its host on eucalyptus plants imported by garden centres for sale to the general public from various parts of the island

The somewhat limited observations suggest that the immature stages of the parasitoid within its host frequently arrive on cut eucalyptus foliage flown to the Island from Europe for the floral trade. Although deemed less likely than by importation on nursery plants it is feasible that field establishment could occur by movement of the psyllid and its parasitoid from discarded flower arrangements to nearby eucalyptus trees.

My observations indicate that both the psyllid and parasitoid successfully over-wintered in the Isle of Man; Hodkinson (1999) noted that both species had survived five successive winters under severer winter conditions at a site in Wales where minimum air temperatures of -14°C. had occurred. However on established trees and even on nursery stock both species may disappear seasonally – or at least become too scarce to detect - in the absence of vigorous succulent juvenile foliage.

The arrival of the parasitoid is probably of greatest benefit to plant nurseries that grow *Eucalyptus* spp. from seed or import small plants to grow on for the production of ornamental plants to sell to the public and to gardeners during the first few years until young plants are well established. Mature trees are known to be less susceptible to damage by the psyllid and have probably benefited only marginally from the arrival of the parasitoid.

Acknowledgements

The infestation of the eucalyptus psyllid in the Wild Life Park was drawn to my attention by my son, Philip Bennett. Assistance in locating literature and references was provided by R. Nguyen, S. M. Crellin, J. P. O'Connor and Rebecca Murphy. I am grateful to John S. Noyes for identifying the parasitoid *Psyllaephagus pilosus* and for providing relevant background information and to Jon H. Martin for permission to quote his record of *Ctenarytaina eucalypti* for the Isle of Man.

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Rannoch Sprawler *Brachionycha nubeculosa* (Esp.) (Lep.: Noctuidae) sitting in full sun

Those who still search for resting moths by day know that the shady side is the most profitable place to look. As South (1907, *The Moths of the British Isles*) advises, few moths will be found sitting in full sun. Some of the early spring Scottish specialities, however, appear to be exceptions. In such latitudes the sun is weak at this time of the year, so both day and night temperatures are usually low. Overheating is unlikely to be a problem. On the contrary, basking might actually help a moth's metabolism.

In the days before portable mercury vapour light traps, the Rannoch Sprawler *Brachionycha nubeculosa* was traditionally found by searching for the well-camouflaged adults on old birch trunks in its few known haunts. This is a very time-consuming method. Despite much perseverance in the Aviemore area, I failed miserably in many hours of trying spread over several springs. What few moths I saw were shown to me by colleagues. Ironically, after checking many thousands of birches in vain, I finally found two moths for myself – on the same trunk! Photographing them was not easy because of the light – they were sitting on the south-western side of the trunk in the full glare of the late afternoon sun.

Later, it occurred to me that every one of the eight or so Rannoch Sprawlers I had seen was facing a similar direction – between south and west, in mid to late afternoon. Perhaps this explained my lack of success. I had always concentrated on the shaded north side of the trunks, barely glancing at the sunny side. Even so, it never occurred to me that the Rannoch Sprawler might deliberately choose to sit in the sun. I assumed the moths' aspect was due to chance, or that the trunk had been in shade when the moths settled there at dawn.

Having obtained eggs, I reared the caterpillars with little difficulty, once realising that they preferred small triangular leaves from the oldest birches rather than larger and more luscious ones from younger trees. As frequently happens with this species, only one of my 20 pupae produced a moth the following spring, the others carrying over. In late morning I placed the moth (a male) on the partly shaded eastern side of a birch trunk to photograph it, then left it there. Over the course of the day, the moth moved sideways on the trunk four times, always so as to expose itself to the direct rays of the sun. By evening it was facing due west, having moved at least 180 degrees round the trunk.

During the next two springs the remaining moths emerged, usually before noon. Sometimes I was able to watch them expanding and drying their wings on a cut section of birch trunk placed on a sunny windowsill. Invariably, they did so in full direct sunlight, or where they would receive the highest level of insolation when the sky was overcast. So precise was their orientation that, if two moths emerged close together, one would often interfere with the other by climbing the trunk on exactly the same line. Having dried their wings, they continued to sit in full sunlight throughout the day.

Finally, seven of the moths (four males and three females) were released on local birch trunks in late March, where most remained for several days during a spell of cold, windy and showery weather. The moths regularly changed their positions and even moved between trees, but when checked by day they were always on the sunny south side of a trunk. They gradually climbed higher, until after six days one female was 3m above the ground. All three females were then taken back to Speyside and released within the known range of the species.

Such consistent evidence from both wild and bred moths strongly suggests that sunning is a deliberate strategy of the Rannoch Sprawler, and that observers who wish to find this species by the traditional method should tailor their search accordingly. Other spring species that may also sun themselves include Small Dark Yellow Underwing *Anarta cordigera* and perhaps Rannoch Brindled Beauty *Lycia lapponaria*.

Ford (*loc. cit.*) introduces the pale grey Aviemore 'race' of the Rannoch Sprawler, contrasting it with the much darker Rannoch form. In practice, the differences are not so clear-cut. The moths reared from my Aviemore female were strikingly variable, some being at least as pale as Ford's illustration of this race yet others quite as dark as his Rannoch example. Presumably Aviemore examples average lighter on the whole, but pale grey ones seem to be the exception not the rule.— ROY LEVERTON, Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS.

A new county record: a Silky Wainscot *Chilodes maritimus* Tausch. (Lep.: Noctuidae) in Cardiganshire (Ceredigion)

A single specimen was caught in a Rothamsted Insect Survey light-trap at Aberystwyth (trap No. 585, O.S. Grid Ref.: SN 629836) on the night of 2/3 June 2004.

Chilodes maritimus is a locally common species, inhabiting large reed-beds in southern and eastern England. It is also found on the Gower peninsula; this being the closest known breeding locality to the trap site. The specimen was caught at the beginning of the species' flight period and it is well known that when moths migrate, they generally do so in the first few nights after emergence. Recent work by Dr Jason Chapman, of the Rothamsted Radar Entomology Unit, has shown that even weak-flying moths (such as *C. maritimus*) can travel several hundred kilometres in just one night, using fast-moving high-altitude winds. Therefore it is quite possible that this individual could have arrived in Aberystwyth from the Gower population.

My thanks to Ian Tillotson for his consistent hard work in identifying the catches from the Aberystwyth trap (amongst others) and for informing me of this record. Thanks also to Mike Leggett for operating the trap at Aberystwyth; and to Jason Chapman for the information above.— PHILIP J L GOULD, Co-ordinator, Light-trap Network, Rothamsted Insect Survey, Plant & Invertebrate Ecology Division, Rothamsted Research, Harpenden, Hertfordshire AL5 2JQ (E-mail: phil.gould@bbsrc.ac.uk).

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A brachypronotal example of *Tetrix ceperoi* Bolivar (Orthoptera: Tetrigidae) at Dungeness

Cepero's groundhopper *Tetrix ceperoi* Bolivar is the rarest of the three British tetrigids, although it is common at Dungeness. During a visit to an area east of Boulderwall Farm on 1.ix.2002 with Peter Hodge, I collected a strange tetrigid from among coarse shingle at the edge of a pit (at O.S. grid reference TR 065198). Many examples of adult T. *ceperoi* were found in the same area, but other *Tetrix* species were not detected. Identification of British tetrigids is based mainly on the morphology of the head and pronotum (Brown, 1950. Notes on the taxonomy, British distribution and ecology of *Tetrix subulata* (L.) and *T.ceperoi* I. Bolivar (Orthopt., Tetrigidae). *J. Soc. Br. Ent.* ***3:*** 189-200). The shape of the vertex of the Dungeness specimen (a female) resembles my reference material for *T. ceperoi*. Unusually, the specimen is brachypronotal (Fig 1.).

The only published report of brachypronotal *T. ceperoi* appears to be that of Ingrisch (1983. Neue Arten und faunistisch bemerkenswerte Nachweise von Orthopteren auf Sardinien. *Nachrichtenblatt der Bayerischen Entomologen* **32**: 88 – 94) from Sardinia. Superficially, the Dungeness specimen resembles Ingrisch's figures, but differs in that it shows a combination of both adult and larval features: the alae are fully developed, the ovipositor shows the pilosity of an adult; but tegmina are not visible and the line of the dorsal keel of the hind femur, anterior to the knee, is unbroken, as is normal for nymphs.

Retention of larval features by adults is normal for some organisms such as the axolotl. Interestingly, it is normal for some species of tetrigid to demonstrate neoteny – for example, adults of the Iberian tetrigid *Uvarovitettix nodulosus* Fieber lack visible tegmina (Devriese, 1996. *Bijdrage tot de systematiek, morfologie en biologie van de West-Palearktische Tetrigidae. Saltabel* **15**: 2-38). European tetrigids fall roughly into two groups; those with brachypronotal, flightless adults and macropronotal species with long wings. Among brachypronotal species, macropronotal examples occur as rarities and vice versa. It seems likely that an important function of a long pronotum is to protect the wings. When collected, the wings of the Dungeness specimen were already badly damaged. For ground-dwelling tetrigids, wings and a long pronoum may be of little value or may be a hindrance, so their reduction may be advantageous for populations that do not need to disperse widely. In contrast, for tetrigids, such as *T. ceperoi* that specialise in exploiting fragmented unstable habitats, fully-developed wings (protected by a long pronotum) may be necessary for dispersal.

The Dungeness specimen is clearly a rare aberration, but its occurrence possibly offers some insight into the history behind speciation in tetrigids. Less extreme neotenous variants possibly arise quite regularly by mutation. Brachypronotal, brachypterous forms would be selected against in species like *T. ceperoi* where there is often a need to disperse to new sites. The form that Ingrisch found in Sardinia may have been naturally selected in a locality that has remained stable for an unusually long time.

Other orthopteroids (Orthoptera, Dictyoptera and Dermaptera) found at Dungeness in the vicinity of Boulderwall Farm included *Tettigonia viridissima*, by song, 1.ix.2002, *Platycleis albopunctata*,1.ix.2002, *Conocephalus discolor*, 11.viii.2002, 1.ix.2002, suggesting a further expansion of range since publication of Haes and Harding (1997. *Atlas of grasshoppers, crickets and allied insects in Britain and Ireland.* HMSO), *Chorthippus brunneus*, 11.viii.2002, 1.ix.2002, including one female var. 'green' *sensu* Ragge (1965. *Grasshoppers, crickets and cockroaches of the British Isles.* Warne: London), *Chorthippus albomarginatus*,11.viii.2002, *Myrmeleotettix maculatus*, 21.vi.2001, 11.viii.2002, 1.ix.2002, *Ectobius panzeri*, 21.vi.2001, nymph, *Forficula auricularia*, 12.x 2001 and *Forficula lesnei*, 12.x. 2001, beaten from bramble.

I thank Simon Busuttil, RSPB warden, for his encouragement in conducting surveys of Orthoptera and other insects on the RSBP reserve.— JOHN PAUL, Downsflint, High Street, Upper Beeding, West Sussex BN44 3WN.

Trichopria nigra (Nees) (Hym.: Diapriidae) reared from *Sturmia bella* (Meigen) (Dipt.: Tachinidae) – a new host record

On 23 August 2004 I collected two dipterous puparia from a thin covering of wind-blown, sandy soil under the basal leaves of a weed growing in an expansion joint in my concrete drive at Brantham, East Suffolk (O. S. grid reference TM 1134). On 26 August, a medium sized (approximately 8mm) tachinid fly with which I was unfamiliar hatched from one of the puparia whilst a few weeks later the other produced a host of parasitic wasps.

The fly, puparia and a sample of the wasps were sent to the Natural History Museum, London where the fly was identified as *Sturmia bella* (Meigen) and the wasps as *Trichopria nigra* (Nees) (= *inermis* Kieffer). S*turmia bella* is a parasite of vanessid butterflies and was first recorded in this country from Southampton in 1998 (Ford *et al,* 2000. *Ent. Rec.* **112**: 25 – 36), and since that time has spread rapidly. *Trichopria nigra* occurs commonly in the western Palaearctic with a range extending at least as far east as Iran and Kazakhstan. It is a gregarious endoparasitoid of the pupae (within the puparium) of a range of cyclorrhaphan Diptera although records from tachinids are rare with this appearing to be the first from *Sturmia bella*.

It is almost certain that the puparia originated from pupae of *Aglais urtica* L., several of which were suspended from the eaves of the bungalow almost directly above the collection site. The fly and voucher specimens of the wasps are deposited at the Natural History Museum. I thank the following staff at the Natural History Museum, London: Howard Mendel (Collections Manager) for arranging identification of the specimens; David Notton for identification and helpful information on *T. nigra*; Nigel Wyatt for identification and helpful information on *S. bella*.— DAVID R. NASH, 3 Church Lane, Brantham, Suffolk CO11 1PU.

Conistra rubiginea (D.&S.) (Lep.: Noctuidae): A newcomer to Kent

Seven examples of *Conistra rubiginea* were noted at my garden mv light in early spring 2005 – on 21.iii(2), 23.iii, 27.iii, l.iv, 2.iv and 24.iv. This is a species apparently not recorded for Kent until 2002, when several specimens were seen at scattered locations in West Kent (VC 16) including Shorne Woods, near Gravesend and Bexley (Ferguson, 2004. *Kent Moth Report.* Butterfly Conservation).

Barrett (1900. *The Lepidoptera of the British Islands.* VI) regarded the moth as being very scarce, occasionally taken in Surrey and Sussex, and elsewhere in southern England, but it is not mentioned for Kent. Collins (1997. *The Larger Moths of Surrey*) indicates that the moth's stronghold comprises the woods and heaths of the north-west of the county, but notes significantly that recently increased sightings have been observed in the East and suggests that they may represent a trend to extension of range.

Thus, after two hundred years' absence from Kent it appears that the extension of range in Surrey suggested by Collins has progressed further eastwards into West Kent. The Dartford specimens of 2005 at least, judging from the scattered sightings over a wider area of West Kent since 2002, plus the pattern and number of *C. rubiginea* observed at my garden mv light in an area of mixed woodland, parkland and heath, are representatives of a successful local colonisation.— B. K. WEST, 36 Briar Road, Dartford, Kent DA5 2HW.

A new site for *Melitaea arduinna* (Esper) (Lep.: Nymphalidae) in Bulgaria

Abadjiev (2001. *An Atlas of the Distribution of the Butterflies in Bulgaria.* Pensoft.) lists only three widely separated localities for *Melitaea arduinna* in Bulgaria: Vrashka Chuka in the extreme north-west, Sboryanovo in the north-east, and Poda near Burgas in the south-east. It is not clear which, if any, of these populations are still extant. In May 2004, while on holiday in the Primorsko area of the southern Black Sea coast, I stumbled across a further colony of this elusive species on a low cliff-top just to the south of the small resort of Kiten. The habitat was unexceptional, flowery grassland with some scrub, and the butterflies seemed to be confined to a remarkably small area. As I made this discovery at the end of my holiday, I was not able to investigate further south along the coast , but I would suggest that this might reveal further populations. Other *Melitaeinae* present in the vicinity were *M. cinxia* (L), *M. phoebe* (D&S), *M. didyma* (Esper), *M. trivia* (D&S) *and Euphydryas aurinia* (Rottemburg).

Owing to an over enthusiastic use of the semicolon, Tolman (1997. *Collins Field Guide – Butterflies of Britain and Europe.* HarperCollins.) gives the impression of five distinct localities for *M. arduinna,* but Sboryanovo is a locality in the Ludogorie region of Bulgaria and Kula is the nearest town to the Vrashka Chuka (or Vrushka Tchuka) locality, so in reality he names only the same three sites mentioned by Abadjiev (*op.cit.*). Tolman gives the altitudinal range of the species as 500-1500m, but both the Kiten and Burgas colonies are or were at sea-level.

I am indebted to Stanislav Abadjiev for suggesting the publication of this record after viewing a photograph I took of one of the *M. arduinna.*— MICHAEL J. SKELTON, 42 Grosvenor Gardens, Bournemouth BH1 4HH.

Phyllonorycter ulicicolella (Stt.) (Lep:Gracillariidae) – a first description of the larva

On 27 March 2005, I examined a gorse *Ulex europaeus* bush on the edge of a small copse close to my house at Fleet, Hampshire and found a mine of *P. ulicicolella* in the bark, near to the shoot tip. The mine extended some 15 mm in length from the base of the spine towards the tip. It can be seen (Fig. 1) that the upper end of the mine is relatively clear; the discolouration of the bottom of the mine is due to frass accumulation. There is also a 'window' effect (seen at the top of the mine) where the larva has eaten through to the outer epidermis in places.

Discussion with other lepidopterists suggests that the mine is, evidently, rarely seen and as far as I am able to ascertain the larva is undescribed in the British entomological literature. The opportunity is therefore taken to plug that gap.

The fully fed larva (Fig. 2) is 3 mm long, almost transparent and a pale lemon colour in life and the thoracic legs have pale black rings. It has the typical *Phyllonorycter* head structure (Figs 2 and 3), light brown, with darker edges, but few distinguishing features on its body. The gut can be seen through the body wall.When the specimen was preserved in isopropyl alcohol it lost its colour.

I hope that this note will encourage others to search for this rarely seen miner. Care must be taken in identification as the spines of Gorse may show browning, which could lead to incorrect determinations. Look particularly for the discolouration of the spine, with a clear area towards the tip. I am grateful to Dr. Willem Ellis (Amsterdam) for his help in photographing the larva.— ROB EDMUNDS, 32 Woodcote Green, Fleet, Hampshire GU51 4EY (E-mail: r.edmunds@ntlworld.com).

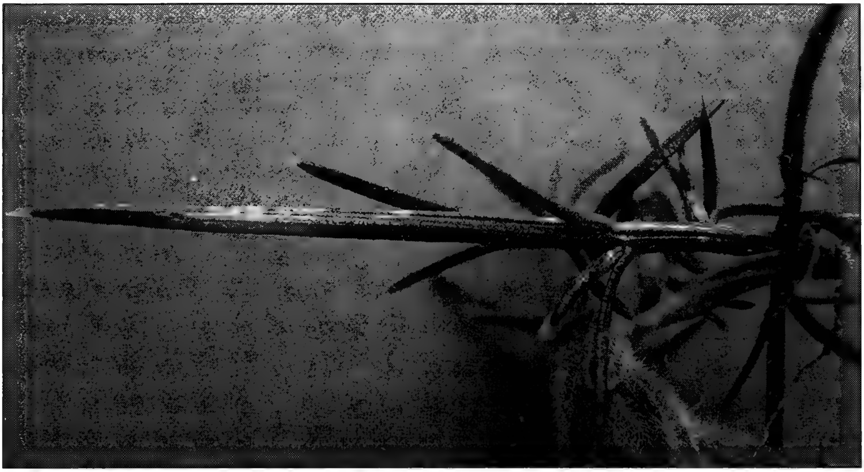


Fig. 1. Larval mine of *Phyllonorycter ulicicolella.*

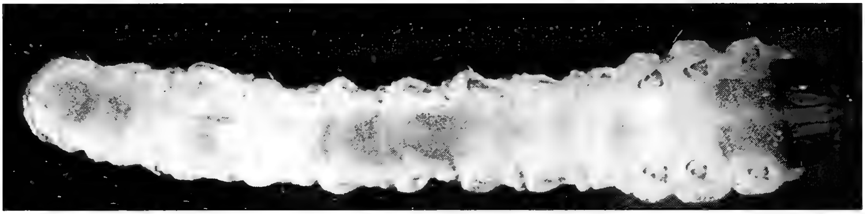


Fig. 2. Final instar of *Phyllonorycter ulicicolella* (ventral).

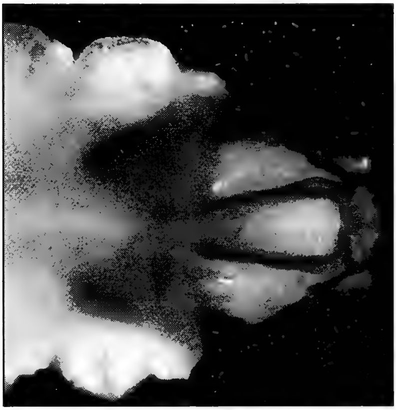


Fig. 3. *Phyllonorycter ulicicolella* head capsule (dorsal).

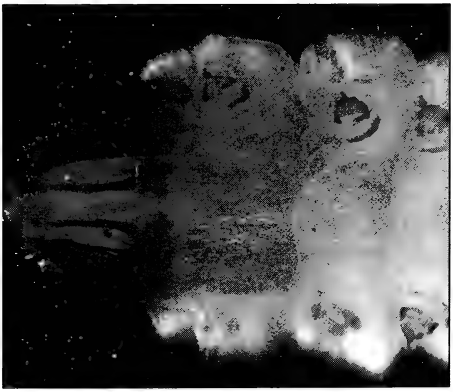


Fig. 4. *Phyllonorycter ulicicolella* head and thoracic region (ventral)

Hazards of butterfly collecting: Some sticks have fallen over the road. Omo Forest, Nigeria, June 1967

The summer of 1967 saw me on my first visit to Nigeria – to Africa, in fact. My father was UNICEF Director there and I was at university in Denmark in the sedate ways that this was managed at the time. I had been on a couple of good trips out of Lagos to small neighbouring forests. I was in the mood for a more substantial butterfly expedition. By chance I stumbled over a young American who – with the irrepressible optimism of his breed – had decided to go into the timber business while his wife was working for some more exalted cause. He had just acquired the rights to a small forest concession that had been started by a German group in 1913, with exquisitely bad timing. Shortly after their first load of equipment arrived World War I broke out, and the entire German team was interned. Their site, buildings, and roads reverted to 'bush' – not really a good term for trees the crowns of which may be enveloped in morning clouds.

My American friend was now clearing the old site. He was going on a visit two days from now. Would I like to come? He would have a truck going back and forth every two days or so, so I could stay as long as I wished, and get back to the relative comforts of Lagos at short notice. A more agreeable scenario could hardly have been invented. The only stumbling block was the need to inform my mother about the plans. She never trusted me to get back alive from such wild schemes. I promised to be back within seven or eight days.

On the advice of my friend I brought only the barest of essentials – a jar of Nescafé, soup cubes, some packets of biscuits, radio batteries ... most things should be available in the little camp that was already springing up around this splendid capitalist venture.

So off we went to Omo Forest in what was then Nigeria's Midwest State, one of the finest remaining forests within a day's travel from Lagos. The 7km dirt access road was freshly made and in good condition – timber trucks had not really started to make the usual mess of it yet. We reached the camp, I was allocated a room, someone was instructed to look after my food, and an old-timer offered to take me round the forest. HE knew exactly where the butterflies and other things were. So everything was hunky-dory.

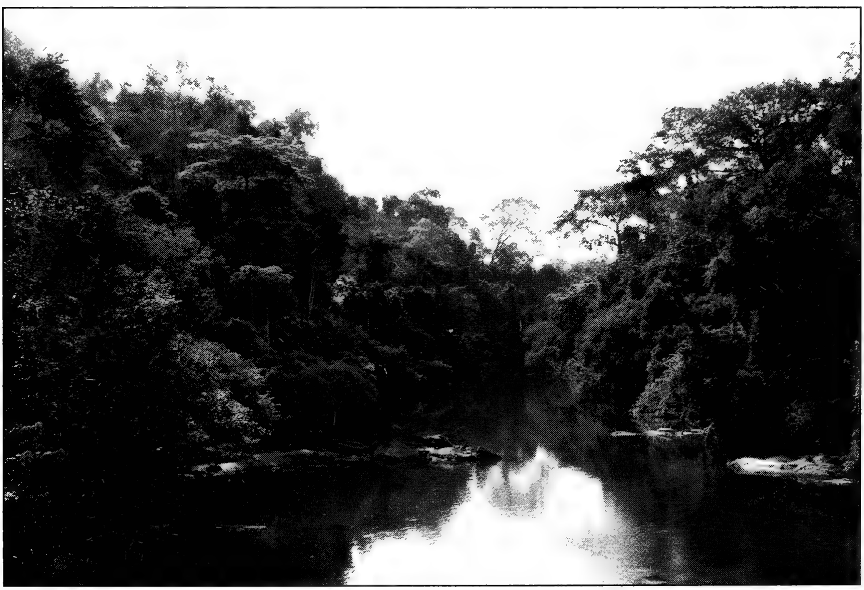
My friend took me to his site's biggest attraction. Embedded in an old strangling fig, 25 metres up the tallest of emerging trees at the edge of the camp, was a white object. Binoculars revealed it to be a toilet-bowl. My friend had been up to inspect it. It was apparently of beautiful Meissen porcelain and in excellent condition, with exquisite floral designs. The Brits had obviously not given the German internees much time to pack!

I had a splendid time. The forest was great, still with plenty of wild animals. I was even shown pit traps for catching the shy, red forest buffalo, which I have since seen just once. It was useful that old-timer had pointed out these traps – the sharpened spikes at the bottom of the pit would have been very uncomfortable indeed. As expected, the old-timer was not much use with butterflies, but that did not matter. Butterflies in profusion were everywhere. I was actually completely overwhelmed.

I had coffee and Mr. McVitie's excellent digestive biscuits for breakfast, and a good meal was fixed up for me every evening. I was generally dog-tired and able to sleep after listening a bit to the BBC World Service, which is tailor-made for this type of field work. Well, actually I did not sleep much during the weekend. Next to my room the *Eternal Brotherhood of the Cherubim and Seraphim* were building their church, tabernacle, or whatever. The building materials were mainly palm thatch, loud singing, snacks, and country liquor. I got up to see what was happening and was immediately pressed into service. My inadequacy at thatching did not seem to matter, though I honestly my best – the main reason for co-opting me was to see a 'whiteman' drinking country liquor!

All good things come to and end and I made arrangements to go back by truck on the eight day. I slept through an intense thunderstorm and got up at dawn. I was met by the boss-man: "You can't go back to-day", he said, "some sticks have fallen on the road". We had a slight conversation at cross-purposes when I suggested that we remove the sticks – he was talking sticks in forestry terms, mature forests giants several metres in diameter. It would take several days to get a truck in. I ran out of coffee and biscuits, but an infusion of lemon grass and the rest of yesterday's fried yam were a perfectly acceptable substitute. The *Cherubim and Seraphim* now fed me country liquor every evening without bothering about the pretense of thatching. The butterflies were still plentiful.

I may have missed one important trick, though. Our communal bathing place was a very dark stretch of a small stream, so covered by a dense forest canopy that hardly a sliver of moonlight could get through. My fellow bathers were reduced to a set of disembodied, gleaming white sets of teeth in the dark – I must have looked



like some fluorescent deep-water fish by comparison! I once went down to check for butterflies during daytime. The bottom of the pool – which I had thought was smooth stone - turned out to be some sort of tar. I remember thinking that the Germans could hardly have done that. But the niggling thought remains – might I actually have missed triggering the Nigerian oil-boom?

My mother had been advised of the travel problems. Our re-union was still as full of emotion as it was on dozens of later occasions when she was sure I would not have survived some relatively pedestrian enterprise. But after ten days in the bush, there is nothing wrong with a bit of pampering.

I was reminded of these events since I just finished something I always wanted to do. I have named a butterfly *Bebearia omo*. The forest has shrunk in size ever since 1967 and only a small core area still remains intact, though it has long had the status of a National Park. A series of this fine butterfly was collected by Robert Warren, who cares so much for the forest, that he immediately agreed to call it *omo* rather than *warreni*, in the hope that this will help the survival of what remains of this wonderful forest (Robert contributed the photo of the forest as it is to-day).— TORBEN B. LARSEN, UNDP Vietnam, c/o Palais des Nations, 1211 Geneva 10, Switzerland (E-mail: torbenlarsen@netnam.vn).

PS. I need hardly say that my American friend's project came to grief – the fact that Omo was overrun by Biafran forces a month later when the civil war started being only a minor contribution. I do not know what happened to the toilet bowl. I still have the butterflies from the trip, half a dozen of which I never saw again in nature.

A few moths (Lepidoptera) of note from Monks Wood National Nature Reserve, Huntingdonshire (VC 31)

A Rothamsted Insect Survey light-trap has been operating at Monks Wood for over 30 years, providing a very large and invaluable long-term data set. The trap is known as Ewingswode (site No. 277, O.S. grid reference TL 200797) to distinguish it from a trap previously run in the area round the laboratory buildings at CEH Monks Wood; and is annually one of our most productive sites, with a very high diversity of species. Despite its long run, the trap does still occasionally catch specimens that are particularly interesting.

On the night of 8/9 July 2003, the county's first Blomer's Rivulet *Discoloxia blomeri* Curt. (Geometridae) was recorded. This is a nationally scarce species, but as yet there is no sign of it breeding in the area.

A Great Prominent *Peridea anceps* Goeze. (Notodontidae) came to the trap at some point during the period 31 May – 5 June 2003. This was the first record of this species in Monks Wood since 1918, made all the more unusual by the fact that this oak feeder does not occur more frequently in the oak-dominated woodland.

A singleton of the Dotted Fan-foot *Macrochilo cribrumalis* Hb. (Noctuidae) was caught on the night of 6/7 July 2003. This is another nationally scarce species and was a first for Monks Wood. Mostly confined to East Anglia and Essex, this specimen is more likely to have come from the large population at nearby Woodwalton Fen NNR than from any new breeding site.

Five specimens of the Pale Pinion *Lithophane hepatica* (Noctuidae) were trapped during the period 19 September – 2 October 2003. Not recorded at the site before, this sparsely distributed but locally common species appears to be extending its range. It should certainly be looked out for away from its southern and western strongholds.

My thanks to Nick Greatorex-Davies for alerting me to these interesting discoveries, supplying me with useful background information, and for running the trap so well in the first place.— PHILIP J L GOULD, Co-ordinator, Light-trap Network, Rothamsted Insect Survey, Plant & Invertebrate Ecology Division, Rothamsted Research, Harpenden, Hertfordshire AL5 2JQ (E-mail: phil.gould@bbsrc.ac.uk).

Acronicta rumicis L. (Lep.: Noctuidae) extreme melanic ab. *lugubris* Schultz in Kent, and continued decline in melanism

The aberration *lugubris* Schultz of *Acronicta rumicis* is black with almost complete obliteration of the lighter markings retained by ab. *salicis* Curtis. Kettlewell (1973. *The Evolution of Melanism*) regards it as an industrial melanic, common in the Barnsley area of West Yorkshire, and a short series from there is in the National (RCK) Collection in the British Museum (Natural History). The aberration retains the white tornal spot on the forewings and it is very conspicuous, but the line of subterminal dots is almost absent.

On 15 August 2003, a specimen was noted at my garden mv light at Dartford; I can find no reference to other specimens being observed in either Kent or the London area. It is interesting that this specimen should be noted at a time when melanism in the species has reached a very low level.

Year	% typical	% melanic	Sample size
1995 – 1999	92.1	7.9	82
2000	93.3	3.7	53
2001	96.0	4.0	71
2002	97.2	2.8	71
2003	96.2	3.8	104
2004	100.0	0	72

Acronicta rumicis (L.): Percentage of typical form and ab. *salicis* Curtis at garden mv trap in Dartford, 2000 - 2004

The last report on the decline of melanism in *A. rumicis* in north-west Kent appeared during 2000 in this Journal; it illustrated a fall from 20% of ab. *salicis* in 1976 to an average of 6.1% for the five year period 1995-1999 inclusive. For the five year period 2000-2004 its incidence halved to 2.8%. This decline is summarised in Table 1.— B. K. West, 36 Briar Road, Dartford, Kent DA5 2HW.

Retreats for Peacock Butterflies *Inachis io* L. (Lep.: Nymphalidae) in changing weather conditions

On 28 April 2005, I observed two peacock butterflies fly directly and with masterly precision into one of two holes under a two-metre gorse bush, part of a rabbit run at the edge of a wooded clearing on Alderley Edge, Cheshire. The weather conditions were just in the process of changing from warmth and sunshine to being overcast with the beginning of rain, when the two butterflies, some five seconds apart, flew directly into the two openings, each some 20 cm up and across, neatly navigating the small space and overhang of gorse. The bush, on closer inspection, had a hollowed out centre and the butterflies had disappeared into the midst of it. I was particularly surprised by the occurrence of one specimen following another. The bush was very likely being used as shelter; perhaps they were familiar with the location as a roost. Another possibility is that the couple could have been a mating pair and the butterfly is known to choose secluded spots for mating (Baker, R. R.,1972. Territorial behaviour of the Nymphalid butterflies, *Aglais urticae* (L.) and *Inachis io* (L.). *J. Animal Ecology* **41:** 453-469). Whichever, this strongly suggests the value of shrubs as a resource for resting, roosting or shelter in *Inachis io.* — R. L. H. Dennis, Remar, 4 Fairfax Drive, Wilmslow, Cheshire SK9 6EY.

"Birching" for moths

On 18 March 2005, we were moth recording in the company of Mr Peter Franghiadi at Stover Country Park, Newton Abbot, Devon. It was a misty night and the temperature was 11°C. Away from the traps which had been set up SH noticed moths sitting on birch twigs. Further inspection revealed a number of species and many were seen with their proboscises presumably imbibing water from the birch twigs. There must have been a very thin layer of water on the twigs as in places drops had formed. It was however, from the twigs themselves not the visible drops that the moths were drinking. We were only able to inspect the lower branches and the growth around the base of the trees.

The commonest moth on the twigs was *Conistra vaccinii* – a total of 31, including a mating pair, was counted on five trees inspected. Other moths observed on the birch twigs were singles of *Orthosia munda*, *O. gothica*, *Eupsilia transversa*, *Ypsolopha ustella* and *Acleris notana* or *ferrugana*.

We did also look on other tree species, but the moths were few in comparison with the birch. On oak we saw one *O. gothica* resting and a mating pair of *C. vaccinii*. On sallow, one *O. cerasi* was noted.

What actually attracted the moths to the twigs with so much moisture around that evening remains a mystery It may be that the physical characteristics of the birch twigs enabled water to accumulate in a way the moths could utilise. It was certainly a very pleasing and easy way to observe moths. Nevertheless we recommend searching birch twigs on misty nights in the spring.— BARRY HENWOOD, 6 Lakeland, Abbotskerswell, Newton Abbot, Devon TQ12 5 YF, STEVE HATCH, 'Mulberry House,' Tower Hill, Buckland Brewer, Bideford, Devon EX39 5NL & ROY McCORMICK, 36 Paradise Road, Teignmouth, Devon TQ14 8NR.

Two noteworthy very late-flying moth (Lepidoptera) records from Rothamsted Insect Survey light-traps, 2004

A Common Carpet *Epirrhoe alternata* Müll. (Geometridae) was caught in Scotland at one of the Beinn Eighe light-traps (trap number 350, O. S. grid reference NH 025629) on the night of 3/4 November 2004. Double-brooded in the south, this species normally only manages a single brood in the north, flying in June and July. This specimen, while not necessarily a sign of a regular second generation is nonetheless worthy of note for quite how late it was flying, particularly so far north.

Site number 592, St. Clears in Carmarthenshire (SN 259176), produced a specimen of the Rosy Footman *Miltochrista miniata* Forst. (Arctiidae) on 11/12 November 2004. Despite the mild conditions often experienced by this part of the country as a consequence of the Gulf Stream, this moth was flying particularly late, its usual period having ended in early August.

Many thanks to David Miller and Huw Jones respectively, for keeping the traps running so well.— PHILIP J L GOULD, Co-ordinator, Light-trap Network, Rothamsted Insect Survey, Plant & Invertebrate Ecology Division, Rothamsted Research, Harpenden, Hertfordshire AL5 2JQ (E-mail: phil.gould@bbsrc.ac.uk).

Further reports of *Cheilomenes lunata* (Fab.) (Coleoptera: Coccinellidae) in Britain, winter 2001-2002

Seven occurrences of *C. lunata* during the winter 2001-2002 were previously reported (*Ent. Rec.* **114**:121-122) and Chris Raper (*Ent. Rec.* **114**:168) has corrected my translocation of Didcot from VC 22 to VC 23. Subsequently I was sent further records during 2002, all associated to supermarket grapes as follows:

Leicester and Hinckley (VC 29, Jan Dawson); Birmingham (VC 38, Dave Scott; two specimens); Llanelli (VC 44, Ian Morgan); Swansea VC 41, Barry Stewart). Barry Stewart was shown another Welsh specimen (Pembrokeshire), but has no further details. Additionally, Roger Hawkins noted another Didcot record at the British Entomological & Natural History Society meeting of 14 May 2002 (*Br. J. Ent. nat. Hist.* **15**: 188).

Most of these reports may stem from a single December importation, although the Llanelli report was at 10 March. To the best of my knowledge, no further observations were made after that date so, presumably, the 2001 batch did not establish. My thanks to all those who have sent records and other information.— PAUL MABBOTT, 49 Endowood Road Sheffield S7 2LY.

The Devon Carpet *Lampropteryx otregiata* Metc. (Lep.: Geometridae), a first for Leicestershire

On the night of 7/8 June 2004, a single specimen of this species was recorded in a catch from the Rothamsted Insect Survey light-trap at Loddington (No. 560, O. S. grid reference SK 792024).

The Devon Carpet is a species of damp woodland areas, and is chiefly distributed in the south and south-west of England, along with some sites in Sussex, Berkshire and Gloucestershire (Skinner 1984; *Colour Identification Guide to Moths of the British Isles*. Viking). The distribution in Wales shows a similar south and south-west prevalence, with records extending northwards into Caernarvonshire. Records from Derbyshire and Nottinghamshire (Waring & Townsend, 2003. *Field Guide to the Moths of Great Britain and Ireland*. British Wildlife Publishing) could indicate source populations from which this specimen originated.

Rothamsted data suggests that the range of *L. otregiata* is extending, with the annual total catch increasing significantly. The underlying dynamics show that local population numbers are increasing slightly; while national distribution is also expanding slowly. The greatest increases have occurred within the traditional range for the species, particularly in the south-west and in Wales. The Welsh population expanded rapidly in the early 1980s and has since spread at low density to the north and east. Considering the general trend of decline in Britain's moth fauna (Conrad *et al* 2004; Long-term population trends in widespread British moths, *Journal of Insect Conservation* **8**: 119-136), it is encouraging to see a success story such as this. Hopefully, if the current pattern of increase and expansion continues, this specimen may not be the last of this delicate little moth to be found in Leicestershire and the surrounding area.

Many thanks to Kelvin Conrad for providing the statistical information and to Adrian Russell for confirming the specimen as a first for his county.— PHILIP J. L. GOULD, Co-ordinator, Light-trap Network, Rothamsted Insect Survey, Plant & Invertebrate Ecology Division, Rothamsted Research, Harpenden, Hertfordshire AL5 2JQ (E-mail: phil.gould@bbsrc.ac.uk).

Separation of Red Twin-spot *Xanthorhoe spadicearia* (D. & S.) and Dark-barred Twin-spot Carpet *Xanthorhoe ferrugata* (Cl.) (Lep.: Geometridae)

The separation of these two moths can be a problem, especially of worn examples in a light traps. The Red-twin-spot usually has a red median band on the forewing, but in some forms this band can be very dark or almost black. The Dark-barred Twin-spot, as the common name implies, has the median band of the forewing dark – often black. However, there is a form that has a reddish band (actually the typical form – those with black bands being referable to ab. *unidentaria*). A very widely used character for the separation of the two has been the presence (in Dark-barred) or absence (in the Red) of a notch on the inner edge of the median fascia of the forewing at the costa. This character is mentioned in Skinner's *Colour identification guide to Moths of the British Isles* (Viking, 1984) and is repeated in the 1998 revision. The character is copied by Waring and Townsend in their recent identification guide (2003. *Field Guide to Moths of Great Britain and Ireland*. British Wildlife Publishing) and has been widely used by many – including myself.

Recently, however, John Chainey suggested to me that that this character may not be quite as reliable as is widely believed. Accordingly, I examined the genitalia of the males of both species in my collection. This is easily achievable by merely brushing away the scales at the tip of the abdomen, from below. The resulting view is, in fact, rather easier to interpret than that presented by a two-dimensional microscope slide. The two species are immediately and easily separated by the length and shape of the costal process that arises from the inner face of each valva. In *X. spadicearia* (Fig. 1) each process is long and narrow, produced from the tip of the valva and then turning inwards at 90 degrees so that the two often touch or even overlap. In *X. ferrugata* the costal process is short and stout (Fig. 2), produced to a short point that scarcely extends beyond the tip of the valva. Drawings of mounted genitalia of both sexes may be found in Pierce (1914. *The genitalia of the Geometridae*. 1976 reprint by Classey) in which *ferrugata* is referred to under its old name of *unidentaria* (Haw.) and *spadicearia* is incorrectly referred to as *ferrugata* Cl. Somewhat better pictures, also of two-dimensional mounted material may be found in Skou's book *The Geometroid Moths of North Europe* (Brill/Scandinavian Science Press, 1986). Both species have an exceptionally long, narrow and curved uncus which should not be confused with the costal processes of the valvae.

I have examined the "tails" of an admittedly very small sample of 51 specimens, but these originate from diverse areas including south-east England, southern France and Hungary. The results (Table 1) seem to indicate that many *X. ferrugata* (68%) do in fact bear the notch, but a significant percentage do not. The notch is also present in almost half (44%) of the *X. spadicearia* examined. It seems clear that the use in isolation of the notch character will lead to misidentifications being made.

Species (named by genitalia examination)	**Number of examples with**	
	Notch present	**Notch absent**
Red Twin-spot Carpet *X. spadicearia*	10	13
Dark-barred Twin-spot Carpet *X. ferrugata*	19	9

Table 1: Numbers of male Red and Dark-barred Twin-spot Carpets, identified by genital examination, with and without the "notch" character of the forewing median fascia.

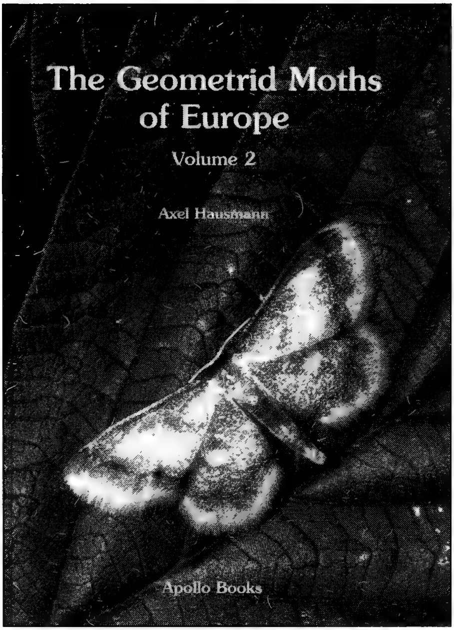
Fig. 1. Tip of abdomen of Red Twin-spot Carpet *Xanthorhoe spadicearia*
The costal portions of the two valvae extend as strongly curved spines well beyond the tips of the valves.

Fig. 2. Tip of abdomen of Dark-barred Twin-spot Carpet *Xanthorhoe ferrugata*
The costal portions of the two valvae are short and stout, swollen at the base and scarcely projecting beyond the tip of the valvae. The long, narrow uncus is visible (out of focus) between the two valvae.

Whilst identification of dead males is easy if the tail end is merely brushed then examined and identification of dead females from the shape of the ductus bursae and the ostial area is also simple, identification of live moths may be a problem. The Red Twin-spot usually has a white band on the outside of the median fascia and the other characters in Waring and Townsend (*op. cit.*) seem to work satisfactorily. However, some of my dissected male Dark-barred Twin-spots also have a whitish outer edge to the band. The reality is probably that many examples may not be identifiable from a live insect; clearly further work is needed in this area.

An interesting result of this revelation of identification is that there do not appear now to be any valid records of the red-banded (typical) form of Dark-Barred Twin-spot Carpet in Hertfordshire – the few that I was responsible for are all Red Twin-spots, *spadicearia*! The dark-barred form of the Red Twin-spot appears to represent about 5% of this species in Hertfordshire.— COLIN W. PLANT, 14 West Road, Bishops Stortford, Hertfordshire CM23 3QP (E-mail: cpauk1@ntlworld.com).

BOOK REVIEW



The Geometrid Moths of Europe Volume 2 Sterrhinae by **Axel Hausmann.** 600 pp., 240 x 170 mm., hardback, ISBN 87 88757 37 4. Apollo Books, Stenstrup, 2004, 960 DKK (approximately £86). If the series is ordered direct from the publishers a 10% discount may be obtained. Apollo Books, Kirkeby Sand 19, DK-5771 Stenstrup, Denmark. Apollo can accept payment in Sterling.

This long awaited volume fills a yawning gap in the literature on European Geometridae. It deals with the Sterrhinae, which includes the genera *Idaea* and *Scopula* (the Waves), *Cyclophora* (Mochas), *Timandra* (Blood-vein) and *Rhodometra* (Vestal) that occur in Great Britain. Hausmann was the ideal person to write it since it is the group in which he specialises. He has great enthusiasm and considerable field experience and works with the vast collections in the Zoologische Staatssammlung München.

Previous work dealing with the Sterrhinae on a European basis includes Culot (1917-19. *Noctuelles et Géometres d'Europe.* Volume 3), in French, with useful illustrations, but now obviously long out of date, Seitz (1912-1916. *Die Gross Schmetterlinge der Erde* Volume 4), and a remarkable pioneering study by Dr Jakob Steineck, *Versuch einer Darstellung der systematischen Beziehungen des den Palaearktischen Sterrhinae (Acidaliinae)*, in German, confusingly presented as *Studien uber Acidaliinae (Sterrhinae) Part 7*, and published in 21 separate blocks scattered through Volumes 25 (1940) & 26 (1941) of *Zeitschrift des Wiener Ent. Verein.* This study dealt with external features (antennae, hind tibiae) as well as genitalia. Sterneck's work, however, dealt with the males only; the genitalia were not all illustrated and none was illustrated completely. Instead, aspects of the genitalia were classified and parallel tables were presented giving the 'class' for each species/aspect combination. The genitalia illustrations were of 'bits' of the genitalia – uncus, aedeagus, valvae, anellus (and for *Scopula* cerata & mappae) in the orientation best suiting the aspect considered, with not all species illustrated for bits of a given class.

Now Hausmann has given us for the first time illustrations of all species, with both male and female genitalia illustrated in the standard manner. He has done this for the 196 species that he considers to occur in Europe and their subspecies – and also for 14 other species occurring in adjacent areas that are relevant to his treatise. These include two species (*Idaea allardiata* Mabille 1869 and *Idaea inclinata* Lederer 1855) mentioned here because they are not in the index. Near the end of the book there is a complete checklist of the Sterrhinae of Europe and adjacent areas (North Africa, Canary Islands, Middle East, Asiatic Turkey and Asiatic Russia).

Genera are divided into species groups where appropriate, usually corresponding with Sterneck's groups. The text for each species, which is of course in English, starts with a list of all valid descriptions in chronological order. This is followed by sections headed Diagnosis, Male Genitalia, Female Genitalia, Distribution, Phenology, Biology, Habitat, Similar Species and Remarks. The distribution maps show grey shaded areas where the species is believed to occur, and superimposed black circles or squares at places from where specimens have been examined critically. The illustrations are photographic, mostly x1.5, and there is normally at least one complete row of illustrations per species. Thus, to match a specimen one only has to work down the central column to find possible matches and then look along the rows to see the extent of variation.

A great deal of new research has been done for the book, which has resulted in new species by splitting, and the disappearance of several species (usually by synonymy) and a certain amount of nomenclature change. Around 300,000 collection specimens have been examined, 6,000 have been dissected, 1,700 original descriptions have been checked and most of the measurements for descriptions (e.g., wingspans and length of tarsus) are Hausmann's original data. Hence, it is a very scholarly work. Those of us who find the concept of 'subspecies' of limited value will be pleased to find that far more subspecies names have disappeared through synonymy than have been created.

Many of us in the UK still use the 1996 *The Lepidoptera of Europe, A Distributional Checklist*, edited by Ole Karsholt & Józef Razowski. This does not consider subspecies names and many changes have occurred since 1996 apart from those new in the presently reviewed book. To incorporate *all* the changes we must now move one species (*Ochodontia adustaria* Fischer v. Waldheim) from Larentiinae to Sterrhinae, remove 13 of the Sterrhine entries (one of which, *Idaea minuscula,* Ribbe never did exist), add 20 new ones, replace the North African species *Oar pratana* Fabricius with the species *O. reaumuraria* Millière, which occurs in Spain, and alter the names or spellings and/or the authors of five more. If you want to know the details, then buy the book, which I can thoroughly recommend.

This work will encourage more people to study the Sterrhinae, now that they have an up-to-date way of identifying their specimens. My hope is that it will stimulate (and enable) someone to produce a series of illustrations of the male genitalia in the undistorted state. The valvae cannot be spread without distortion and/or tearing of tissues, and not everyone spreads them. It would also be possible to produce drawings of all the 'bits' of the male genitalia of all the species in the manner of Sterneck, which would be very useful before the final mounting of the genitalia, when much of the three dimensional information is lost – and may facilitate the discovery of further new species. Finally, we might get a guide specially for those interested in identifying the species in the field.

NORMAN HALL

Continued from back cover

Book Review

THE ENTOMOLOGIST'S RECORD

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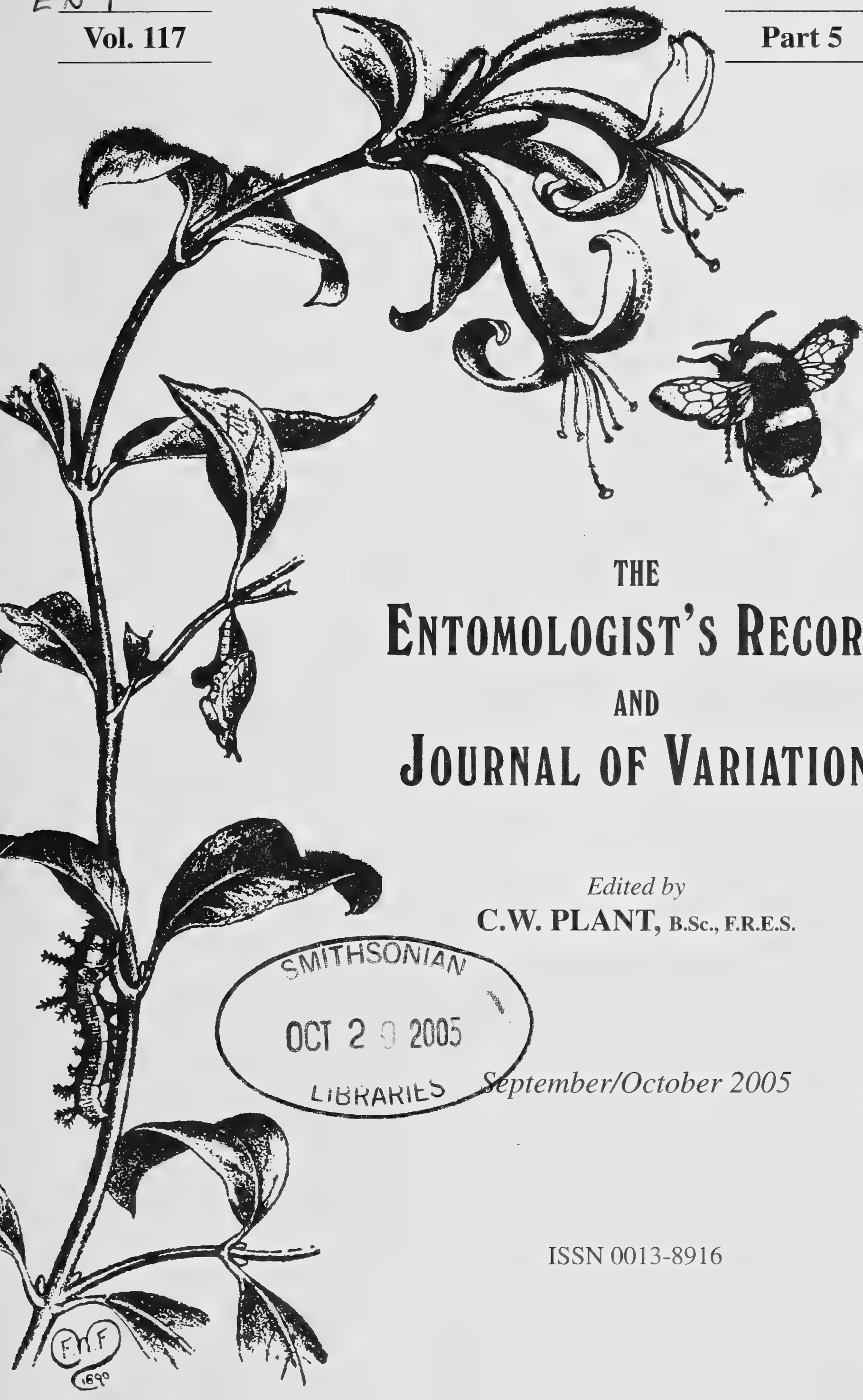

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A NEW SPECIES OF *PHYLLOCOLPA* BENSON *PHYLLOCOLPA ROLLERI* SP. NOV. (HYM.: TENTHREDINIDAE, NEMATINAE) ON *SALIX HASTATA*

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Abstract

Phyllocolpa rolleri sp. nov. (Hym.: Tenthredinidae, Nematinae) is described from specimens collected on *Salix hastata* in the Lower Tatra Mountains, Slovakia.

Introduction

During the last two days of the Ninth International Sawfly Workshop, held in the Slovak Republic from 17-23 June 2005, the author collected on a mountain summit in the upper montane zone of the Lower Tatras. The fauna and flora at this locality was unusual in that it contained a mixture of montane/subalpine species and those normally considered to be characteristic of warmer sites at much lower altitudes. Several of the montane sawflies collected were associated with *Salix hastata*, including the previously undescribed *Phyllocolpa* species which is the subject of this paper. The full species list of Symphyta collected in the Lower Tatras by participants of the workshop will be presented elsewhere.

Taxonomic study of the genus *Phyllocolpa* has lagged behind that of *Pontania* in recent years. Perhaps this is because the open galls of *Phyllocolpa* (often termed "leaf-folds" or "leaf-rolls) are less conspicuous than the closed galls of *Pontania*. The latter display a wide range of shape and are often coloured bright red. As indicated by research by J.-P. Kopelke, nearly all species of the gall-making nematine sawfly genera *Phyllocolpa*, *Pontania* and *Euura* are strictly monophagous on single willow species (Kopelke, 2003).

Phyllocolpa rolleri sp. nov.

Female: Head dull with coriaceous sculpture, except for nearly unpunctured clypeus and labrum. Hollow around outside of antennae pubescent. Frontal ridges low, rounded, without lateral carinate extensions above antennae. Antennae long, slender, equal in length to costa of forewing. Antennomeres 3 and 4 subequal. Antennomere 8 is 3·7-3·9x as long as maximal width. Mesonotum dull; sculpture similar to upper head. Mesopleura slightly sculptured on upper third, shining between pubescence below this and with a broad glabrous patch below sterno-pleural line. Scutellum only slightly convex, shining between evenly distributed pubescence except for glabrous posterior third. Post-tergite only pubescent laterally. Basitarsus extremely long and slender (5·5x apical width). Tarsus 0·85-0·88 as long as tibia. Inner hind tibial spur half as long as basitarsus. Abdominal terga and sterna dull with transverse sculpture. Cerci projecting almost as far as tip of sawsheath. Sawsheath and saw as in Figs. 616 & 636 in Benson (1958).

Black. Clypeus, labrum, base of mandibles, more or less apices of palpi, whole of tegula, trochanters, narrow apex of coxa, more or less apices of femora, basal 0.75 of rear tibia, tibial spurs, basal half of stigma white or pale yellow. Tarsus entirely black.

Length: 4-5mm.

Variation: in a few specimens a small triangular, brown fleck is present adjacent to inner top of eye. The pronotum is usually completely black, but may be very narrowly lined with brown on upper posterior edges. Hind femora vary from black lined on fore and rear edges with base all black, to almost entirely black except for the extreme apex.

Male: As female, but stigma darker, with only approximately basal third pale.

Holotype (female): Slovak Republic, Lower Tatras, Krakova holá, 1700-1750m, 48°58.08N 19°38.00E, approx. 12km south of Liptovsky Mikuláš, 21-22.06.2005, leg. Liston. Deposited in Deutsches Entomologisches Institut (DEI), Müncheberg.

Paratypes: 22 females and 8 males, same collection data as holotype. Deposited in L. Roller Collection (Bratislava), Deutsches Entomologisches Institut (Müncheberg), Forschungsinstitut Senckenberg (Frankfurt a. M.), National Museums of Scotland (Edinburgh), Zoologische Staatssammlung (Munich).

Etymology: The species name is dedicated to Dr. Ladislav Roller of Bratislava, in appreciation of his efforts in the organisation of the 9th International Sawfly Workshop (2005) in Slovakia.

Biology

Leaf-rolls were numerous on the plants of *Salix hastata* from which the adults were swept. The larvae had not yet emerged from the eggs. The leaf is rolled along nearly its whole length, and twisted around its axis. Although the imagines of *P. rolleri* were merely swept from these plants, there is no doubt that *S. hastata* is the host. This is the only *Salix* species present on this part of the summit. On the north face of the mountain, several hundred metres from where the *Phyllocolpa* were collected, some large patches of *Salix alpina* were present, but close examination of these revealed not a single sawfly of any species, either as adult or larva.

Identification

The new species is readily distinguished from most known Palaearctic species by the combination of very dark colouration (particularly the legs), long cerci and lack of a carina between lateral frontal area and top of head. The structure of the ovipositor sheath, saw and the quality and distribution of body surface sculpture closely resemble *P. coriacea* (Benson, 1953) (on *Salix cinerea*), suggesting that they may be related. *P. coriacea* can best be distinguished by its shorter hind tarsus (only 0·65-0·70 as long as tibia) and paler hind leg colour (coxa with apical half pale, femur at most narrowly lined with black, tibia with only extreme apex black, basitarsus with at least underside pale).

Remarks

Salix hastata has a wide Eurasian distribution, occurring also in Alaska and North-West Canada. It is therefore probable that *P. rolleri* occurs in other regions apart from the Tatras. Possibly some of the published records of *P. coriacea* from the Alps really refer to *P. rolleri*. The few *Phyllocolpa* species described from within or adjacent to the territory of *Salix hastata* in North America (Smith, 1979) all differ significantly in imaginal morphology from the new species.

Acknowledgements

Special thanks to Laco Roller (Bratislava) and Andreas Taeger (DEI) for organising such an enjoyable meeting.

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The Sword-grass *Xylena exsoleta* (L.) (Lep.: Noctuidae): Monitoring difficulties

For the last 150 years or more, The Sword-grass *Xylena exsoleta* has declined steadily in Britain. The distribution maps in Heath & Emmet (1983. *Moths and Butterflies of Great Britain and Ireland* vol. 10, Harley Books) and Waring (1992. *Moth Conservation Project News Bulletin 4*. JNCC), show far more former sites than current ones, particularly south of the Scottish Highlands, despite ever-increasing recording effort.

In Scotland, the decline has not been so great. The Sword-grass seems to be holding its own in many parts of north-east Scotland, especially Aberdeenshire. I am fortunate enough to have it on my own land at Ordiquhill, near Cornhill in Banffshire. Because of the concern about its status, I have monitored the species carefully every year since 1990.

Most sightings are at sugar. As so much recording nowadays is done with light traps, this may partly explain the scarcity of recent records. In some autumns, no moths are recorded in my garden Robinson trap, despite regular attendance at the line of sugared fence posts that begins only 20m away. In spring, sugar is still the most reliable method, but captures at light are more frequent. Indeed, the highest single count was 12 in the Robinson trap on 7.iv.1997. This was so untypical that I wondered whether a calling female was in or near the trap and had attracted males by her pheromones.

Any monitoring system is imperfect, but for many years my data seemed fairly reliable. In autumn, mid September to mid October was the peak time, but occasional singles continued into December in mild winters, the latest being on 14.xii.2004. In a good year, multiple sightings were usual, the best being nine at one count on the 25 sugared posts on 3.x.2001. Spring sightings might begin in January, my earliest being on 9.i.1998, but mid or late March was more usual, depending on the weather. Attendance at sugar often declined after mid April, perhaps because sallow catkins now provided a more attractive food source. Usually, numbers in spring tallied fairly well with those of the previous autumn, but were slightly lower, as would be expected due to mortality during hibernation.

The pattern broke down in 2003-4. The summer of 2003 was unusually hot for north-east Scotland, resulting in some unprecedented partial second broods of moths that are normally univoltine here (*Ent. Rec.* **116**: 25-32). For the first time, I failed to see a single Sword-grass in autumn, despite the usual effort. It was natural to assume that the high temperatures had adversely affected such an increasingly northern species. Red Sword-grass *X. vetusta*, normally slightly the commoner, was also very scarce, with only four sightings of singles. Worryingly, it seemed that both had suffered a very poor year.

Thus it was a pleasant surprise when both *Xylena* species appeared in above-average numbers the next spring. Between 25.iii and 26.iv.2004, I recorded The Sword-grass on 20 dates, mainly at sugar. Numbers peaked on 29.iii.2004, with four at sugar and five in the light trap next morning, perhaps with some overlap. The same night produced at least ten Red Sword-grass, with nine at once at sugar. These moths must have been present the previous autumn, before hibernation, yet they had not been picked up by my almost nightly recording efforts. Presumably the high temperatures had altered their behaviour rather than affected their numbers. A cautionary tale indeed!— Roy Leverton, Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS.

Sword-grass *Xylena exsoleta* (L.) (Lep.: Noctuidae) larva found in north Norfolk in 1948

Having had occasion recently to look through my journal for 1948, I noticed that I had recorded finding on 12 July that year an almost fully grown larva of the Sword-grass *Xylena exsoleta* on cultivated Blackcurrant *Ribes nigrum* at Trunch, near North Walsham, north Norfolk. In view of the present scarcity of this moth in southern England, I feel I should place this find on record. Judging by my notes, I failed to breed out the moth on my return to my then London home; not surprisingly, as it is a notoriously difficult species to rear (Porter, 1997. *The Colour Identification Guide to Caterpillars of the British Isles.* Viking). Peppered Moth *Biston betularia* (L.) larvae were also numerous on these Blackcurrant bushes, the fruit of which I was picking in the course of a school harvest camp.— John F. Burton, In der Etzwiese 2, D-69181 Leimen-St.llgen, Germany.

THE *ELACHISTA REGIFICELLA* SIRCOM COMPLEX (LEP.: ELACHISTIDAE) IN BRITAIN

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Abstract

Elachista regificella (Lep.: Elachistidae) was recently shown to be a species complex. In this paper the occurrence of the three constituent species, *E. regificella* Sircom, *E. geminatella* (H.–S.) and *E. tengstromi* Kaila *et al.*, in Britain, is outlined. Diagnostic characters are given for each species. Life history records indicate that the species have, at least to some extent, different host plant preferences: *Luzula sylvatica* is recorded as the host plant of *E. regificella* and *E. geminatella*, the latter probably exploiting other host plants as well. *L. pilosa* is the only known host plant of *E. tengstromi* in Europe.

Introduction

Elachista regificella Sircom has long been considered to be an easily identified and widespread species in Europe. It has a striking appearance with a characteristic pattern of four silvery golden markings on its shiny blackish brown forewing: a fascia near the base, an 8-shaped spot in the middle, an elongate triangular spot at the tornus and a similar spot at the apex. The antenna of the female is white in the distal third (Traugott-Olsen & Nielsen, 1977; Bland, 1996). The larval mine is also easy to recognise as being the sole '*Phyllonorycter*-type' mine on *Luzula* species, i.e. exhibiting longitudinal folds on the epidermis (Steuer, 1980; Traugott-Olsen & Nielsen, 1977; Bland & Knill-Jones, 1988). Recently Kaila *et al.* (2001) showed that *E. regificella* auctt. is a species complex, and recognised three species as occurring in Europe: *E. regificella* Sircom, *E. geminatella* (Herrich-Schäffer) and *E. tengstromi* Kaila *et al.* All of them also occur in Britain. In this paper we summarise their identification and occurrence here. The paper by Kaila *et al.* (*op. cit.*) can be consulted for further details of the history of the nomenclature, identification, and distribution records outside the British Isles.

Identification of the species

There appear to be slight differences in the external appearance of the three species, but due to individual variation considerable overlap exists between them. Thus a safe identification of the species will usually require the study of the genitalia, except, perhaps, in the most typical specimens, or if life history data are available. All three species possess specific characters in both the male and female genitalia. The best diagnostic characteristics in the male genitalia are the shape of the aedeagus and the cornutus within it. In the female genitalia, the best diagnostic characters for distinguishing the three species are the absolute and relative lengths of the colliculum, the posterior dilatation and the tubular anterior part of the ductus bursae. The identification is explained under the diagnoses of the species below.

Elachista regificella Sircom

Plate F. Top row: left ♂, right ♀

Elachista regificella Sircom, 1849: 42

Diagnosis. – Wingspan 8.5-9.9 mm. *E. regificella* seems to vary less in size than the other species, the specimens studied being as large as the largest representatives of the others. It tends to have narrower costal and tornal spots as compared with the other species, the costal spot being crescent-shaped versus its triangular or subquadrate shape in *E. geminatella* and *E. tengstromi*. In the male genitalia (Fig. 1) the valva is slightly longer than that of *E. geminatella*: the ratio of the length of valva to that of aedeagus is on average 1.3 (n = 6). The aedeagus (Fig. 2) is similar in shape to that of *E. tengstromi*, lacking a ventrolateral swelling; the cornutus is broader than that of *E. tengstromi* and slightly narrower than that of *E. geminatella*. The female genitalia (Fig. 7) are characterised by a very long ductus bursae, coiled anteriorly, and having a small posterior dilatation. The length of the dilatation, measured from the inception of the ductus seminalis, is equal to the length of the apophyses posteriores, and contains a small group of spines posteriorly, and sometimes an indistinct sclerotised longitudinal ridge. In this species the total length of the ductus bursae (including colliculum) is usually longer than in the other species with, however, some overlap: it is 6.5-7.5 times the length of the apophyses posteriores. The tubular anterior part is longer than in the other species due to the smaller size of the posterior dilatation.

Biology. – Bland & Knill-Jones (1988) and Bland (1996) give a detailed account of the biology of this species. It occurs in fairly open woodland where its foodplant *Luzula sylvatica* grows on sunny banks. The species is univoltine, occurring in July. The larva hatches in September or October, and is fully fed by mid-May to early June. The mature mine is long and inflated, with the upper epidermis puckered, thus distorting the leaf. The larva frequently vacates the mine and forms a new one in another leaf. Records from *Luzula pilosa* almost certainly refer to *E. tengstromi*.

Distribution. To date it has been confirmed as occurring only in the south-west of England from Cornwall, Devon, Gloucestershire and Wiltshire; in Wales from Monmouthshire and in the east of Scotland from Berwickshire, Fifeshire, Kincardineshire and Aberdeenshire. It is probable that most, if not all, the records from or associated with *Luzula sylvatica* in the British Isles will, when specimens are dissected, turn out to be this species. It has not been recorded from any other country yet, but it is highly probable that, when specifically searched for, it will be found to occur in many western European countries.

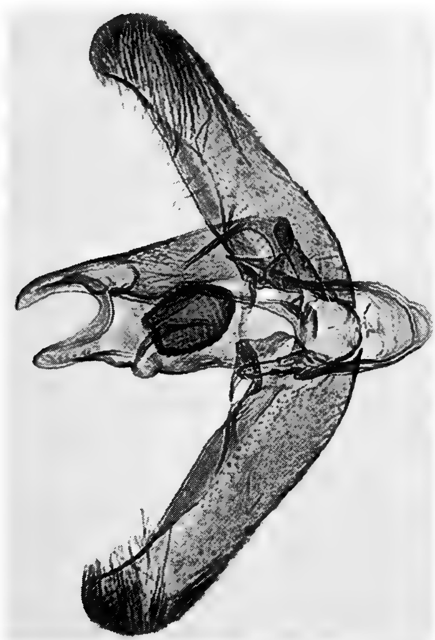

Fig. 1. *Elachista regificella* Sircom. ♂ genitalia (U.K., Wales, Tintern, Monmouthshire, E. C. Pelham-Clinton leg., L. Kaila prep.no. 2953).

Fig. 2. *Elachista regificella* Sircom. aedeagus.

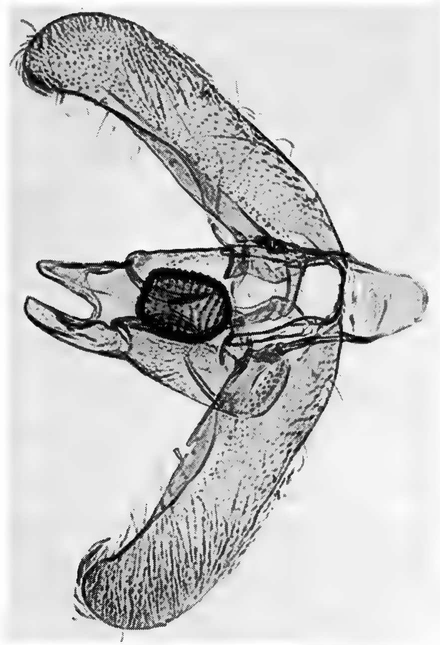

Fig. 3. *Elachista geminatella* (Herrich-Schäffer). ♂ genitalia (Germany, nr. Bonn, Hering leg., L. Kaila prep.no. 2985).

Fig. 4. *Elachista geminatella* (Herrich-Schäffer). aedeagus

***Elachista geminatella* (Herrich-Schäffer)**

Plate F: Middle row: left ♂, right ♀

Poeciloptilia geminatella Herrich-Schäffer, 1855: 301, 309
?Elachista magnificella sensu Zeller, 1847: 891, *nec* Duponchel, 1843
Elachista nieukerkeni Traugott-Olsen, 1995: 366

Diagnosis. – Wingspan 7.8-9.6 mm. Most specimens are characterised by the costal and tornal spots being situated somewhat closer to each other than in *E. regificella* and *E. tengstromi*. This characteristic is not, however, constant and cannot be used as a criterion for identification. In the male genitalia (Fig. 3) the aedeagus (Fig. 4) has a characteristic ventrolateral swelling which, however, is easily hidden if the aedeagus is not mounted correctly; this feature is not present in either *E. tengstromi* or *E. regificella*. The cornutus is broader than in the other species, that of *E. regificella* being somewhat narrower and that of *E. tengstromi* considerably narrower. The valva is somewhat shorter than that of *E. regificella*: the ratio of the length of valva to that of aedeagus is on average 1.1 (n = 11). The female genitalia (Fig. 8) have a characteristic very large and distinctly sclerotised posterior dilatation of the ductus bursae. The length of the dilatation is nearly twice as long as the apophyses posteriores. The posterior group of spines in the dilatation is situated in a well defined sclerotised plate fused to a strongly sclerotised longitudinal ridge. This ridge contains either a few prominent thorns or a long row of smaller teeth. The total length of the ductus bursae (including colliculum) is about 5.5 times the length of the apophyses posteriores (n = 11) and has a few coils anteriorly.

Biology. – It occurs in dry, sunny calcareous meadows, and although it has been reared from *Luzula sylvatica* Hudson (Gaudin) in Germany by Hering, in Latvia and Sweden and in the only known British locality, *L. sylvatica* does not occur. It is possible that either *L. campestris* (L.) DC. or *L. multiflora* (Ehrh.) Lej. could be the host plant in these localities, but searches for larvae have been unsuccessful thus far. In Germany, mines were found in late May and early June. The moth flies from late June to early August.

Distribution. The only known British specimens were all taken by Lord Walsingham at Merton, Norfolk in the latter part of the 19th century; probably in the extensive grounds of Merton Hall where he lived. On the Continent it has been recorded throughout western Europe from Spain to Sweden.

***Elachista tengstromi* Kaila, Bengtsson, Šulcs & Junnilainen**

Plate F: bottom row: left ♂, right ♀

Elachista magnificella Tengström, [1848] 1847: 147, *nec* Duponchel, 1843 [homonym]
Elachista tengstromi Kaila, Bengtsson, Šulcs & Junnilainen, 2001: 164

Diagnosis. – Wingspan 7.0-9.3 mm. The tornal spot of the female is usually more broadly triangular than in *E. geminatella* and *E. regificella*, sometimes even being a

Plate F. *Elachista* spp. Top row: *E. regificella* Sircom left ♂, right ♀; middle row: *E. geminatella* (Herrich-Schäffer) left ♂, right ♀; bottom row: *E. tengstromi* Kaila *et al.* left ♂, right ♀ (Painted by B. Å. Bengtsson, originally published in Kaila *et al.* 2001).

broad, roundish spot, and the median fascia tends to be slightly larger and more regularly 8-shaped. In the structure of the male genitalia (Fig. 5) it is readily distinguished from the other species by the very narrow cornutus in the aedeagus (Fig. 6). It usually also has a rather more produced and oblique cucullus than in the others. In the female genitalia (Fig. 9), the colliculum, as interpreted to be the part of the ductus bursae situated between the ostium bursae and the inception of ductus seminalis, is significantly longer than in the other two species which do not differ from each other in this respect. The ratio of the length of apophyses posteriores to that of colliculum is on average 0.5 (n = 12), the average being 0.3 in the other species with no overlap with *E. tengstromi* (n = 11 for *E. geminatella*, 5 for *regificella*). The length of the posterior dilatation is 1.3 times longer than the apophyses posteriores and is similar to that in *E. regificella* but has a more distinctive longitudinal sclerotised ridge with a few spines anteriorly. The total length of the ductus bursae (including colliculum) is on average 5.5 times the length of the apophyses posteriores (n = 12) and is straight, with no spiral coils.

Biology. – The species has been recorded only on *Luzula pilosa* L. (Willd.) in Europe. Steuer (1980) gives a thorough outline of the biology of this species (as *regificella*). In Finland mines of *E. tengstromi* can be found at any time of the year, but most commonly the species hibernates as a small larva. In spring it develops slowly until early – mid-June. Larvae can be found in leaves of *Luzula pilosa* growing in semi-shade or open places, often together with *E. gleichenella* (Fabricius) in open and *E. trapeziella* (Stainton) in more shady sites. Adults have been recorded from mid-June to late August, the peak being around mid-July.

Distribution. Confirmed records from England are from Kent, Hampshire and Oxfordshire, from Monmouthshire in Wales and Morayshire in Scotland. Abroad, the species is known from Switzerland and Austria northwards through Germany and Denmark to Fennoscandia and eastwards to Poland, Latvia, Russia and Japan.

Acknowledgements

Thanks are due to B.Å. Bengtsson for permission to reproduce his aquarelle of the imagines; to I. R. Thirlwell for proof-reading and many helpful suggestions and to J. Clifton for information on the distribution of *Luzula* spp. in Norfolk. The SYS-Resource grant from EU's IHP Programme to L. Kaila for a visit to BMNH in connection with research for the original publication (Kaila *et al., loc. cit.*) is gratefully acknowledged.

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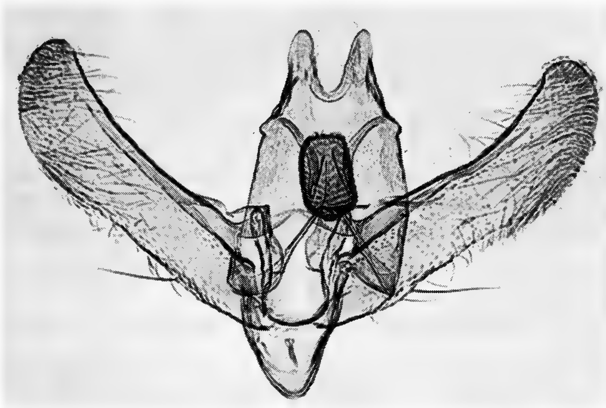


Fig. 5. *Elachista tengstromi* Kaila *et al.* ♂ genitalia (Austria, Sommerau, J. Klimesch leg., L. Kaila prep. no. 2991).

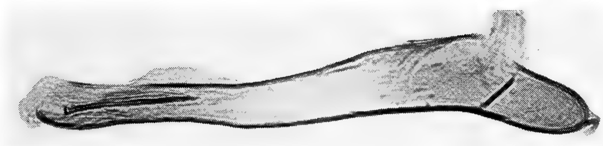


Fig. 6. *Elachista tengstromi* Kaila *et al.* aedeagus

Fig. 7. *Elachista regificella* Sircom. ♀ genitalia, neotype (U. K. England, Bristol, J. W. Tutt leg., B.M. slide 29769).

Fig. 8. *Elachista geminatella* (H.-S.). ♀ genitalia, neotype (Germany, nr. Bonn, Hering leg., L. Kaila prep. no. 2973).

Fig.9. *Elachista tengstromi* Kaila *et al.* ♀ genitalia (Sweden, Gotland, Irevik, O. Karsholt leg., L. Kaila prep. no. 3251).

Hazards of butterfly collecting. Far-off places, strange foods

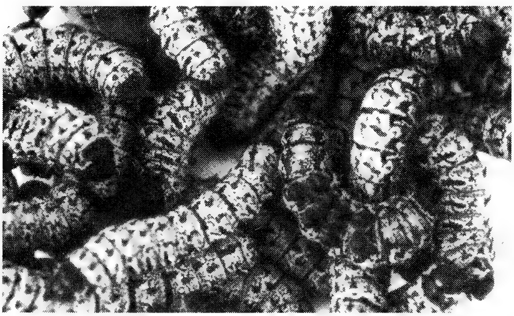
When collecting butterflies in far-off places one is often faced with unusual foods. I have been faced with beetle grubs, the caterpillars of saturnid moths, termites, grasshoppers, snails, turtle eggs, mole-rats, porcupines, sea-cucumbers, and a host of other things – as well as the snails already recorded in this journal (*Ent. Rec. J. Var,* **115**: 243-246). Most vegetable matter that you eat is not recognisable. Actually you do not get that many greens in most far-off places, which can pose major local health problems – not least the absence of vitamin A that can lead to blindness. I remember with great pleasure a TV-programme on Nigerian TV many years ago where a presenter showed us some 24 leaf vegetables: "This also ... we call it spinach." The local names could not be translated. I have one piece of advice on this. When you cook any kind of stew in the bush that has to simmer, put in generous amounts of chopped cassava leaves – they are good for texture and taste as well as being visually pleasing.

My attitude to strange food is simple. If other people eat it, I will try it. I do not promise to like it. I will not desist just because it is something unusual. I am, however, continually amazed at the entrenched attitudes to food – to the point where people choose to starve rather than eat something unusual.

Eel is a case in point. Jewish and Islamic precepts demand that food from the sea must have gills and scales – and eel are emphatically free of scales. The Nile Delta – as might be expected – is crawling with eel. Our Greek grocer on Zamalek Island in Cairo had harnessed this. He sold the most wonderful smoked eel for a pittance. Each time I was in Cairo I brought back a bouquet of smoked eels as presents to European friends. And did they go down well – in all senses of the word. In – I think – 1971 I visited my parents in Cairo on my way from Beirut to Denmark. On the way to the airport after a pleasant stay we stopped by the grocer and I filled up my briefcase with smoked eel. For some reason I had to change planes in both Rome and Zurich on the way. This was just after the multiple hijackings than brought several aircraft to Dawson's field in Jordan so both airports were kitted out with temporary security measures of various kinds: "And what is this, Sir?" "Smoked eels". It was difficult to abstain from adding that they were not sticks of gelignite.

I also remember eel from a train in India from Delhi to Bombay when I was still at high school. I was sent "first class sleeper non-air-conditioned" [the average Indian train has at least ten classes] and had to share the cabin with a nice Indian gentleman, He turned out to have visited Denmark many years ago in the quest of dairy-knowledge, so with my being Danish we had an immediate bond. We spent the evening talking about Denmark, butterflies, and my own many years in India. As we were approaching Bombay in the morning he finally came out with something that had troubled him for years: "How is it that in such a civilized country you should all be eating snakes?" It took me a while to realize he was speaking about eel – which they obviously do not eat in his neck of the woods.

When we were living in Gaborone, the capital of Botswana, I had always wanted to try 'mopane worms' – the larva of the large saturnid moth *Gonimbrasia belina*. It is normally not found so far south in Botswana and when available on the market I had been out of the country. Then ... one fine January morning I found large numbers inside the compound of Lady Seretse Khama – on some tree on which they normally did not feed. I swept them all up and a few days later we had a big picnic on my birthday. I cooked the mopane worms and brought them along (a dish is shown in the inset). A few Motswana from the north were delighted – how did I get mopane worms in Gaborone? The Motswana from the south refused to touch them. A few European friends tried them ... one or two rather liked them. However, most of the picnic refused even to try them out, and that irrespective of creed or colour. I sent some to Dick-Vane Wright at the Entomology Department of the British Museum (Natural History). He was due to do a programme with a popular TV host who had promised to eat some on screen ... but he chickened out of tasting them. Yet mopane worms are a major and very nutritious food item for the maybe 40 million people that live across the mopane woodlands that stretch from Angola and Namibia across Botswana and Zimbabwe to northern South Africa.



Here in Vietnam, dogs are bred in large numbers for eating, many being exported to China. When I first saw a pile of skinned carcasses in a local market I could not quite figure out what they were. The thin, wiry tails could hardly belong to sheep or goats. On closer inspection the canine teeth gave them away. The few times I have tried dog, I found it indifferent. I have met very few other Europeans or Americans who knowingly ate dog. This is a tribute to the relationship that grew up between humans and dogs in our culture. In India dogs seem to have only one purpose, which is to be available to throw stones at when you get mad at something you can't do anything about. In most Islamic countries dogs are unclean and unloved, except for the Saluki hunting dogs which are classified as honorary non-dogs. In parts of the Philippines dogs have been eaten since the dawn of history. Yet Parliament outlawed the slaughter of dogs not that long ago, a small westernised elite trying to over-ride an ancient practice that hurts no-one (well the dogs may not agree, I suppose). The French happily eat horse-meat – you could well get killed if you tried that in England.

My most embarrassing food experience was in a small village about 70 km south of Kisangani in Congo (Zaïre). I had been sent there – with much trepidation on their part – by my local hosts. It took some time to assure them that I was used to the forest, to villages and to local food ... and that butterflies were much more important than comforts. It truly was a remote place and no-one really spoke French. After a good day's collecting we were having a standard "bush-meat" stew for dinner – quite good by bush standards. Conversation was slow, so I thought that asking what we had eaten might be a topic. It was not ... and the men must have thought that an animal impersonation would have been beneath them. Finally someone got a bright idea and went over to where the women were eating – and came back with what was unequivocally a chimpanzee hand. I felt quite queasy – 97% of my own DNA! Unfortunately chimpanzee is highly valued bush-meat in many parts of Africa and my visit had obviously allowed them to have a great treat.

I think the most sensible remark ever made on food was that by Carsten Niebuhr, the most sympathetic, and only survivor, of a massively funded Danish expedition to "Arabia Felix [Yemen]" in the 1760s. Niebuhr approached the mission with an open mind. Just after they arrived at Hodeida, the main port in Yemen, there was a massive invasion of migratory locusts. I do not have Niebuhr's book here in Hanoi, but roughly he said: "The moment this swarm of insects appeared, little stalls were erected where locusts were grilled and sold in large quantity. Now, I realise that some of my readers will think that the eating of locusts is quite disgusting. But if I were to tell the people in Hodeida that not only do we eat lobsters, but we consider them the greatest of delicacies, the people of Hodeida would be just as shocked as my reader might now be". I do not like locusts much ... they are too fatty, the fat overwhelming the much better underlying flavour. But I think Niebuhr's statement is amazing. What a wonderful lack of prejudice for someone under strange circumstances in 1761! — TORBEN B. LARSEN, UNDP Vietnam, c/o Palais des Nations, 1211 Geneva 10, Switzerland (E-mail: torbenlarsen@netnam.vn).

A thirsty tortoiseshell

I read with much interest the note by R.L.H. Dennis (*antea* 150) on an alternative to a nectar source for the thirsty Speckled Wood *Pararge aegeria* L.

This brings to mind the very hot summer of 1976, while on a short holiday in the Breck region of Suffolk, I was out on a ramble in the early afternoon when I noticed a Small Tortoiseshell *Aglais urticae* heading towards me. It fluttered around my head for a moment, then settled upon my face and started probing with its proboscis, firstly under my left eye, then the corner of my mouth. I stuck my tongue out and it proceeded to imbibe for 30 seconds or so before flying off.

I recall thinking at the time how charming it was to be honoured with such an experience. It wasn't until some time later that I thought in all possibility it had previously been feeding off some animal faeces beforehand.

I resolved to keep my mouth shut in future!– K. F. WILLIAMS, Arcanum House, Braunston Road, Daventy, Northamptonshire NN11 9BY.

THE USE OF COUNTRYSIDE STEWARDSHIP SCHEME FIELD MARGINS BY THE SMALL SKIPPER *THYMELICUS SYLVESTRIS* (PODA), ESSEX SKIPPER *THYMELICUS LINEOLA* (OCHS.) AND LARGE SKIPPER *OCHLODES VENATA* (BREM. & GREY) (LEP.: HESPERIIDAE)

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Abstract

Abundance of Small Skipper *Thymelicus sylvestris*, Essex Skipper *Thymelicus lineola* and Large Skipper *Ochlodes venata* adults was monitored at three farms in Essex between 1997 and 2000 and again in 2003 on grass field margins of varying widths. There were significantly more Small Skipper and Essex Skipper on two-metre wide margins than on non-margin field edges, but there was a significant reduction over time in abundance of both these species and Large Skipper *Ochlodes venata* on the two-metre margins. When the six-metre margins and the control sections were compared there was no significant difference in abundance on them for the three species. A lack of nectar sources, the use of agricultural cultivars of common grasses, inappropriate management and the small size of some of the margins are suggested as reasons for the lack of abundance.

Introduction

The three butterflies discussed in this paper are the Small Skipper *Thymelicus sylvestris* (Poda), the Essex Skipper *Thymelicus lineola* (Ochs.) and the Large Skipper *Ochlodes venata* (Br. & Grey).They are all butterflies associated with tall uncut grassland, roadside verges, woodland rides and clearing (Asher *et al.* 2001). *T. lineola* favours drier parts while *O. venata* is often found in damp areas. The main larval foodplant for *T. sylvestris* is Yorkshire Fog *Holcus lanatus* and for *T. lineola* and *O.venata* is Cocksfoot *Dactylis glomerata*. The adults of *O. venata* start to fly in late May or early June, followed about two weeks later by *T. sylvestris* and *T. lineola* a week later than that. The three are on the wing for periods in July and early August with a few surviving through until late August or early September (Asher *et al.*, 2001, Watkins & Field, 2003; 2004). The eggs of the *T. sylvestris* and *T. lineola* are laid in small batches in the leaf sheaths of the foodplants, while *O. venata* lay theirs singly on the underside of the leaves of the foodplant. The eggs of *T. sylvestris* and *O. venata* hatch after about two to four weeks but the eggs of the *T. lineola* do not hatch until springtime. The larvae of the *T. sylvestris* and *O. venata* form tubes of leaf blades to overwinter in and along with the eggs of T. lineola are highly susceptible to the grass being cut or grazed in autumn or winter (Brakefield *et al.*, 1992).

The three butterflies form closed populations (Warren, 1992), often only travelling 20-280 m (Asher *et al.*, 2001) and require a minimum breeding area of 0.5-1 ha (Thomas, 1984). Feber *et al.* (1996) suggested that the best predictor for *T. sylvestris* abundance in July was the abundance of Oxeye Daisy *Leucanthemum vulgare.*

Goldsmith (1991) suggests that the ideal height of vegetation for *T. sylvestris*, *O. venata* and *T. lineola* is about 50 cm.

The establishment of field margins was promoted when the Countryside Stewardship Scheme (CSS), as administered by MAFF from 1996, was launched countrywide in that year (Rebane & Tucker, 1997). The grass margins were to be established around arable fields to provide habitats, such as feeding areas for small mammals and birds of prey and wildlife corridors. The two-metre grass margins can be also used to buffer field boundaries, streams, and rivers from agricultural operations (Smallshire & Cooke, 1999).

The six metre margins could either be established using natural regeneration or sown with the seed of at least four grasses, a list of which is provided with the agreement. The seed rate was 20 kg/ha with no one grass being more than 40% of the mix. The natural regeneration option was allowed if the advisor considered that there was a suitable seed bank in the soil. The margins had to be cut, and the cuttings removed, four times in the first year and then each year after the 15 July in subsequent years.

The two metre grass margins had to be sown with a tussocky grass mix containing at least 50% Timothy *Pheum pratense* and/or *D. glomerata*, and/or *H. lanatus*. The margin should be cut three times in the first year, with the cuttings removed, and then only one year in three and then only to stop encroachment of scrub species (MAFF, 1999).

The aim of this study was to establish whether the two metre and six metre grass margins as set up and managed using CSS rules would produce suitable habitats for *T. sylvestris*, *O. venata* and *T. lineola*.

Methods

The research project took place at three farms in Essex which joined the CSS in 1996. These were at: Writtle (NGR: TL670070), Highwood (NGR: TL630036) and Greenstead Green (NGR: TL810288. These sites were monitored during the flight period of the butterflies between 1997 and 2000 and again in 2003. The main attributes of the two metre grass margins are as in Field *et al.* (2004) and the six metre margins and control sections (field edges without grass margins) are highlighted in Table 1. The seed mixtures used and the final DAFOR scores (Bullock, 1996) can be found in Table 2. These six metre margins were established in 1996 (seven) and 1997 (one), five by sowing with a grass only seed mix, two by natural regeneration from bare soil and one (W3) from natural regeneration from an agricultural grass ley (Tables 1 & 2).

Butterfly abundance was recorded once a week for each of the margins and control sections using the transect method (Pollard, 1977) when the conditions were suitable (Pollard & Yates, 1993) during the flight period. The transect data was obtained from the Writtle College Butterfly Monitoring Scheme (BMS) transects which were walked by the authors during the summer period (Sellers & Field, 1998; Gardiner & Field, 1999; 2000; 2001; Watkins & Field, 2002; 2003; 2004). Under the

Table 1. Attributes of the margins.

Site	Size margin (m)	Section length	Aspect	Hedgerow Length (m)	Sown	Riverside
Writtle						
W1	6	631	E/W	310	Nat	Yes
W2	6	701	E/W	350	Nat	Yes
W3	6	720	NNE/SSW	200	Nat	Yes
W4	6	190	E/W	0	Yes	No
W5	None	450	E/W	400		Yes
Greenstead Green						
G1	6	417	NW/SE	417	Yes	Yes
G2	6	322	NW/SE	322	Yes	Yes
G3	6	166	NW/SE	166	Yes	Yes
G4	6	345	NW/SE	345	Yes	Yes
G5	none	250	NW/SE	250		Yes

Nat – Natural regeneration

Table 2. Seed mixtures used on the six metre margins.

	Writtle	DAFOR 2003	Greenstead Green	DAFOR 2003
Date set up	Oct 1997		Oct 1996	
Length in research (m)	190		1250	
Seed mix	1		2	
Cynosurus cristatus	25%	F	7.5%	F
*Festuca ovina**	15%	Nr	25%	Nr
Festuca rubra ssp. *commutata*	5%	Nr	30%	A
Agrostis capillaries	15%	R	5%	O
Festuca arundinacea	12.5%	A		
Dactylis glomerata	12.5%	A		
Festuca pratenis	5%	Nr		
*Trisetum flavescens**	5%	Nr		
Alopecurus pratensis	5%	R		
*Poa pratensis**			7.5%	Nr
Festuca rubra			25%	Nr

Nr – not recorded

* not suitable for soil type (Marshall, 1998)

BMS rules *T. sylvestris* and *T. lineola* are recorded as *Thymelicus* spp. due to the difficulty of identification in flight between these two species. This will therefore take place in this study. The number of butterflies seen per km per visit was then calculated for the transect and the research sections.

Results

Significantly more *Thymelicus* spp. were observed on the two metre margins than on the control sections (Table 3), but there was no significant difference on the six metre margins (Table 3) or on either types of margins for *O. venata* (Table 4). One six metre grass margin, G4, was sown next to a field already in permanent set-aside which had been sown with a diverse grass mixture but managed under set-aside rules. On this margin the abundance of *Thymelicus* spp. was far greater than on the other two or six metre margins (Figure 1). There was a significant reduction in abundance of *T. sylvestris*, *O. venata* and *T. lineola* between 1997 and 2003 on the two metre grass margins (Table 5).

None of the key nectar sources identified by Feber *et al.* (1996) were available on any of the six metre margins and only on one of the two metre grass margins. The main sources of nectar identified were Thistles *Cirsuim* spp. which were available occasionally in all of the margins. The height of vegetation in the margins was on average about 50 cm except for W3 which was dominated by Rye grasses *Lolium* spp. and was only about 30 cm in height on average. The vegetation was generally dense with few open areas except for W3 which had the more open character of a *Lolium* dominated sward.

Discussion

The habitat requirement of the *T. sylvestris*, *O. venata* and *T. lineola* seemed in general to be well served by the CSS two metre grass margins, but unfortunately this was not shown to be the case with the findings from this research. At the three sites there was a significant reduction in abundance on the two metre grass margins over the research period. *T. sylvestris* and *T. lineola* were significantly more abundant on the two grass margins than on the control sections, but the overall reduction is more important.

The larval food plants *H. lanatus* and *D. glomerata* were available in practically every two metre grass margin at one site, Greenstead Green. The management should have suited both butterflies. They both prefer taller vegetation (Asher *et al.*, 2001), though they are sedentary and 66% only move 20m (max. 280m) (Asher *et al.*, 2001). The lack of nectar sources could have a significant impact here as the female's eggs are immature at emergence and they need nectar for the eggs to develop. Smith *et al.* (1993) found that six out of seven *T. sylvestris* and *T. lineola* were found on margins sown with a wildflower and grass mix which had been left uncut. Feber *et al.* (1996) found that the abundance of *L. vulgare* was the best predictor of *T. sylvestris* abundance, but only one of the two metre grass margins had this in, and then only in very small numbers. None of the two metre grass margins met the minimum habitat size requirement of 0.5 to 1 hectare (Thomas, 1984).

The authors must draw the conclusion that the lack of nectar sources was a major factor in the decline in abundance. Another possible reason was that agriculturally improved grass seed used for *H. lanatus* and *D. glomerata* in the two metre grass margins had produced larval food plants which were possibly not suitable for the larvae to feed on. However there is no direct evidence for this, but the decline in abundance could suggest these as possible causes (Field, 2004).

At Writtle and Highwood, not only were the favoured nectar plants not available but there was no *H. lanatus* in the margins at Writtle and it was only found rarely in two of the margins at Highwood. This would have had a serious affect on abundance of the *T. sylvestris* and both *T. sylvestris* and *T. lineola* would have been affected by the lack of nectar sources.

Table 3. Skipper abundance (per km per visit) observed during the two metre grass margin experiment 1997-2000 and 2003.

Butterflies	Two metre margins Mean (Range)	Control Mean (Range)	Significance
Thymelicus spp.	13.8 (63.84-0)	12.8 (172.9-0)	** **
Ochlodes venata	3.88 (36.47-0)	0.63 (2.78-0)	ns

Mann-Whitney *U*-test: ** = P<0.01 ns = no significance

Table 4. Skipper abundance (per km per visit) observed during the six metre grass margin experiment 1997-2000 and 2003.

Butterflies	Six metre margins Mean (Range)	Control Mean (Range)	Significance
Thymelicus spp.	4.5 (21.4-0)	2.4 (6.7-0)	ns
Ochlodes venata	0.31 (1.21-0)	0.72 (2.54-0)	ns

Mann-Whitney *U*-test: ns = no significance

Table 5. Skipper abundance (per km per visit) observed during the two metre grass margin experiment 1997 and 2003.

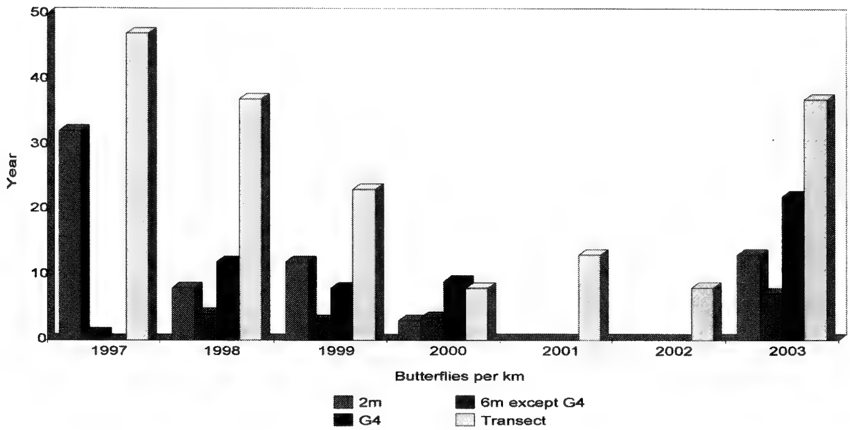
Butterflies	1997 Mean (Range)	2003 Mean (Range)	Significance
Thymelicus spp.	32.39 (63.84-0.58)	13.22 (32.1-1.7)	*
Ochlodes venata	15.34 (36.47-0)	1.26 (4.25-0)	*

Mann-Whitney *U*-test: * = P<0.05

So to sum up, the two metre grass margins should have been suitable for *T. sylvestris*, *O. venata* and *T. lineola*, but this research has shown that under current CSS guidelines this is not always the case. The correct larval plants were not always included in the seed mix, there was a lack of nectar plants, and the area of the margins were not big enough, though the management probably suited them.

The six metre grass margins were better overall for *Thymelicus* spp. abundance than the control sections, but all the comments regarding two metre grass margins, except management, also relate to six metre grass margins. The management of the six metre grass margins does not suit the *T. lineola* as the eggs remain on the tall grass stems for eight months (Frohawk, 1934) and are highly vulnerable to cutting (Brakefield *et al.*, 1992). The eggs of the *T. sylvestris* are also highly vulnerable to cutting as it can be at least a month before the larvae emerges, so any early cut can remove all the eggs of both species.

Figure 1. *Thymelicus* spp. abundance 1997-2003.



The best six metre grass margin was G4 (linked to set-aside) with more than twice the number of *Thymelicus* spp. in 2003 than on the other three margins at Greenstead Green. If comparing non-linear (whole fields) to linear (field margins) ratios (Clausen *et al.*, 2001), G4 (non-linear) would have a value of 3.88 to 1 (nl/1), compared with 2 to 1 (nl/1) in the Clausen *et al.* study. So the conclusions for the six grass margins are similar to those for the two metre grass margins: not enough larval or nectar plants, and the area being too small. Inappropriate management of the six metre grass margins ensured the abundance *Thymelicus* spp. and *O. venata* was less than on the two metre grass margins.

In conclusion, suitable seed for nectar plants should be included in the seed mixtures for both two and six metre grass margins and the management of six metre grass margins should be less rigid, allowing part to be left uncut. Further investigation should be conducted into whether agricultural cultivars of the common grasses used in the majority of CSS grass margins are in fact suitable larval hosts for the species which use their native namesakes.

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Some observations on moths laying eggs

Occasionally, while looking for moths and their caterpillars, one sees interesting behaviour which provides a more general insight into how moths live their lives. Recently, while reading through some files of field notes, I found myself mentally gathering together the observations I have recorded over the years on egg-laying behaviour. Apart from numerous accounts of species-specific details, such as recording the way a female Dark Arches *Apamea monoglypha* inserts her eggs into the leaf-sheath of grasses, or the female Black-veined moth *Siona lineata* lays hers like a row of little squared butterscotches along the blade of Tor-grass *Brachypodium pinnatum*, and the selection of plants of a particular size and situation for egg-laying, such as low growth of Downy Birch *Betula pubescens* in the case of the Argent & Sable *Rheumaptera hastata* (see *Ent. Rec.* **113**: 143-144), I came across several examples of more general interest which I take this opportunity to report.

Intense egg-laying mode

It is common experience that light-trap catches of most species consist predominantly of males. The sound and plausible reason usually provided to account for this imbalance is the greater mobility and activity of males in searching out females (and hence the greater likelihood that they will encounter the trap). It is often assumed that females are more passive, resting to conserve energy for egg-laying and attracting males by pheromones. In some cases this is indicated in that they have bulkier, heavier abdomens and often wings which are reduced in size, a trend which reaches an extreme in the virtually wingless females of species such as the Winter moth *Operophtera brumata* and the Vapourer *Orgyia antiqua*, but can also be seen in much less obvious form in the species as diverse as the Feathered Thorn *Colotois pennaria* and Marsh Moth *Athetis pallustris*. Another feature which would contribute to the same result is what I describe as an intense egg-laying mode in which the females are not easily distracted by bright lights and in some cases appear oblivious of them. I have seen females in this almost single-minded state a number of times, but one that stands out was an occasion in which I watched a female Poplar Hawk-moth *Laothoe populi* prospecting around the foliage of a sapling of Aspen *Populus tremula*. I noticed her first when she flew across the main woodland ride into the Aspen (in Oakley Wood, Buckinghamshire, at 22.05 hours on 30 July 1985). She flew slowly, but purposefully, amongst the foliage. She settled on the edge of one leaf, tucked her abdomen tip under and attached her egg to the lower side of the leaf. The sapling was 2.5m tall, the shell of foliage about 2m wide and the egg was laid on a leaf in the centre. The female was watched by torchlight throughout. It was not until after she had laid the egg that she briefly flew towards my torchlight, before veering away and flying off purposefully down the ride.

Female Lappet *Gastropacha quercifolia* and female Drinker moths *Euthrix potatoria* are so heavy before they have laid many eggs that they often fly very low over grass (as I observed in single females of both species between 22.00 hours and 23.00 hours on 9 July 1984 around the base of the gate between Bernwood Forest and Bernwood Meadows, Buckinghamshire). Both females were much more slow-flying than males of the same species and likely to cover much less ground.

Larval foodplant choice by female moth

Many species of moths exploit a number of species of larval foodplants. For those in which the female attaches her eggs to the foodplant, I have often wondered whether some females in the population confine their attention to one species, or whether they move freely between them. There can be a problem in pursuing egg-laying females in order to observe this, in that they can be disturbed and end up laying eggs in inappropriate places. The female Black-veined moth will laying single eggs on most plants she settles on when chased by a human observer, deviating from her normal behaviour described above in which a series of usually four or five eggs are laid unhurriedly along the edge of a grass blade or stem. On one memorable occasion I saw a female Coxcomb Prominent *Ptilodon capucina* lay one egg on the leaf of a 2.5m tall Hazel bush *Corylus avellana* and then lay two eggs on the next vegetation she flew to, a sprig of Downy Birch growth *Betula pubescens* only 0.6m tall. Both are suitable species of larval foodplants, on which I have found many Coxcomb Prominent larvae over the years. The whole episode took place very quickly. The female was initially noticed flying about 2m above ground around the Hazel bush. This was at 16.00hrs on the overcast afternoon of 24 May 1985 by the main ride in Hell Coppice, Oxfordshire. She paused on the edge of a Hazel leaf, wings flapping, curled her abdomen under and laid one cream, domed egg. Then she flew straight across the open ride to the opposite side, directly to the birch, which comprised only three slender stems and was 16m from the Hazel. The two eggs she laid on the birch were side by side on the underside of the same leaf. She then flew to rest 2.5m up on a Hazel bush behind the birch, where she folded her wings and settled to roost. Whether she recognised the birch before she set off from the Hazel, or only by taste once she landed on it, I could not say. However the observation serves to show that the same female showed no hesitation in laying successive eggs on two different species of suitable larval foodplant, in the same egg-laying episode, with hardly a break in between, yet was not blundering into any trees or shrubs nor laying on unsuitable hosts as disturbed or confined moths are prone to do.

This Note was prepared in my appointment as part-time Reader at Writtle College, University of Essex. I am most grateful to Writtle College for the financial support to enable me to prepare these and other moth data for publication and to initiate new lines of moth research. I would also like to thank Anne Beach at the library of English Nature, Peterborough, for help in conducting a literature search on the topic of this paper.— PAUL WARING, Writtle College, Essex. Contact address: Windmill View, 1366 Lincoln Road, Werrington, Peterborough, PE4 6 LS (E-mail: paul_waring@btinternet.com).

Cydia amplana (Hb.) (Lep.: Tortricidae) in the New Forest, Hampshire

Whilst light-trapping in the Ladycross Enclosure of the New Forest on 17 August 2005 in the company of Paul Chpman, I was pleased to catch a fresh example of the immigrant tortrix *Cydia amplana*. In the light of the 2004 invasion of this species along the south coast and the general lack of immigrant activity at the time of the 2005 capture, it must be considered likely that this example was the result of successful breeding within the mature oak woodland in this area.

An example of the recent colonist *Dioryctria sylvestrella* (Ratzeburg) (Pyralidae) was also recorded on the same night. Whilst this species is now established locally and occurring with increasing frequency in parts Sussex, Kent and Suffolk, there are still very few records from Hampshire (Tony Davis, pers. comm.). — SEAN CLANCY, 1 Myrtle Villas, Sussex Road, New Romney, Kent TN28 8DY.

Isoscelipteron glaserellum (Aspöck, Aspöck & Holzel, 1979) (Neu.: Berothidae) in Spain

During October 1996, I spent a pleasant fortnight surveying Lepidoptera at Santo André, Portugal with Barry Goater, as guests of the Associanao Nacional de Conservaceo da Natureza. On the evening of 4 October, whilst en route, we set up several lights in a cork oak *Quercus suber* forest on a hillside at Aliseda, just west of the town of Cáceres in Extremadura Province in the mid-west of Spain (06°. 41'W: 39°. 25' N). Amongst the large number of moths that arrived at the lights were two berothid lacewings that I did not immediately recognise and which I therefore collected for later examination. For a variety of reasons, they reposed in a box until I found them again in February 2005. Upon closer inspection they very clearly seemed to be a male and female of *Berotha* (now *Isoscelipteron*) *glaserella* and this was confirmed by dissection of the male. An e-mail to Univ. Prof. Dr. Horst Aspöck at Vienna University confirmed that, in spite of its antiquity, the distribution map for *glaserella* in Aspöck, Aspöck & Hölzel (1980. *Die Neuropteren Europas*. Goeke & Evers, Krefeld) is still accurate – there is a single record from Morocco and one from Europe at the extreme southern tip of Spain adjacent to Morocco. Aspöck *et al* (*op. cit.*) note that the species is practically unknown with a few imagines only recorded from "Macchie" biotope between 200 and 300 metres above sea level in Spain and at 1850 metres in Morocco. The present record represents a significant northwards extension of the known range of this species and only the second record from Europe. The moth catch on the same night gave no indication of any significant movement of migrant species and it is assumed that the captures indicate a local population. I regret that I did not record the altitude of the site, but my "atlas" indicates that the area is between 200 and 500 metres above sea level. I am most grateful to Dr Horst Aspöck for confirming the significance of these data and for agreeing that I ought to publish them. — COLIN W. PLANT, 14 West Road, Bishops Stortford, Hertfordshire CM23 3QP (E-mail: cauk1@ntlworld.com).

COLLECTING IN LAPPLAND, JUNE & JULY 2004

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I am standing on a boggy path between two stands of Bottle-brush Spruces clutching a net with a four metre handle. The water is just above the ankles of my Wellingtons and a cloud of mosquitoes buzz round my head, kept at bay by deet formulated spray which I have applied liberally to my skin and the rim of my hat. It is just gone midnight and broad daylight as I wait, fired up with adrenaline, for the next *Xestia skraelangia* to dash wildly across the open space between the trees. Here comes one! A small black Swedish meatball of a moth against the sky zigzags at what seems like three hundred miles an hour and then disappears against the foliage before I can make more than two clumsy steps in its direction. I can't remember when I have had more fun trying to catch moths!

* * *

Ever since I read Barry Goater's account of his visit to Lappland in the *Record* I had been fired with enthusiasm to make the trip myself, and in late June 2004 I set out in a camper van with Alec Harmer. This year it was not possible to make the ferry crossing to any of the Northern ferry terminals and we had to settle for the Hook of Holland and a long drive. We arrived in Holland at midnight on Saturday 26 June and drove through depressingly flat farmland that varied little between Holland, Northern Germany, Denmark and Southern Sweden. However, where good roads enabled us to reach the Linnaen university town of Uppsala and rendezvous with Dr Nils Ryholm by midmorning on 28 June. Nils very kindly gave us detailed information concerning localities and habits of the northern butterflies and moths and kept in touch with us by mobile phone throughout our trip. It was reassuring to know that someone was looking out for us.

Having left Uppsala late on Monday we drove north in search of a coastal site for *Proxenus lepigone* (Möschler). We failed to find it, probably because we arrived too late after being held up by extensive road works. It is apparently normal to find this species, together with *Athetis pallustris* (Hb.), flying over *Lathyrus maritimus* at dusk. It was already daylight at 3 am, when we reached the beach and the only moth we saw was *Chortodes elymi**. Later that day Nils phoned to suggest that we slowed down as it was still snowing in Abisco and we would be better to give the far north a couple more days for insects to emerge. We took this advice and diverted inland for a while before trying, once more without success, for *lepigone* at another coastal locality.

We crossed the Arctic Circle at 8 am on 1 July and were surprised to see *Leptidea sinapis* (or possibly *reali*) flying round our feet as we took photographs of the sign announcing the Polar Circle. It seemed strange to see familiar butterflies of our southern woods in this alien setting, but we were to become accustomed to this, encountering *Anthocharis cardamines*, and *Boloria euphrosyne,* amongst others, well inside the Arctic Circle.

* The authors of the scientific names of recorded species are given in Appendix 1.

It was in the early evening of the same day that we reached our primary destination of Jukkasjarvi, 'the Hamstreet of the North'. The classic locality we had been told to look for, by both Barry Goater and Nils Ryholm, is some five or six kilometres from the village of that name along an unmade track. The countryside is partly bog and partly woodland dominated by 'bottle-brush spruce' with some sallows and birches and an under storey of *Betula nanata* with *Ledum palustre* and various *Vaccinium* species. These spruces are for the most part no more than six to eight metres high, but are up to three hundred years old. The poor conditions and short growing season produces extremely dense and valuable timber which has recently lead to increased felling and a real threat to the area. We parked the van in a likely looking glade and went to explore, quickly realising that we had hit upon the exact spot illustrated in *Nordens Ugler*. By the time we returned to our campervan another collector, Ludwig Weiss, had arrived and over the next few hours the 'circus' where we had stopped became crowded with a variety of vehicles and tents. Eventually there were ten or eleven entomologists present from Germany, Denmark and Southern Sweden, all extremely helpful and some known to us from the literature including Michael Fibiger, Bengt Bengtson and Göran Palmquist. I was told by Ludwig Weiss, from Munich, that on his three previous visits here he had encountered much warmer and drier conditions. It was warm enough; if it were not for the mosquitoes it would have been comfortable in shirt sleeves, but it was certainly wet. The main track through the wood was a running river, where in places it was necessary to wade with the water threatening our boot tops.

Collecting night flying moths in daylight was a new and strange experience and it took sometime to get to grips with the techniques. Our long net handles were most useful; in fact several people called out to us that we must have been talking to Barry Goater as we were so well prepared! It was not that easy to net insects with them, however. The 'highfliers' were nearly always just out of reach and often flew extremely fast. As an example, on one night between 9 pm and 3 am I caught two *X. skraelangia* and Ludwig solemnly declared I was 'Prince of the evening'! Over the time we were there we learned to distinguish the species by their behaviour, *X. skraelangia* and *Anartomima secedens* flew high, fast and erratically, *secedens* occasionally showing a flash of yellow; *Xestia borealis*, the most desirable of the *Xestias* at this site, flew very high but comparatively slowly. *Xestia speciosa* and *X. gelida* flew at mid height but fast and *Cosmtriche lobulina* flew high, fast and straight. A few days later, when *Xestia laetabilis* and *X. distensa* were out, I found that although both of these very similar species flew reasonably slowly at mid height, there were subtle differences in their behaviour which suggested to me that they were indeed two species. When we visited Stig Torstenious on our return journey, I discussed this with him and learned that he had first suspected there was a new species, *distensa*, for the same reasons. (It seems that although *X. distensa* was separated from *laetabilis* in 1851, the species was 'lost' for many years and rediscovered only in the 1960s.)

We are, of course, not usually able to observe noctuid moths going about there normal business as in our latitudes we only see them acting artificially as they are attracted to light or baits. It seems reasonable to suppose however, that the same differences in flight are present in populations living south of the Arctic Circle and encountering darkness. Certainly some species that have been caught in the Arctic and taken south have been observed to behave in the same way, flying at the same time of night and in the same basic pattern. (Göran Palmquist, *pers. comm.*). The relationship of noctuid moths with bats has been summarised by J. Rydell and M. R. Young (*M.B.G.B.I. Volume 4, Part 1* Harley Books, 2002) and the evasive flight patterns utilised by noctuids to escape from bats once they have been detected has been explained. We did not see any sign of bats, or for that matter of predation by birds. It would seem therefore that the different flight patterns we observed were irrespective of whether a threat was present. It is difficult to avoid speculating on whether those species such as *X. skraelangia,* which employ a flight pattern which seems costly in terms of energy, flying fast and zigzagging constantly, are forced to do so because their ability to detect bats is poor compared with some other species.

We spent the nights of the 1, 2 and 3 July at Jukkasjarvi and in addition to the good company and interesting moths were rewarded with views of nesting Pygmy Owls, *Glaucidium passerinum,* which were the object of a film crew's attention and nightly visits from a group of Siberian Jays, *Perisorcus infaustus.* These colourful and inquisitive birds showed no fear of humans and seemed to be keenly interested in our activities, flying as a group of a dozen or so, to within a few feet of us. We saw some Reindeer in the area although not the large herds which, together with felling, are responsible for deterioration of the habitat.

During the day we visited several local areas, in particular the dry bogland near Kalixfor to the south of the iron town of Kiruna and the extensive wet bogs at Krotvik some fifteen kilometres to the north west. Kiruna itself came into existence at the start of the twentieth century when the railroad to Narvick was built and the steady deconstruction of the mountain of iron ore began in earnest. Huge ore trains regularly leave for the Norwegian coast and I speculate that a substantial part of the Swedish economy might be dependent on this one town.

On the extensive bogs we found a rich variety of insects including *Synanthedon culiciformis* and *S. polaris* to pheromones supplied by Nils Ryholm and *Udea inquinatalis* and *U. decrepitalis* which were commonly put up. The fritillaries *Boloria eunomia*, *Boloria freija* and *B. frigga* were not uncommon and the little blue, *Vacciniina optilete* was also frequent. Clumps of Labrador Tea, *Ledum* had a distinctive and pleasant scent and attracted *Sympistis heliophila*, *Anarta cordigera* and *Anartomima secedens.* I had hoped to find the Arctid, *Pararctia lapponica* (Thunb.) here, but must put down my failure to the lack of sun during our visits to this site, as others we met found it when the sun was shining.

After these days at Jukkasjarvi we moved on to Abisco in the extreme north-west of Sweden and only a few miles from the border with Norway. Abisco is a centre for mountain walking and is equipped with a modern tourist facility offering accommodation as well as walking equipment. There are hotels in the area, a railway station and camping facilities. The road up from Kiruna follows the huge lake of Torneträsk for the last 50 kilometres or so, and mountains rise on both the south and north of this lake with several peaks in the 1150 metre range and some rising to 1700 metres. There are a number of desirable moths and butterflies in these mountains, in particular those to the north of the lake which are difficult of access. It appears that the trek round the head of the lake and back would take some days; we saw no ferries offering crossings and the helicopter flight available from Abisco was too expensive for us to make the short trip. We did meet one collector who carried a canoe on the roof of his car with the express intention of crossing the lake. I tackled him about the danger while he proudly showed me a series of *Xestia lyngei* (Rebel) from these mountains. He replied that that was why he would take no passengers! It seems the lake normally becomes calm about two in the morning and there is then an hour to make the mile crossing. Collectors who regularly work the area take a small tent and equipment to stay in the mountains and hire the helicopter to take them and pick them up after a few days. There is a National Park extending into the mountains to the south of Abisco where collecting is not possible, so it is important to consider the position of the park's boundaries.

In the event we contented ourselves with the south side, walking up to the lower slopes on 5 July where we encountered *Colias nastes*, *Erebia pandrose*, *Oeneis norna* and many *Rheumaptera subhastata* amongst others. The weather was reasonable but afterwards we wished we had gone higher on that day, as when we returned to Abisco on the 7th we encountered poor weather. On the second day in the mountains we used the cable lift from Abisco to ascend to nearly 1200 metres and then walked across the top of Njulla down to Borklieden and back along the road to Abisco. For much of this twenty kilometre walk it was raining and cold; there was still plenty of snow around us, but nevertheless we were treated to beautiful displays of flowers, especially the vetch *Astragalus alpinus* and the beautiful Mountain Pansy *Viola lutea.* There was a short spell of brighter weather sufficient to move *Pieris napi* in its spectacular dark form, *adalwinda* and Alec was able to find *Colias nastes* at rest low down amongst the short vegetation. The final part of the walk down to Borklieden was alongside a wildly leaping torrent where we often felt endangered as the precipitous path teetered on the edge of the gorge the river had cut. Numerous *R. subhastata* got up in front of us as well as *Xanthorhoe spadicearia* and as we came back into a belt of birches I failed to net a Plusia which was almost certainly *Syngrapha hochenwarthi* (Hochenwarth).

Although our mountain excursions were undoubtedly hampered by poor weather, other collectors we met had used their time to better effect, finding cocoons of *Acerbia alpina* (Quensel) under rocks and securing several of the rarer mountain species. We were also told that *A. alpina* males will assemble to a female *Arctia caja* (L.) taken to the mountains for this purpose and this may also be true for the rarer and higher occurring *Holoarctica fridolini* (Torstenius).

One interesting feature of the journey from Kiruna to Abisco was the huge number of Geometrid larvae that had denuded nearly every birch for some fifty miles in a belt which was at least two miles wide. When there were no more leaves on the full sized birches the larvae descended to the *Betula nanata.* I collected some of these larvae and confirmed the species as *Epirrita autumnata.* There seemed to be comparatively few birds to exploit this resource, mostly Fieldfares, *Turdus pilaris* and Bramblings, *Fringilla montifringilla.* We wondered what would happen to the insects which might otherwise have fed on the birch a little later in the season, the birds that would have fed on those larvae in turn, and the trees themselves. The abundance of larvae was phenomenal, I counted sixty drowned larvae in one puddle no bigger than a boot impression. Later on in our journey we discussed this with Stig Torstenious who told us the birches would not survive the following winter and would eventually regenerate from suckers. In the meantime the microclimate under the trees would be distorted and more erosion would take place. Apparently this is not an uncommon occurrence in Northern Sweden with one area being devastated in most years.

Both Nils and Michael Fibiger had told us of a place in Norway about two hundred miles further north where a road through the mountains would take us high enough for *Colias hecla*, *Boloria chariclea* and *Boloria improba* (Butler), without having to climb. We decided to investigate and drove north through Finland on the night of 8 July. As we entered Norway the sun at one a.m. was directly in our faces and it was so difficult to drive even in sunglasses that we decided to stop for a few hours. Unfortunately it was the only sun we were to see in Norway and it was soon raining once more. We spent the afternoon failing to find *Agriades glandon* (Prunner) in the vicinity of Aalta, although we did find the interesting subspecies *polaris* Courv.of *Lycaena phlaeas.* We reached the mountain road some five kilometres south of Gargia in the early evening. Getting the camper van up the hill did not prove easy as the road was little more than a rutted track in parts, but we were eventually able to stop at sufficient altitude a little way from the top.

We were immediately greeted with many *Zygaena exulans* on the flat limestone mountain top and a sight of our first *Colias hecla.* While exploring a small wooded valley I was alerted by a sound like the slap of yacht rigging and sure enough there was a Bluethroat, *Luscinia svecica* on a twig only a few feet away from me. It soon stopped its contact call and treated me to its full song before moving on.

The following morning was overcast but not raining and we had about three hours collecting before the weather clamped down again. During this period we roamed over limestone hilltops reminiscent of parts of the Burren in County Clare apart from the much greater altitude and surface torrents cutting deep gorges. Small numbers of Golden Plover, *Pluvialis apricaria* and Ringed Plovers, *Charadrius hiaticula* were encountered near small mountain tarns to remind us of the birds that overwinter on our local marshes in Lymington. There was quite a lot of snow still on the hills, but we found *Colias hecla*, *Boloria chariclea* and *Erebia disa* flying within a few feet of snow fields and despite the treacherous conditions underfoot were lured into some full blooded chases after *hecla* which flew very fast, straight and low. Amongst the moths *Glacies coracina* and *Hadula melanopa* were frequent and we had three *Xestia quieta* including one lovely dark example, a *Syngrapha parilis* and *Pygmaena fusca*. Perhaps rarest of all was a single *Psychophora sabini*, a geometrid not dissimilar to a washed out *coracina*. The weather now clamped down and we retreated first to the van and then back towards Jukkasjarvi through alternate lashing rain and swirling fog.

The drive was uneventful although we did stop on the border between Finland and Sweden shortly after it stopped raining and attempted to find *Syngrapha hochenwarthi* (Hochenwarth). There was still no sun and although we tried pheromones in a flower rich meadow it was without success. Late in the afternoon we were more successful when we had *Synanthedon polaris* to pheromone at a roadside bog near Vittangi some miles north of Kiruna.

We reached Jukkasjarvi in the early evening of the 11 July for one last night and found cool overcast conditions following the rain of the day. We were the only people there and found little sign of the 'high flyers' we had previously spent so long trying to catch. *Diarsia mendica* and *Xestia gelida* swarmed on sugar ropes along with *Hyppa rectilinea.* In the woods three species of *Xestia*, *speciosa*, *laetabilis* and *distensa* provided thrilling sport. All three were essentially medium speed and mid height, all with subtle differences in their behaviour and all caught with a net on a three metre handle. Geometers were conspicuously few in number with only a few of the spectacular *Thera serraria* which had been a feature of our visit a week earlier. It is clear that in these northern areas the short season advances very rapidly.

Over the next couple of days as we drove south we encountered interesting butterflies and moths whenever the weather was reasonable. In particular, a roadside stretch of flowery meadow near Person produced *Erebia ligea* just emerging together with *Idaea serpentata* in plenty and *Autographa macrogamma* amongst others. The land between Lappland and Stockholm is essentially a flat conifer forest 800 miles long, punctuated with bogs, lakes and small areas of flowery meadows near the occasional town or village. Elk showed themselves most usually at dusk and at dawn as we returned to latitudes where these existed and the lakes afforded glimpses of Whooper Swans, *Cygnus cygnus* and Black-throated Loon *Gavia arctica.*

We enjoyed the hospitality of Stig Torstenius in Stokholm on 13 July and then rushed south through the rain to arrive back in Harwich on the fifteenth. Altogether it had been a fascinating trip. We had met many friendly and helpful entomologists who had, without exception, treated us with great kindness; seen a high proportion of the insects we had hoped for and gained some insight into the ways of the far north. As with so many entomological trips, once is not enough and I look forward to returning with equipment to properly tackle the mountains and time to reach Nordcap at the very top of Europe.

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Appendix: Lepidoptera recorded in Sweden and Norway 24 June to 14 July 2004

In the following list, Swedish and Norwegian provinces are abbreviated thus:

Sweden
VR: Värmland
DA: Dalarna
HS: Hälsingland
ME: Medelpad
ÅN: Ångermanland
NB: Norrbotten
LY: Lycksele Lappmark
LU:Lule Lappmark
TO: Torne Lappmark

Norway
TRI: Indre Troms

The sequence of species is based on Karsholt & Razowski (1996). Subspecific names follow the various publications listed in 'References'. All dates are in 2004.

Hepialidae

Pharmacis fusconebulosa (de Geer), NB: Near Person in flowery meadow, 12.vii.

Zygaenidae

Zygaena exulans (Hohenwarth) ssp. *vanadis* Dalman, Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 09.and10.vii. This large form was flying abundantly over the short turf.

Sesiidae

Synanthedon culiciformis (L.), TO: Krokvik, 06.vii, several to pheromone lures.

Synanthedon polaris (Stdgr.), TO: Krokvik, 06.vii, two to pheromone lures. TO: Vittangi, one to pheromone in a roadside bog on 11.vii.

Pterophoridae

Platyptilia pallidactyla (Haworth), NB: Langsviksudden, 30.vi, abundant by the roadside flying in midnight daylight. Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii., abundant in afternoon.

Hellinsia osteodactylus (Zeller), TO: Kalixfors, 02.vii, put up in the day from goldenrod on dry verges. Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii., one or two seen.

Pyralidae

Pyla fusca (Haworth), LY: Glommertrask, 29.vi, several at dusk.

Polopeustis altensis (Wocke), TO: the lower slopes to the southeast of Abisco, 05.vii, very common on gravel by the side of the road and railway track in brief sunny spells.

Gesneria centuriella (D.& S.), Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii., one caught.

Eudonia murana (Curtis), TO: Krokvik, 04.vii, one taken. TO: Njulla mountain, to the west of Abisco, 07.vii, one caught in poor weather at 1300m. Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 09.vii.

Crambus lathoniellus (Zincken), Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii., several.

Catoptria maculalis (Zett.), TO: Krokvik, 08.vii.

Udea inquinatalis (Lienig & Zeller), TO: Jukkasjarvi, 01-05.vii. TO: Kalixfors, 02-08.vii. TO: Krokvik, 08.vii. Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 09.vii. One disturbed.

Udea nebulalis (Hb.), AN: Nasanget Nordingra, 13.vii.

Udea decrepitalis (H.- S.), LY: Glommertrask, 29.vi, several at dusk. LU:Bjorkberget, 01.vii. TO: Puoltikasvaara, 01.vii. TO: Jukkasjarvi, 01-05.vii. TO: Krokvik, 04-08.vii.

Mutuuraia terrealis (Tr.), HS: Hornslandet beach two flying at 03.00. LY: Glommertrask, 29.vi, one netted during night.

Anania funebris (Ström), LY: Djupsjonas, 29.vi, several flying by roadside in light woodland. NB: Near Person, several in flowery meadow, 12.vii.

Lasiocampidae

Eriogaster lanestris (L.), TO: Jukkasjarvi, 01.vii a nest of larvae on *Betula nanata*.

Cosmtriche lobulina (D.& S.) ssp. *junia* Saarenmaa, TO: Jukkasjarvi, 01-05.vii, one male and one female of this dark form.

Hesperidae

Pyrgus andromedae (Wallengren), TO: the lower slopes to the southeast of Abisco, 05.vii. Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii., three seen.

Pyrgus centaureae (Rambur), TO: Jukkasjarvi, 05.vii, one seen. TO: Krokvik, 08.vi, one near the road.

Pieridae

Leptidea sinapis (L.), LU: Puoltikasvaara, 01.vii.

Anthocharis cardamines (L.), TO: Jukkasjarvi, 02.vii, one male on the track

Pieris napi (L.), LU: Puoltikasvaara, 01.vii, roadside flowery verge. TO: Jukkasjarvi, 01-05.vii, one or two on the track leading to the woods. TO: Kalixfors, 02.vii, frequent by roadside. TO: Krokvik, 04-8.vi. Presumably these lowland insects were all ssp. *bicolorata* Bj. Pet. and the following from the mountains were ssp *adalwinda* Frühstorfer, but it was difficult to see much difference in rubbed specimens. The females were heavily scaled with greenish black while the males were milky white with strongly marked veins on the underside. TO: the lower slopes to the southeast of Abisco, 05.vii. TO: Njulla mountain, to the west of Abisco, 07.vii, several at rest with a few males flying after a few minutes sun in an otherwise relentlessly poor weather day. TO: Karesuando, 10.vii, disturbed in flowery but wet meadows. We have subsequently raised broods of both forms which are distinct in fresh insects.

Colias nastes Boisduval ssp. *werdandi* Zett., TO: the lower slopes to the southeast of Abisco, 05.vii, several flying fast and low when the sun briefly shone. TO: Njulla mountain, to the west of Abisco, 07.vii, several at rest on the ground amongst grass after a few minutes sun. Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 09.vii. One seen.

Colias palaeno (L.) ssp *lapponica* Stdgr., and ssp. *europome* Esper, The more northerly insects were marginally smaller and greyer and presumably are *lapponica*, but the distinction was unclear to us. LU: near Bjorkberget. TO: Puoltikasvaara, 01.vii. TO: Jukkasjarvi, 02.vii, one flying rapidly past our camp site. TO: Krokvik, 04.vi, one seen by roadside. TO: the lower slopes to the southeast of Abisco, 05.vii, one seen. Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 09 and 10.vii.. A few seen. NB: Near Person in flowery meadow, 12.vii.

Colias hecla Lefébre ssp. *sulitelma* Aurivillius, Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. Several flying low and fast.

Lycaenidae

Lycaena phlaeas (L.) ssp. *polaris* Courv., Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii., a female secured.

Lycaena virgaureae (L.), ME: Skillinge, 13.vii, several.

Plebeius idas (L.) ssp. *lapponica* Gerh.,TO: the lower slopes to the southeast of Abisco, 05.vii, flying commonly by the road and railway. We examined all males for a spur on the front tibia and confirmed non were *P. argus* (L.)

Vacciniina optilete (Knoch), NB: Stavikudden, three miles north of the Polar Circle flying in open, dry bog. TO: Kalixfors, 02.vii, in dry areas. TO: Krokvik, 04.vi, at the edge of the wet area. TO: the lower slopes to the southeast of Abisco, 05.vii, a few on the way up the mountain.

Aricia eumedon (Esper) ssp. *borealis* Wahlgren, ME:Stockvik, several on a flowery bank by the roadside.

Polyommatus semiargus (Rottemburg), NB: near Person, 12.vii., several seen.

Polyommatus amandus (Schneider), ME: Alnön, Pottano, 13.vii. Several found at rest in the evening including *f. isias* Frühstorfer.

Polyommatus icarus (Rottemburg) ssp. *septentrionalis* Fuchs, Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii.

Nymphalidae

Brenthis ino (Rottemburg), NB: near Person in flowery meadow, 12.vii. Several fresh specimens seen.

Boloria eunomia (Esper) ssp. *montana* Bj. Pet., TO: Kalixfors, 02.vii, in wet boggy areas. TO: Krokvik, 04-08.vi, in the wet bog.

Boloria euphrosyne (L.) ssp. *lapponica* Esper, NB: Langsviksudden, 30.vi, one at rest. TO: Jukkasjarvi, 01-05.vii, frequent in open woodland. Ssp. *septentrionalis* Nordström., TO: the lower slopes to the southeast of Abisco, 05.vii, near the roadside.

Boloria selene (D.& S.) ssp. *hela* Stdgr., ME:Stockvik, several on a flowery bank by the roadside.

Boloria chariclea (Schneider), Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii., several seen.

Boloria freija (Thunb.), TO: Kalixfors, 02.vii, in wet bogs. TO: Krokvik, 04.vi, a number seen.

Boloria frigga (Thunb.), TO: Jukkasjarvi, 01-05.vii, a few. TO: Krokvik, 04.vi, several noted. Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. A few only.

Boloria aquilonaris (Stichel) ssp. *scandinavica* Bj. Pet.,TO: Njulla mountain, to the west of Abisco, 07.vii, one amongst rocks during the brief sunny spell. Norway, TRI: 5 kms south of Gargia, three.

Aglais urticae (L.) ssp. *polaris* Stdgr., TO: Kalixfors, 02.vii, larvae on nettles by the roadside. There did not seem to be enough nettle to support the larvae and we saw very little nettle elsewhere.

Melitaea athalia (Rottemburg), ME: Tynderö, 13.vii. Common in light woodland.

Limenitis populi (L.), ME: Tynderö, 13.vii. Two or three seen.

Coenonympha pamphilus (L.), NB: Brandon.

Aphantopus hyperantus (L.), AN: Nasanget Nordingra, 13.vii.

Erebia ligea (L.), NB: Near Person common in flowery meadow, 12.vii.

Erebia embla (Thunb.), TO: Jukkasjarvi, 01-05.vii, one or two seen. TO: Kalixfors, 02.vii, in wet bogs. TO: Krokvik, 04.vi, in wet area.

Erebia disa (Thunb.), Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. One or two seen.

Erebia pandrose (Borkhausen), TO: Kalixfors, 02.vii, common in drier areas. TO: the lower slopes to the southeast of Abisco, 05.vii, one or two seen.

Oeneis norna (Thunb.), TO: the lower slopes to the southeast of Abisco, 05.vii, one taken.

Oeneis bore (Schneider), Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. One or two seen.

Oeneis jutta (Hb.), TO: Krokvik, 04.vi, one seen.

Thyatiridae

Ochropacha duplaris (L.), LY: Glommertrask, 29.vi, one to wine rope and two netted.

Drepanidae

Falcaria lacertinaria (L.), LY: Glommertrask, 29.vi, several in late evening light. TO: Jukkasjarvi, 01-05.vii, common in a large, relatively unmarked, form.

Geometridae

Macaria notata (L.), LY: Glommertrask, 29.vi, one netted.

Pygmaena fusca (Thunb.), Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. One only.

Selenia dentaria (Fabr.), TO: Jukkasjarvi, 01-05.vii.

Parietaria vittaria (Thunb.), NB: Brandon, 30.vi, flying in open woodland near the sea. TO: Jukkasjarvi, 01-05.vii, common flying high and slowly along woodland edges.

Glacies coracina (Esper), TO: the lower slopes to the southeast of Abisco, 05.vii, one only seen in a rocky area. Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. Abundant, seeming larger and more varied than those from Scotland.

Jodis putata (L.), LY: Glommertrask, 29.vi, common in early evening. TO: Jukkasjarvi, 01-05.vii, several seen.

Cyclophora albipunctata (Hufn.), LY: Glommertrask, 29.vi, one seen.

Scopula immorata (L.), Very frequent in many places including NB: Langsviksudden, 30.vi. NB: Near Person in flowery meadow, 12.vii. AN: Nasanget Nordingra, 13.vii. AN: Hogsnas, 13.vii.

Scopula ternata (Schrank), LY: Djupsjonas, 29.vi, several flying by roadside in light woodland. LY: Glommertrask, 29.vi, several in early evening. TO: Jukkasjarvi, 01-05.vii frequent. TO: Kalixfors, 02.vii, frequent. TO: Krokvik, 04-08.vi, also frequent. Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii., one or two flying in p.m.

Scopula floslactata (Haworth), TO: Jukkasjarvi, 01-05.vii, one or two in early evening.

Idaea serpentata (Hufn.), NB: Near Person in flowery meadow, 12.vii., abundant. AN: Hogsnas, 13.vii., several.

Idaea pallidata (D.& S.), LY: Glommertrask, 29.vi, two seen.

Xanthorhoe abrasaria (H.- S.), TO: Jukkasjarvi, 01-05.vii, frequent. TO: Kalixfors, 02.vii, several seen in the afternoon. TO: Krokvik, 04.vi, a few. TO: the lower slopes to the southeast of Abisco, 05.vii, a few.

Xanthorhoe decoloraria (Esper), LU: near Bjorkberget, 01.vii. TO: Jukkasjarvi, 01-05.vii, frequent, flying in the wet rides. Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii., one put up. NB: Langforsselet. Flying by roadside on 12.vii.

Xanthoroe spadicearia (D.& S.), LY: Glommertrask, 29.vi, several in early evening. TO: Jukkasjarvi, 01-05.vii, one or two. TO: the lower slopes to the southeast of Abisco, 05.vii, one taken. TO: Njulla mountain, to the west of Abisco, 07.vii, many put up as we walked back down to Bjorkliden.

Xanthoroe montanata (D.& S.) f. *lapponica* Stdgr., TO: Jukkasjarvi, 01-05.vii, three seen.

Xanthorhoe annotinata (Zett.), TO: Jukkasjarvi, 01-05.vii, common along the rides. TO: Kalixfors, 02.vii, one or two. TO: the lower slopes to the southeast of Abisco, 05.vii, one or two put up.

Entephria caesiata (D.& S.), Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii., several amongst the rocks.

Chloroclysta infuscata (Tengström), TO: Jukkasjarvi, 01-05.vii, frequent.

Thera serraria (Lienig & Zeller), TO: Jukkasjarvi, 01-05.vii, this spectacular moth flew very high and very slowly, one had to follow them along the rides waiting for them to drop within reach of the five metre nets.

Hydriomena impluviata (D.& S.), TO: Jukkasjarvi, 01-05.vii, fairly frequent.

Hydriomena ruberata (Freyer), TO: Jukkasjarvi, 01-05.vii, a few in the rides.

Spargania luctuata (D.& S.), LY: Glommertrask, 29.vi, three seen. TO: Jukkasjarvi, 01-05.vii, several in the drier parts of the woods. TO: Kalixfors, 02.vii, many disturbed from birch in open dry woodland. TO: Krokvik, 04.vi, one put up in dry edge.

Rheumaptera hastata (L.), TO: Jukkasjarvi, 01-05.vii, two seen in a dry ride, appearing indistinguishable from those in the south of England. TO: the lower slopes to the southeast of Abisco, 05.vii, amongst dwarf birch.

Rheumaptera subhastata (Nolken), TO: Jukkasjarvi, 01-05.vii, two seen together with *hastata*. TO: Kalixfors, 02.vii, many disturbed from birch in open dry woodland. TO: Krokvik, 06.vi, one or two. TO: the lower slopes to the southeast of Abisco, 05.vii, very common. TO: Njulla mountain, to the west of Abisco, 07.vii, many put up as we walked back down to Bjorkliden.

Epirrita autumnata (Borkhausen), larvae seen abundantly from TO: Jukkasjarvi to TO: Abisco.

Psychophora sabini Kirby, Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. One only was seen flying with and resembling *G. coracina*.

Perizoma albulata (D.& S.), TO: the lower slopes to the southeast of Abisco, 05.vii, a few on waste land by the road.

Eupithecia satyrata (Hb.), LY: Glommertrask, 29.vi, several including one to wine rope. TO: Krokvik, 04.vi, one put up.

Eupithecia gelidata Möschler, TO: Jukkasjarvi, 01-05.vii, one or two noted.

Eupithecia virgaureata Doubleday, TO: Jukkasjarvi, 01-05.vii, a few, although the food plant which was frequent in some parts of Lappland was not noted here.

Notodontidae

Clostera pigra (Hufn.), TO: Jukkasjarvi, 01-05.vii, one or two.

Noctuidae

Acronicta auricoma (D.& S.), TO: Jukkasjarvi, 01-05.vii, one at wine ropes.

Polypogon tentacularia (L.), This species was put up during the day or flying in the evening in nearly all localities visited.

Lygephila pastinum (Tr.), VR: near Orebro, several visiting flowers at dusk by service station.

Autographa macrogamma (Eversmann), NB: Near Person in flowery meadow, 12.vii. One seen.

Syngrapha microgamma (Hb.), NB: Stavikudden, three miles north of the Polar Circle,01.vii, flying very fast in open, dry bog.

Syngrapha parilis (Hb.), Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii.

Sympistis heliophila (Paykull). This species was first encountered at NB: Stavikudden, three miles north of the Polar Circle flying in open, dry bog, but was nearly ubiquitous thereafter in wet and dry bogs and on mountains including Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 09 and 10.vii.

Hyppa rectilinea (Esper), TO: Jukkasjarvi, 01-05.vii and 11. vii, to baits, becoming more frequent at the later dates.

Chortodes elymi (Tr.), HS: Hornslandet beach, one at rest during abortive search for *Proxenus lepigone*.

Hadula (Calocestra) melanopa melanopa (Thunb.), Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. Flying commonly with *Z. exulans.*

Anarta cordigera (Thunb.), TO: Krokvik, 08.vii, several feeding on *Ledum* growing in wetter parts of the bog, about four o'clock in the afternoon.

Anartomima secedens (Walker), TO: Jukkasjarvi, 01-05.vii, a few noted flying high and fast but exposing a flash of yellow. TO: Krokvik, 08.vii, one secured on *Ledum* flowers in the afternoon. Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 09.vii. One seen.

Lasionycta skraelingia (H.- S.), TO: Jukkasjarvi, 01-05.vii, common but extremely difficult to net.

Diarsia mendica (Fabr.), TO: Jukkasjarvi, 01-05.vii, noted at bait and flowers but more common on 11.vii. TO: Krokvik, 08.vii, several on ledum in the afternoon. TO: the lower slopes to the southeast of Abisco, 05.vii, one quite high in the mountains disturbed in the afternoon.

Xestia (schoyenia) quieta (Hb.),Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. Three secured flying fast and low like *D. melanopa.*

Xestia (Anomogyna) speciosa (Hb.) ssp. *arctica* (Zett.), TO: Jukkasjarvi, one on 05.vii, and two on 11.vii. Although these specimens follow the description in Noctuidae Europaeae 2, Michael Fibiger, *pers. com.,* throws some doubt on my subspecific identification as a smaller, darker form, which may be true *arctica,* flies on the coast at Nordcap in the extreme north of Norway.

Xestia (Anomogyna) borealis (Nordström), TO: Jukkasjarvi, 01-05.vii, three netted and a few others suspected to be this species.

Xestia (Anomogyna) laetabilis (Zett.), TO: Jukkasjarvi, one on 05.vii, and frequent on 11.vii.

Xestia (Anomogyna) distensa (Eversmann), TO: Jukkasjarvi, only on 11.vii when initially distinguished from *laetabilis* by behaviour.

Xestia (Anomogyna) gelida (Sparre-Schneider), TO: Jukkasjarvi, 01-11.vii, common, becoming more frequent to wine ropes later in the season.

Plate G. Alec Harmer on the summit of Mount Njulla against a background of the montane habitat where we were collecting amongst snow and in generally atrocious conditions.

Plate H. From left to right: AJP, Ludwig Weiss and Alec Harmer showing the long-handled nets and strange hats necessary for collecting at Jukkasjarvi!

Xestia (Anomogyna) alpicola alpicola (Zett.), TO: Jukkasjarvi, 04.vii, only one seen in a form that is very different from those in Scotland.

Xestia (Pachnobia) tecta (Hb.), TO: Jukkasjarvi, 11.vii, one only seen.

Lymantridae

Dicallomera fascelina (L.), TO: Krokvik, 04.vii, one larva.

Arctiidae

Phragmatobia fuliginosa (L.) ssp. *borealis* Stdgr., TO: Jukkasjarvi, 01-05.vii, two found at rest.

Parasemia plantaginis (L.), NB: Near Person in flowery meadow, 12.vii. Two seen, including *f. hospita* D.& S..

Diacrissia sannio (L.), This species seemed identical with those found in southern Europe and was seen in many of the localities visited.

Abraxus grossulariata (L.) (Lep.: Geometridae). Further records of larvae feeding on leaves of *Sedum spectabile*

I was most interested to read Michael Easterbrook's observation of Magpie Moth *Abraxas grossulariata* feeding on leaves of *Sedum spectabile* (*Ent. Rec.* **117**: 64). I have observed this once only, in my garden on 5 June 1988, when I noticed some frass on my *Sedum spectabile.* On further examination I found the leaves had been eaten and a number of Magpie Moth larvae were present. A few days later, my colleague R. H. Heath, who lives a short distance away, also found a larvae in his garden on *S. spectabile* (see *Bulletin of the Amateur Entomologists' Society* **48**: 68).

The usual foodplants of this species are currant and gooseberry (*Ribes* species), both plentiful in our gardens. Why *Sedum spectabile* was chosen in 1988 remains a mystery. P.B.M. Allan, in his 1979 book, *Larval Foodplants,* does give the related orpine *Sedum telephium* as a foodplant, so other *Sedum* species may perhaps also be utilised. The late H.W. Daltry of Madely, Lepidoptera Recorder for Staffordshire from 1924 to 1950, wrote that in spite of having many currant and gooseberry bushes in his garden, he found the Magpie Moth to be rare over this period in his garden, yet it could be found on Sloe bushes growing in hedgerows and was quite common in the area. In the past I have found Magpie Moth larvae on Blackberry *Rubus fruticosus* agg. and in 1992 my friend Derek Heath and myself visited Wetley Moor, Staffordshire and found larvae on heather *Calluna vulgaris.* The moth is quite rare in the moorlands of Staffordshire. Also of interest, Brian O.C. Gardiner, former editor of the AES *Bulletin* wrote in 1989 (*Bull. Ament. Soc.* **48**: 68) "Curiously enough, I have never found Magpie larvae on anything except various species of *Euonymous.* Perhaps differing foodplants are selected in different parts of the country".– JAN KORYSZKO, 3 Dudley Place, Meir, Stoke-on-Trent, Staffordshire ST3 7AY.

EURYDEMA ORNATUM (L.) (HEM.: PENTATOMIDAE) ESTABLISHED ON THE DORSET COAST AND A KEY TO EUROPEAN *EURYDEMA* SPECIES

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Abstract

Eurydema ornatum (Hemiptera: Pentatomidae), a species previously unknown from the British mainland other than as an accidental importation, is reported from Portland Bill, Dorset, in May 2005. In the light of this two earlier records are confirmed. It seems likely that this species is now established on the south coast of England. The status and identification of this and related species is discussed and a key to the species of this genus occurring in north-west Europe, which includes other potential future colonists of Britain, is provided.

The records

Situated between Bournemouth and Christchurch are the coastal undercliffs which extend between Southbourne in the east and Boscombe near Bournemouth. This area is notable in that it contains a remarkable assemblage of introduced and naturally established southern flora and fauna which thrives in the unusually warm and relatively dry micro-climate around the cliffs. The natural history of these cliffs came to prominence in recent years when Clouded Yellow butterfly *Coleus croceus* Geoff. was found to have a resident over-wintering population on the undercliffs (Skelton, 1999). The area has a distinctly Mediterranean feel with substantial colonies of the introduced Common Wall Lizard *Podarcis muralis* and also the beautiful Green Lizard *Lacerta bilineata* and a varied and exotic flora. On 25 April 2004, ARC was exploring the cliff tops around Gordon's Steps, Boscombe, South Hampshire (O. S. grid reference SZ 130913, VC 11) and noticed good numbers of the Brassica Bug *Eurydema oleracea*, of both white-spotted and red-spotted forms. These were associated with the abundant Sea Radish *Raphanus raphanistrum,* ssp *maritimus*, a crucifer with pale yellow flowers which is found all along the cliff tops (Fig. 1). While photographing *oleracea* two examples of a striking and unfamiliar red and black shieldbug were seen together on one Sea Radish plant. Several photographs were taken in the expectation of a rapid identification at home later. From the available literature (Hawkins, 2003; Chinnery, 1986) *Eurydema dominulus* was the only British species exhibiting a striking red ground colour with black markings. This is a rare woodland glade species recorded mainly from Kent and Sussex with a few old records from other southern counties. Searches for more examples of the bug during the summer and autumn of 2004 and early 2005 failed to produce any further sightings. A photograph and report of the record appeared in the Southampton Natural History Society (SNHS) annual report for 2004 under the name *Eurydema dominulus*.

Plate I. *Eurydema ornatum*, Boscombe, 7 June 2005. Photo: A.R. Collins

Plate J. *Eurydema ornatum*, Portland Bill, May 2005. Photo: D. Slade

In May 2005, whilst on holiday with his family, DS visited Tout Quarry, on the Isle of Portland, Dorset (SY 6872, VC 9). They were looking for Adonis Blue *Lysandra bellargus* (Rott.) and Early Gentian *Gentianella anglica*, when his fiancée Katherine Vint pointed out a spectacular black and red shieldbug crawling across a rock. DS photographed it *in situ* (despite the best efforts of a passing dog) and if it wasn't for the Slade family trait of wanting to film or photograph anything and everything it would probably have been left on the rock. However, DS's father, Brian, wanted to capture it on video, so it was taken back to the Bird Observatory. Almost as soon as he saw it, Martin Cade suggested that this could actually be something really exciting and that the specimen should be retained, in particular pointing to the section in Evans and Edmondson (2005) listing other shieldbug species that could occur in the UK.

E-mail correspondence between Martin Cade, Martin Evans, DS, Mike Wilson and Berend Aukema led to the suggestion that this was *Eurydema ornata* (*sic*), and that it was new to mainland Britain. Satisfied with the identification and the status of the insect in the UK, Martin published the photograph on the bird observatory web site in early June.

On seeing the photograph on the website, ARC recognised the close resemblance of the Portland and 2004 Boscombe specimens, and travelled to Portland to view the specimen. The identification of the 2004 bugs was discussed with Martin Cade at the observatory, and later with Martin Evans, DS and BSN by e-mail. *E. ornatum* was strongly suspected but there are a number of rather similar continental species that might occur in Britain.

ARC returned to the Boscombe area on 7 June 2005, accompanied by Rachel, his young daughter, but had with little expectation of finding any of the mystery *Eurydema* bugs, especially given unsuccessful searches by other members of the SNHS in the preceding month. Two hours of sweeping and searching on and around patches of Sea Radish revealed a number of *E. oleracea* but nothing else of note. However, close to the point of giving up, Rachel found one of the target bugs at the top of a Sea Radish plant! This was above Portman Ravine (SZ 120913, VC 11), about 1 mile west of the 2004 sightings. The bug was captured, and was later examined by BSN, giving particular attention to the colour and markings of the upperside of the abdomen. This is normally hidden beneath the forewings, but is a crucial diagnostic character. The bug was found to be a male *Eurydema ornatum*.

Genus *Eurydema*

The shieldbug genus *Eurydema* has about 20 European species (Stichel, 1955; Dolling, 1985) and, of these, eight are known from north-west Europe and might therefore arrive in Britain naturally, especially in a period of climate amelioration. In the past, two species have been accidentally imported on a number of occasions, these are *E. ornatum* and *E. ventrale* (Dolling *op.cit.*). Stichel gives keys to species, and species descriptions, in German; Dolling gives an English version of Stichel's keys and a separate key to four species which have reached or are resident in

Figure 1. Sea radish at Boscombe, June 2005. Photo: A.R. Collins

mainland Britain. In addition, two species, *E. herbaceum* and *E. ornatum*, have been recorded from the Channel Isles (Le Quesne 1984); the former species was recorded in 1894 and 1897, but Le Quesne considered the record unverified, as he considered that it could have been *E. ornatum*.

The nomenclature of the European shieldbugs is in a state of flux pending publication of the final volume of the *Catalogue of Palaearctic Heteroptera* (Aukema & Rieger *in press*). Therefore, in the absence of definitive nomenclature the species names used in the present paper are those in current continental use, but may be modified in the near future.

A key to the eight species of *Eurydema* occurring in northwest Europe, and hence candidates for natural arrival in southern Britain, is given in the Appendix. This was compiled by BSN, based on the keys of Stichel and Dolling, referred to above.

Description and identification

The following comments are mainly based on the 7 June 2005 Boscombe specimen, a male, 8.1 mm in length (**Plate I**). The general impression is of a scarlet bug with black markings and black appendages. Our two 'native' species of *Eurydema* have, or may have, a red-and-black colour scheme superficially resembling that of the present bug and both have crucifers as host plants, typical for bugs of this genus.

Eurydema oleracea has a quite common red and black form but *E. oleracea* is typically several millimetres smaller than the present bug and is black with red markings, i.e the inverse of the present bug which appears red with black markings. More particularly, the markings of the pronotum differ, *E. oleracea* has a pair of large 'rectangular' black marks (one each side of the midline), these occupy nearly half the area of the pronotum; the pronotum of the present bug has six much smaller black spots, two near the front margin and four in a transverse row behind the middle. Another difference is that the black tibiae of *E. oleracea*, normally have a central pale band, at least on the middle and hind legs, but this is absent in the present bug. These features in combination serve to distinguish the present bug from *E. oleracea.*

E. dominulus is a native red and black bug associated with Lady's Smock in damp woodland glades. It is typically slightly smaller even than *E. oleracea* but has six black spots on the pronotum as in the present bug. It also differs in that the exocorium (lateral region of forewing, demarcated from the rest of the forewing by a longitudinal 'fracture') is entirely red whereas the present bug has a distinctive large black spot about half way along the exocorium.

A critical diagnostic character of the continental species which might reach Britain is the coloration of the dorsum (upperside of abdomen). The Boscombe bug actually has a unicolorous black dorsum, visible in side view when the wings are flexed upwards slightly. This character narrows the possible identity of the present bug to three species; *E. herbaceum*, *E. oleracea* and *E. ornatum* (see Appendix). However the dark markings of the present bug are pure black, ruling out *E. herbaceum,* while *E. oleracea* has been ruled out above, hence it is concluded that the Boscombe bug is indeed *E. ornatum*. The Portland specimen (**Plate J**) is very similar and also has a black dorsum. Amongst some obvious small differences are the striking red bands on the legs. It is therefore reasonable to conclude that all the specimens seen in the field, or captured, on the south coast in spring 2004 and spring/summer 2005, are likely to have been the same species, *E. ornatum*.

Acknowledgements

The authors wish to thank Berend Aukema, Martin Cade, Martin Evans and Mike Wilson for their assistance and advice.

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APPENDIX

Key to shieldbug genus *Eurydema*, in north-west Europe

Based on Stichel (1955-1960) & Dolling (1985).

Note: Most *Eurydema* species are very variable in ground colour and the extent of dark markings.

Terminology

- connexivum = demarcated outer margin of abdomen
- corium = 'leathery' region of forewing
- dorsum = upperside of abdomen (excluding connexivum)
- exocorium = demarcated outer margin of forewing
- pronotum = visible upperside of thorax
- venter = underside of abdomen

1 Dorsum unicolorous black, or blackish violet-blue. **7**
– Dorsum largely red, some black marks may be present **2**
[View abdomen from the side, lift wing slightly if necessary.]

2 Corium dark blue. [S of France, & Spain] .... ***cyaneum*** (Fieber)
– Corium otherwise........ **3**

3 Exocorium entirely red, yellowish-red, or whitish **4**
– Exocorium in part black........ **5**

4 Pronotum red with 6 black marks. L = 5.0-6.8mm
[Finland to N Africa, E to China]........ ***dominulus*** (Scopoli)
– Pronotum red with 2 irregular black marks, exocorium whitish. L = 7.5-8.5mm
[Germany, France, Morocco, E to Iran] .... ***fieberi*** (Schummel) part

5 Exocorium red with a median black spot. L = 9.0-11.0mm
[S of France, Morocco, E to India] .... ***ventrale*** (Kolenati)
– Exocorium yellow or red; distally at least in part black, middle may be broadly black **6**

6 Pronotum base and sides broadly red, exocorium whitish. L = 7.5-8.5mm.
[Germany, France, Morocco, E to Iran] .... ***fieberi*** (Schummel) part
– Pronotum base and sides narrowly red. L = 7.5-8.5mm
[S of Germany, France, Portugal, E to Poland] ....***rotundicolle*** Dohrn

7 Pronotum with 6 black marks, may be much reduced or enlarged & merge; or 2 large lobed black marks **8**
– Pronotum with 2 large rounded black marks (not lobed), may merge on midline. **9**

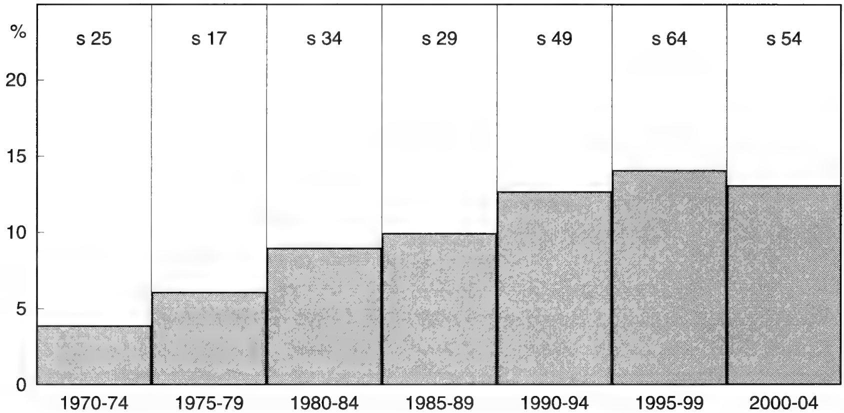
8 Dark markings violet blue-black, generally more extensive than the red ground colour. Apical half of exocorium dark. L = 7.2-8.5mm
[S of France, Iberia, Madeira] .... ***herbaceum*** (Herrich-Schaeffer)(part)
– Dark markings pure black, generally less extensive than red ground colour. Exocorium with ±median black mark. L = 7-9mm. [S. of England, Sweden to Morocco, E to China] .... ***ornatum*** (L.)

9 Venter ground colour red; tibiae without broad pale band. L = 7.2-8.5mm.
[S of France, Iberia, Madeira] .... ***herbaceum*** part
– Venter ground colour not usually red; tibiae with broad pale band. (Ground colour of upperside varies from white to scarlet.) L = 5.5-7.5mm.
[S of England, Finland to Morocco, E to Siberia] .... ***oleracea*** (L.)

Dasychira pudibunda L. (Lep.: Lymantriidae) melanism in north-west Kent

On 6 May my garden m.v. light attracted an unusual melanic of this species possessing a broad, well defined central blackish band on the forewings, leaving the basal and sub-basal, and sub-marginal areas the normal grey, and with some darkening of the thorax, body and hindwings – ab. *fasciata* Lempke. Chalmers-hunt 1962 (*The Moths and Butterflies of Kent,* Sup. *Ent. Record* 74) makes no mention of form, nor have I encountered it previously.

The extreme melanic ab. *concolor* Stdgr. is noted in this work as having been not recorded until 1948 in the county, stating that it appeared to be increasing in numbers, and gives a scattering or records. My garden m.v. light was operated first in 1969, and a specimen of ab. *concolor* appeared in 1971, though the next not until 1978. The presence of ab. *concolor* in Britain goes back to 1934 according to Kettlewell 1973 (*The Evolution of Melanism* 49) and has remained restricted to south-east England as far north as the Thames Valley, but not north of this, with increasing frequency. Records sent to him by Bretherton for Surrey are quoted, this for 1946 to 1963 incidence for ab. *concolor* was 1% (N=570) and for 1964 to 1969 5% (n=120). This information is particularly useful and interesting as my records for Dartford continue from this period. As my garden m.v. light commenced operation in 1969 it is unlikely that I should have encountered ab. *concolor,* or even a normal specimen of *D. pudibunda* before this date, other than from an occasional larva. the first ab. *concolor* seen was on 8.vi.1971, and the second in 1978. The accompanying table indicates that in the five year period 1970-1974 its incidence was 4% (n-25) and for 1975-1979 it was 6% (n=17), the samples being rather small, though in subsequent periods samples were larger. An increase in frequency was observed until 1995-1999 when it reached 14% (n=64), to decline slightly for the first five years of the twenty-first century. Throughout the period since 1969 only males have been observed at the light.



D. pudibunda ab. *concolor* % frequency and sample size at Dartford, 1970-2004.

Melanism has been a comparatively late development in *D. pundibunda,* being first noted in Britain in 1938. Its early extension of geographical range coincided with World War II and passed largely unnoticed, but its later history is both interesting and unusual. This its frequency has increased coincident with a period of general decline in industrial melanism, its geographical distribution has remained limited to parts of south-east England south of the Thames and the London area and it has flourished equally in rural and industrial settings. Kettlewell has suggested that these extreme melanics of *d. pudibunda* may have originated from immigration from the Continent rather than by mutation. Increase in frequency appears to have ceased, only time will tell whether significant decline is in progress.–B.K. West, 36 Briar Road, Dartford, Kent DA5 2HN.

Annulet *Charissa obscurata* (D. & S.) (Lep.: Geometridae) larva on *Silene maritime*

Waring (2002. *British Wildlife* **13**: 211) described and illustrated caterpillars of the Annulet *Charissa obscurata* feeding on sea campion *Silene maritima* on the Great Orme's Head in north Wales in May 1999. Apparently this is the first time it had been mentioned as a foodplant for the species. On the coastal cliffs at Tarlair, near Macduff in Banffshire, Annulet caterpillars also use sea campion. During the daytime they can be shaken out of overhanging tufts growing in rocky crevices. I found six by this method in two short visits in late April and early May 2002, and three in spring 2005. All were in their final instar.

On various other visits both in the daytime and after dark with a torch, I have never found Annulet caterpillars on anything else. In captivity, they refuse the alternative foodplants listed in the literature, such as trefoils and vetches, thrift, cinquefoil and heather, all of which are present abundantly at the site. Instead, they will feed only on sea campion flowers, particularly the petals and the calyx. Usually the stamens and the developing seedpod are ignored. Presumably the earlier instars must use alternatives, since sea campion flowers will not be available in late autumn and winter. However, the link with sea campion may help to explain the very localised distribution of this moth, Tarlair being the only known Banffshire site. — ROY LEVERTON, Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS.

BOOK REVIEW

Catalogue of Ceutorhynchinae of the World, with a key to genera (Insecta: Coleoptera: Curculionidae) by **Enzo Colonnelli.** 124 pp., hardback 217 x 309 mm., ISBN 84 931847 6 4. Argania editio, Argania Editio, Balmes 61, pral. 3, 08007 Barcelona, Spain (argania@entomopraxis.com), 2004, 85 plus 5 postage to the UK.

Catalogues are an essential tool in entomology, and particularly valuable when they cover a complete world fauna, as does this excellent account of Ceutorhynchinae. This group of 'true' weevils (Curculionidae) is a speciose one and Enzo Colonnelli is its greatest living student.

The Catalogue begins with some important introductory matter. The author draws attention to the deficiencies in the *Coleopterorum Catalogus*, which we may admire for its all-embracing scope and immensity whilst deploring the many errors which are alluded to. A brief, but thorough, Historical Outline gives references to the works of the many coleopterists, mainly European of course, who have contributed to knowledge of the group. In the absence of a formal phylogenetic analysis of the whole subfamily (which would be an onerous task) the author adheres to a traditional arrangement and nomenclature of tribes. In this arrangement the only near novelty for British coleopterists is the placement of Amalus (which has long been known as an anomalous genus) in a separate tribe, Amalini.

The Catalogue includes references to the 1316 species of Ceutorhynchinae deemed to be valid, and described up to the end of 2003. Statistics are given for the numbers of genera in the tribes and species in the genera. The Catalogue is fully synonymic, this being one of its most useful characteristics. There is naturally a substantial section of Taxonomic Remarks, in which changed combinations, new synonymies, changes of rank and so on are set out. This is followed by the necessary designation of neotypes and lectotypes.

A key to world genera of Ceutorhynchinae runs to more than two hundred couplets and is likely to be most useful to workers outside western Europe, where other keys to geographically more restricted groups are likely to be more convenient.

The Catalogue proper consists of entries for each species which cover three aspects: synonymy, distribution and ecology. Distribution is given by reference to a two-letter country code, supplemented by additional codes for such areas as the Macaronesian islands and Siberia. These codes are tabulated for easy reference. In general the distributions given are comprehensive and accurate, but your reviewer has noticed that the distribution of *Ceutorhynchus insularis* Dieckmann is given as Great Britain and Greenland rather than Iceland, from which country the species was described.

The Ecology section for each species gives reference to known hosts, but not to modes of larval feeding (stem-, fruit-, bud-feeding and leaf-mining/ectophagy etc.), no doubt for reasons of space. In many cases, particularly outside Western Europe, even the putative hosts of species are unknown. There is no doubt that additional information can be added. For example, *Parethelcus nesicola* Colonnelli occurs very commonly on *Urtica morifolia* Poir. in the Canary Islands, as well as on *U. urens* L.

For British readers the Catalogue will be important in how it treats our own meagre fauna of Ceutorhynchinae. The placement of *Tapeinotus* Schoenherr (*Tapinotus* auctt.) in Scleropterini is a considerable surprise and would seem to need further clarification and investigation. The original spelling of *Ceutorhynchus chalybaeus* by Germar is not *chalibaeus*. A particular problem arises in the treatment of the common species known for 200 years as *Ceutorhynchus contractus* (Marsham). Long known as a junior homonym of *C. contractus* (Geoffrey in Fourcroy) (an unused name), its earlier replacement by Colonnelli as the species' valid name was *C. minutus* (Reich). This proves to be also preoccupied and in the Catalogue Colonnelli has used *C. pallipes* Crotch as the next available name. This name has been previously used only for the form occurring on Lundy Island, and its use for the whole species would cause great confusion. If necessary, a case will be made to the ICZN for suppression of *Curculio contractus* Fourcroy and conservation of *C. contractus* Marsham.

A substantial bibliography ('Literature'), in which journal titles are helpfully spelled out in full, completes the Catalogue.

The book is attractively produced and well bound, although some readers may find the type-face rather small. There is no doubt that the *Catalogue of Ceutorhynchinae of the World* is a major contribution to the literature on weevils, and is a tribute to the immense amount of valuable work the author has made on this most interesting group of beetles.

M. G. Morris

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MICROLEPIDOPTERA REVIEW OF 2004

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Abstract

Noteworthy records of microlepidoptera, including some new to the British Isles and new vice-county records made during 2004 are listed and discussed.

Introduction

We are most grateful to the many recorders of microlepidoptera, who have again allowed us to collate their records from 2004. The accumulated body of information, on what remains a diverse and difficult group of organisms, is very impressive. The 'master maps' held by JRL show the status of our smaller moths very effectively, allowing an observer to identify conservation priorities, to associate changing conditions with environmental changes and to ponder just what it is that governs the range and abundance of moths. We realise that most microlepidopterists do not have access to these maps and that those published in the various volumes of *Moths and Butterflies of Great Britain and Ireland* (*MBGBI*) are often now well outdated. The ideal solution, to publish the current maps, sounds simple but is fraught with practical difficulties. First of all, the work involved, even if a publisher could be found, is daunting. Secondly, a mere dot on a map means little and so some way is needed to associate the date and status of each record with the dots on the maps. Recent records are generally well referenced, but many early 'dots' are vague as to provenance! A commentary for each species would be needed and this would be a mammoth task. At present the best compromise for most microlepidopterists is to use the annual reviews to augment the *MBGBI* maps from year to year, as the reviews appear, but this is itself a big task. Please be assured that the authors are actively considering what may be possible in future and are not trying to shield the maps from interested eyes. Quite the reverse, the annual reviews are designed to allow everyone to keep up to date.

An interesting point about the accumulation of positive records is that this allows easy identification of new VC records, so ever expanding the apparent range of a species. There is no way to plot the retreat of species, or to log reductions in abundance. For example, the continued spread of *Epiphyas postvittana* (Walker) is easily seen but what of a species such as *Xenolechia aethiops* (Humphreys & Westwood)? When was it last seen and what is its true current range? Apparently common species, such as *Pyla fusca* (Haworth) have not been seen much in Scotland recently. What does this signify?

We would especially like to encourage recording in areas which are rather neglected. These include vice-counties such as Cornwall, Lincolnshire, Nottinghamshire, Derbyshire, Staffordshire, Durham, Northumberland and Westmorland and areas such as the Isle of Man and Northern Ireland. This is not an exhaustive list of under-recorded places, but we do hope that it might encourage recorders to visit these parts of the country. Without exception, when new areas have been visited recently they have produced exciting new records. The Scottish Entomologists' Meeting tries to find an unworked area for its annual weekend meeting, but there are also many areas of Scotland that are untrodden by entomologists. Does *Aethes rutilana* (Hübner) really only occur on dwarf juniper on Beinn Eighe? Surely not!

The year 2004 was exceptionally hot, with every month except July and October well above the long-term average. Otherwise it was very variable, with some very cold spells and very heavy rain, especially in August. As usual there was great spatial variation, with, for example, high rain in the east in January, sunny weather in the north and west in March, very wet weather in Scotland in June whilst southern areas had a drought, and especially mild weather in Scotland in December. For those of you who wish to pursue relationships between weather and moths, the Meteorological Office site is a mine of information (www.met-office.gov.uk/climate/uk). The obvious question is whether the continued warm weather of the last few years is encouraging the northern spread of microlepidoptera but we are afraid that there is no overwhelming evidence for this.

A number of species have been discovered new to Great Britain. *Elachista nobilella* Zeller is probably an overlooked resident, now recorded from two localities in VC 17 in good numbers (*Ent. Gaz.* **117**: 133-137) and it may be that the second specimen of *Metalampra italica* Baldizzone from Plympton indicates that it is locally resident, rather than just a stray. At present it seems likely that *Dialectica scalariella* (Zeller) (from Kingsdown, VC 15), *Diasemia accalis* (Walker) (from Gravesend, VC 16) and *Elegia fallax* (Staudinger) (from Guernsey, VC 113) are strays, with the middle species from SE Asia and the other two from S. Europe. The usually northern species *Rhigognostis incarnatella* (Steudel), as well as the scarce southern species *Pyralis lienigialis* (Zeller) were found new to Wales, as were *Stigmella suberivora* (Stainton) and *Bryotropha boreella* (Douglas); *Ectoedemia arcuatella* (Herrich-Schäffer) new to Scotland; and *Coleophora sternipennella* (Zetterstedt) and *Epinotia crenana* (Hübner) new to Ireland. That some of these were found as breeding species, so far from their previously known haunts, reinforces our view that much is to be found in unlikely locations.

The most spectacular spread continues to be shown by *Cameraria ohridella* Deschka & Dimic, whose abundant mines on Horse Chestnut are now to be seen west to Dorset and north into East Anglia. No signs of reduced rate of spread have yet been seen and factors, whether climactic or biotic, that might limit its range are as yet unknown.

It is nice to see so many records associated with breeding success and the continued increase in knowledge of life histories is very much to be welcomed. A service to other microlepidopterists would be for all this additional information to be used to update Maitland Emmet's Field Guide, whose last version appeared in *MBGBI* Vol 7(2), 1991. Many new records follow the publication of such new details and they must not be lost.

We have been able to include national grid references more frequently again this year and to add more information on the stage recorded and we would welcome records including these details. Please do send in your records for 2005 using our standard format, in WORD files wherever possible, so as to reduce our own re-typing. JRL's email address, 'john@langmaidj.freeserve.co.uk', is the best contact point.

We are most grateful to all our recorders for 2004, namely D.J.L. Agassiz, J.S. Baker, H.E. Beaumont, D.T. Biggs, K.P. Bland, K.G.M. Bond, S.D.S. Bosanquet, M. Bridge, P. Clark, J. Clifton, G.A. Collins, M.F.V. Corley, P.D.M. Costen, A.M. Davis, B. Dickerson, R.J. Dickson, R.D. Edmunds, R. Elliott, C.H. Fletcher, R.G. Gaunt, D.J. Gibbs, R.W. Goff, B. Goodey, A.N. Graham, J.E. Graham, M.W. Harper, R.J. Heckford, B.P. Henwood, J.B. Higgott, S.H. Hind, C. Lamberth, J.R. Langmaid, N.R. Lowe, J.A. McGill, A.J. Mackay, D.V. Manning, A.R. Mitchell, R.J. Moore, R.M. Palmer, S.M. Palmer, M.S. Parsons, S.J. Patton, C.W. Plant, J. Porter, A.W. Prichard, A.P. Russell, K. Saul, A.N.B. Simpson, I.R. Sims, M.P. Skevington, D.J. Slade, I.F. Smith, P.H. Sterling, N.J. Stone, A. Tyner, R.W.J. Uffen, T.H. Walker, D. Williams and M.R. Young. We are also especially indebted to Ian Thirlwell, who helped in the time-consuming task of transferring records to maps.

In the following systematic list, SEM stands for Scottish Entomologists' Field Meeting which was held in Galloway and was attended by several of the recorders listed above. VCH stands for Victoria County History. The journals are abbreviated as follows: *Ent. Gaz.* for *Entomologist's Gazette*; *Ent. Rec.* for *Entomologist's Record and Journal of Variation*; and *BJENH* for *British Journal of Entomology and Natural History.* New vice-county records are shown with the VC number both underlined and in **bold** type.

SYSTEMATIC LIST

ERIOCRANIIDAE

7 *Eriocrania chrysolepidella* Zell. — Wolves Wood TM0543 (**25** and **26**) tenanted mines on *Corylus* and *Carpinus* 9.v.2004 — AWP

8 *E. unimaculella* (Zett.) — Rammamere Heath SP9229 (**24**) tenanted mines on *Betula* 17.v.2004 — DVM

10 *E. salopiella* (Staint.) — Gait Barrows NNR SD4777 (**60**) tenanted mines on *Betula* sp. 22.v.2004. — SMP

11 *E. cicatricella* (Zett.) — Ashdown Forest TQ4528 (**14**) 14.iv.2004, genitalia det. — GAC

12 *E. sangii* (Wood) — Ashdown Forest TQ4630 (**14**) 14.iv.2004, genitalia det. — GAC; Balneden, Glen Livet NJ1422 (**94**) larvae on *Betula* 25.v.2004 — MRY

13 *E. semipurpurella* (Steph.) — Ashdown Forest TQ4230 (**14**) tenanted mine on *Betula pendula* 13.v.2004 — GAC; Bryn Witham SN5507 (**44**) tenanted mines on *Betula* 2.v.2004 — JSB & SDSB; Balneden, Glen Livet NJ1422 (**94**) larvae on *Betula* 25.v.2004 — MRY

NEPTICULIDAE

19 *Bohemannia quadrimaculella* (Boh.) — Weybridge TQ0864 (**17**) 20.vii.2004 — ARM

40 *B. pulverosella* (Staint.) — Carmel Woods SN5916 (**44**) 2.v.2004 — JSB & SDSB

20 *Ectoedemia decentella* (H.-S.) — Ledbury SO7236 (**36**) 9.viii.2004 — MWH; Bransford SO7952 (**37**) 9.viii.2003 — ANBS

21 *E. sericopeza* (Zell.) — Stony Stratford SP8040 (**24**) 14.viii.2004, genitalia det. DVM — M. Killeby *per* DVM

22 *E. louisella* (Sirc.) — Cheltenham (**33**) 27.ix.2004 — R. Homan *per* RGG

23 *E. argyropeza* (Zell.) — Ard Airigh NM7461 (**97**) tenanted mines on *Populus tremula* 19.x.2004 — DW

24 *E. turbidella* (Zell.) — Byfleet TQ0860 (**17**) tenanted mine on *Populus canescens* 30.x.2004 — ARM

25 *E. intimella* (Zell.) — Talybont Reservoir SO1020 (**42**) tenanted mines on *Salix caprea* 1.xi.2004 — JRL; Ellington Banks MoD SE2773 (**64**) mines on *Salix* sp. 14.x.2004, det. HEB — CHF; Fas Chia-aig NN1788 (**97**) tenanted mines on *Salix caprea* 30.x.2004 — DW

28 *E. angulifasciella* (Staint.) — Minera SJ2651 (**50**) tenanted mine on *Rosa* 16.x.2004 — SHH & B. Formstone

30 *E. arcuatella* (H.-S) — Ravens Rock Forest Gorge NC4901 (**107**) tenanted mines on *Fragaria vesca* 11.x.2003, moth bred — DW, **New to Scotland**

35 *E. minimella* (Zett.) — Tovakaig NG6112, and Gillean Burn NG5908 (**104**) tenanted mines on *Betula* sp. 14.x.2004 — DW

36a *E. heringella* (Mariani) — Weybridge TQ0762 (**17**) tenanted mines on *Quercus ilex* 4.iii.2004 — ARM

37 *E. albifasciella* (Hein.) — Gloscoed SJ2754 (**50**) vacated mines on *Quercus* sp. 16.x.2004 — SHH & B. Formstone; Tovakaig NG6011, and Camas nam Mult NG7014 (**104**) tenanted mines on *Quercus* sp. 14.x.2004 — DW

38 *E. subbimaculella* (Haw.) — Bookham Common TQ1355 (17) tenanted mines on *Quercus frainetto*, previously unrecorded host plant — Surrey Moth Group; Harrogate (Hookstone Woods) SE3254 (**64**) mines on *Quercus* sp. 4.xi.2004, det. HEB; Sutton Howgrave SE3178 (**65**) mines on *Quercus* sp. 11.xi.2004, det. HEB — CHF

39 *E. heringi* (Toll) — Bookham Common TQ1355 (17) tenanted mines on *Quercus frainetto*, moth bred, previously unrecorded host plant — Surrey Moth Group

43 *E. weaveri* (Staint.) — Allt nan Glander, Glen Livet NJ1728 (**94**) larva on *Vaccinium vitis-idaea* 16.v.2004, moth bred — MRY

47 *Trifurcula beirnei* Pupl. — West Malvern SO7546 (**37**) 31.viii & 2.ix.2004 — MWH

50 *Stigmella aurella* (Fabr.) — near Coire Choille, Spean NN2481 (**97**) tenanted mines on *Rubus* sp. 8.x.2004 — DW

53 *S. splendidissimella* (H. – S.) — Alva Glen NS8898 (**87**) mines on *Rubus fruticosus* 8.ix.2004 — KPB

54a *S. pretiosa* (Hein.) — Kippenrait Glen NS7999 (**86**) mines on *Geum rivale* 23.x.2004 — KPB

55 *S. aeneofasciella* (H.-S.) — Orchard Portman ST2420 (**5**) vacated mines on *Agrimonia eupatoria* 7.xii.2004, det. JRL — JAMcG; Thompson Common TJ9396 (**28**) tenanted mines on *Agrimonia eupatoria* 16.x.2004 — JRL & Norfolk Moth Group; Glenbeg NJ0127, and near Upper Deraig NJ0133 (**95**) tenanted mines on *Potentilla erecta* 5.x.2004; Fas Chia-aig NN1789 (**97**) tenanted mines on *Potentilla erecta* 7.ix.2004 — DW

58 *S. ulmariae* (Wocke) — Burpham TQ0051 (**17**) tenanted mines on *Filipendula ulmaria* 18.x.2004 — JRL, RMP, GAC, JP, ARM *et al.*

59 *S. poterii* (Staint.) — Grove Cliff, Portland SY7072 (9) vacated mine on *Sanguisorba minor* 5.ix.2004, first county record for over 100 years — PHS; Alva Glen NS8898 (**87**) mines on *Potentilla erecta* 8.ix.2004 — KPB; near Upper Deraig NJ0133 (**95**) tenanted mines on *Potentilla erecta* 5.x.2004 — DW; near Druim an Fhuarain, Loch Slappin NG5621 (**104**) tenanted mines on *Potentilla erecta* 15.x.2004 — DW

63 *S. lemniscella* (Zell.) — Kirkton NJ0226 (**95**) vacated mines on *Ulmus glabra* 5.x.2004 — DW

64 *S. continuella* (Staint.) — Penybanc SN6111 (**44**) mine on *Betula pendula* 5.viii.2004 — J. Robbins *per* JSB; Creag a' Chadha NG8640 (**105**) vacated mine on *Betula* sp. 15.x.2004 — DW

72 *S. myrtillella* (Staint.) — Alva Glen NS8898 (**87**) mines on *Vaccinium myrtillus* 8.ix.2004 — KPB; Cairnluich NJ0331 (**95**) vacated mines on *Vaccinium myrtillus* 5.x.2004 — DW

73 *S. trimaculella* (Haw.) — Newton Nursery NJ1663 (**95**) tenanted mines on *Populus* sp. 1.x.2003, moth bred; Delny NH7372 (**106**) tenanted mines on *Populus* sp. 28.ix.2003, moths bred — DW

74 *S. assimilella* (Zell.) — Glenbeg NJ0126 (**95**) vacated mines on *Populus tremula* 5.x.2004 — DW

77 *S. tityrella* (Staint.) — Spey Bridge NJ0226 (**95**) vacated mines on *Fagus sylvatica* 5.x.2004; near Kilbeg NG6506 (**104**) vacated mines on *Fagus sylvatica* 14.x.2004 — DW

79 *S. perpygmaeella* (Doubl.) — near Kilbeg NG6406 (**104**) vacated mines on *Crataegus monogyna* 14.x.2004 — DW

80 *S. ulmivora* (Fol.) — Pont Llanrhaiadr SH7920 (**48**) vacated mine on *Ulmus glabra* 18.x.2004 — ANG & JEG

82 *S. paradoxa* (Frey) — Corngafallt SN9364 (**42**) vacated mines on *Crataegus monogyna* 19.ix.2004 — NRL & JRL

83 *S. atricapitella* (Haw.) — Bookham Common TQ1355 (17) tenanted mines on *Quercus frainetto*, moths bred, previously unrecorded host plant — Surrey Moth Group

84 *S. ruficapitella* (Haw.) — Invermoriston NH4216 and Strathglass NH3633 (**96**) tenanted mines on *Quercus*, moths bred — DW

85 *S. suberivora* (Staint.) — Holkham NNR (**28**) mines on *Quercus ilex* 31.i.2004 — RDE; Ledbury Park SO7137 (**36**) vacated mine on *Quercus ilex* 10.ix.2004 — MWH; Laugharne Castle SN3010 (**44**) vacated mines on *Quercus ilex* 2.v.2004 — E. Goodyear *per* JSB **New to Wales**

86 *S. roborella* (Johan.) — Gorwyr SH8425 (**48**) 14.vi.2004, genitalia det. ANG — ANG & JEG; Balblair Ho. NH5345 (**96**) tenanted mines on *Quercus* 15.xi.2003, moths bred, genitalia det. — DW

87 *S. svenssoni* (Johan.) — Botley Wood SU5309 (11) mines on *Quercus robur* 14.vii.2004, moths emerged 30.vii.2004, genitalia det., first record of a second brood in Britain — RJD & JRL

88 *S. samiatella* (Zell.) — Queen's Wood, Prestbury (**33**) 4.ix.2004; Staple Edge SO6410 (**34**) vacated mines on *Castanea* 30.viii.2004 — R. Homan *per* RGG

100 *S. oxyacanthella* (Staint.) — by Loch Eil NN0678 (**97**) recently vacated mines on *Crataegus monogyna* 18.x.2004 — DW

102 *S. aceris* (Frey) — Fleet SU8156 (**12**) tenanted and vacated mines on *Acer campestre* 29.viii.2004 — RDE; Tewkesbury (**37**) mines on *Acer campestre* ix.2004 — R. Homan *per* ANBS

103 *S. nylandriella* (Tengst.) — Hinderclay TM0278 (**26**) vacated mines on *Sorbus aucuparia* 26.ix.2004 — AWP; Dulnain Bridge NJ0024 (**95**) vacated mines on *Sorbus aucuparia* 5.x.2004 — DW

104 *S. magdalenae* (Klim.) — Longendale SK0499 (**58**) vacated mine on *Sorbus aucuparia* 16.viii.2003 — SHH

107 *S. regiella* (H. – S.) — Leigh Woods ST5573 (**6**) 22.iv.2004, genitalia det. — DJG; Penyclawdd SO4508 (**35**) tenanted mine on *Crataegus monogyna* 3.ix.2004 — SDSB; Llangynidr SO1520 (**42**) vacated mines on *Crataegus monogyna* 5.viii.2004 — JRL

109 *S. prunetorum* (Staint.) — Ningwood SZ3989 (**10**) many vacated mines on *Prunus spinosa* 20.vii.2004 — JAMcG

110 *S. betulicola* (Staint.) — Glenbeg NJ0127 (**95**) many vacated mines in *Betula* seedlings 5.x.2004 — DW

112 *S. luteella* (Staint.) — Coille Gaireallach (**104**) tenanted mines on *Betula* sp. 15.x.2004 — DW

113 *S. sakhalinella* Pupl. — Knutsford SJ7578 (**58**) mines, one tenanted, on *Betula* sp. 4.x.2004 — SHH & K. McCabe

114 *S. glutinosae* (Staint.) — Ariundle NM8464 (**97**) tenanted mines on *Alnus glutinosa* 19.x.2004; Tovakaig NG6112 (**104**) tenanted mines on *Alnus glutinosa* 14.x.2004 — DW

115 *S. alnetella* (Staint.) — Bookham TQ1256 (17) mines on *Alnus* 21.viii.2004, first county record since VCH — GAC

117 *S. confusella* (Wood) — Llangynog Quarry SN3316 (**44**) 6.v.2004 — JSB; Minera Quarry SJ2551 (**50**) vacated mine on *Betula* sp. 16.x.2004 — SHH & B. Formstone

118 *Enteucha acetosae* (Staint.) — Alva Glen NS8898 (**87**) mines on *Rumex acetosa* 8.ix.2004, moths bred — KPB

OPOSTEGIDAE

119 *Opostega salaciella* (Treits.) — Astley Burf (**37**) 6.vii.2004 — D. Scott *per* ANBS

121 *Pseudopostega crepusculella* (Zell.) — Beckley Wood TQ8521 (**14**) 19.vii.2004 — S.P. Clancy *per* SJP; Loch Dochart NN4025 (**88**) 25.vi.2004 — SEM

TISCHERIIDAE

127 *Emmetia angusticollella* (Dup.) — Llanymynech Rocks SJ2621 (**40**) mines on *Rosa* sp. 24.vii.2004 — SHH

INCURVARIIDAE

129 *Incurvaria pectinea* Haw. — Sawbridgeworth Marsh TL4915 (**20**) mines and cut-outs on *Alnus glutinosa* 29.v.2004 — CWP & M. Ashby

ADELIDAE

142 *Nematopogon pilella* ([D. & S.]) — Trawscoed SH8435 (**48**) 23.v.2004 — ANG & JEG

143 *N. metaxella* (Hübn.) — Pembrey Forest SN3803 (**44**) 7.vi.2004 — JSB

146 *Nemophora cupriacella* (Hübn.) — Queens Wood, Kempley SO6627 (36) 24.vii.2004, first county record for 100 years — MWH

149 *Adela cuprella* ([D. & S.]) — Harlech SH5832 (**48**) 2.v.2004 — ANG & JEG

151 *A. croesella* (Scop.) — Selly Oak SP0482 (**38**) 7.v.2003 — N. Gregory *per* NJS

153 *A. fibulella* ([D. & S.]) — Great Cornard TL8939 (**26**) 23.v.2004 — JBH, AJM & S. Read

HELIOZELIDAE

156 *Heliozela resplendella* (Staint.) — Wester Glernerney NJ0046 (**95**) vacated mines on *Alnus glutinosa* 5.x.2004 — DW

PSYCHIDAE

175 *Narycia monilifera* (Geoff.) — Swithland Reservoir SK5514 (**55**) larval case 27.iii.2004, moth bred — MPS; Craighall Gorge NO1748 (**89**) cases 27.iii.2004, moths bred — KPB

TINEIDAE

196 *Morophaga choragella* ([D. & S.]) — Hall Green (**37**) 13.vi.2003 — A. Prior *per* ANBS; Boultbee's Wood SP2584 (**38**) 14.vi.2004 — NJS

199 *Psychoides verhuella* Bruand — Medmenham SU7984 (**24**) larvae on *Phyllitis scolopendrium* 1.v.2004, moths bred — IRS; Kippenrait Glen NS7999 (**86**) larval workings on *Asplenium trichomanes* 23.x.2004 — KPB

200 *P. filicivora* (Meyrick) — Ashton on Ribble, Preston SD521309 (**59**) 25.v.2004, det. JRL — A Bunting *per* SMP; Lancaster SD4861 (**60**) larva on *Phyllitis scolopendrium* 23.iv.2004 — R. Homan *per* SMP; Mullingar (**H23**) 19.vi.2004 — RJH; nr Cookstown (**H36**) larvae on *Phyllitis scolopendrium* 16.xi.2004, moths bred — MRY

203 *Infurcitinea argentimaculella* (Staint.) — Caerwent ST4891 (**35**) 18.vii.2004 — SDSB; Cardiff ST1772 (**41**) imagines and larval tubes on *Lepraria* sp. 6.vii.2004 — DJS

217 *Nemapogon wolffiella* Karsh. & Niels. — Nantgwyn SN3623 (**44**) 11.vi.2004 — JSB

218 *N. variatella* (Clem.) — Clumber Park SK6275 (**56**) 12.vi.2004, genitalia det. HEB — A. Godfrey *per* HEB

221 *N. picarella* (Clerck) — Spey Bay NJ3464 (**94**) larvae on *Piptoporus betulinus* 18.iii.2004, moths bred — A.W. Ewing *per* RMP

225 *Triaxomera fulvimitrella* (Sodof.) — Hambledon SU9637 (17) 8.vi.2004, first county record since VCH — GAC, JP, RMP, JRL *et al.*

226 *Triaxomasia caprimulgella* (Staint.) — Ledbury Park SO7137 (**36**) 17.vii.2004 — MWH

231 *Monopis imella* (Hübn.) — Orford Ness NNR TM4349 (**25**) 15.viii.2004 — JBH & M. Marsh; Warren Hills SK4515 (**55**) 5.ix.2004 — AJM & K. Tailby

233 *M. fenestratella* (Heyd.) — Stanway TL9425 (**19**) 10.vi.2004 — D. Owen & BG

238 *Niditinea striolella* (Mats.) – Grewelthorpe (Hackfall Woods) SE2377 (**64**) in nest boxes 24.vi.2004, det. HEB — CHF

240 *Tinea pellionella* Linn. — Trestra, Mainland of Shetland HU3551 (**112**) 21.viii.2004 — N. Riddiford *per* MRY

247 *T. trinotella* Thunb. — Torroy NH5497 (**106**) 28.v.2004 — DW; Cronykeery T2998 (**H20**) 4.vi.2004 — AT

BUCCULATRICIDAE

266 *Bucculatrix nigricomella* Zell. — Rushmere St Andrew TM2043 (**25**) 21.vii.2004 — JBH; Earith TL3975 (**31**) 3.viii.2004 — D. Griffiths *per* BD

271 *B. albedinella* Zell. — Brechfa Forest SN5133 (**44**) 26.vi.2004 — JSB & D. Grundy

272 *B. cidarella* Zell. — Glenbeg NJ0127 (**95**) vacated mines on *Alnus glutinosa* 5.x.2004 — DW

273 *B. thoracella* (Thunb.) — Arthog SH6516 (**48**) 6.vii.2004 — M. Hull & M.J. Hammett *per* ANG

274 *B. ulmella* Zell. — Ard Airigh NM7461 (**97**) vacated mines on *Quercus* 19.x.2004 — DW

275 *B. bechsteinella* (Bech. & Scharf.) — Nun Monkton SE5157 (**64**) mines on *Crataegus monogyna* 7.x.2004, det. HEB — CHF

276 *B. demaryella* (Dup.) — Corngafallt SN9364 (**42**) vacated mine and moulting-cocoon on *Betula pubescens* 19.ix.2004 — NRL & JRL; Glenbeg NJ0127 (**95**) vacated mines on *Betula* 5.x.2004 — DW

DOUGLASIIDAE

398 *Tinagma ocnerostomella* (Staint.) — Landguard TM2831 (**25**) 15.vi.2004 — JBH & M. Marsh; Crabby Bay, Alderney WA5703 (**113**) bred from stems of *Echium vulgare* gathered 14.v.2004, det. PHS — PDMC

399 *T. balteolella* (F. v. R.) — Beckton Gasworks TQ4481 (**18**) 17.v.2004 — CWP, *Ent. Rec.* **116**: 231-233

ROESLERSTAMMIIDAE

447 *Roeslerstammia erxlebella* (Fabr.) — Torroy NH5497 (**106**) 28.v.2004 — DW

GRACILLARIIDAE

285 *Caloptilia azaleella* (Brants) — Newmarket TL6365 (**26**) – spinnings on *Azalea* cultivar 30.iii.2004, conf. AWP — P. Bryant *per* AWP

287 *C. robustella* Jäckh — Henallt SO2340 (**42**) 2.viii.2004 — NRL; Arthog SH6515 (**48**) 24.vii.2004, genitalia det. ANG — ANG & JEG

289 *C. falconipennella* (Hübn.) — Cockayne Hatley TL2549 (**30**) in Rothamsted trap 23-29.iv.2004, genitalia det. — DVM; Llangynidr SO1520 (**42**) larval spinnings on *Alnus glutinosa* 5.viii.2004 — JRL

290 *C. semifascia* (Haw.) — Bonny Wood TL8187 (**25**) spinnings on *Acer campestre* 12.ix.2004 — AWP

294 *Aspilapteryx tringipennella* (Zell.) — Cronykeery T2998 (**H20**) 13.v.2004 — AT

300 *Parornix loganella* (Staint.) — Arthog SH6616 (**48**) 6.vii.2004, genitalia det. ANG — ANG & JEG

303 *P. anglicella* (Staint.) — by Loch Eil NN0678 (**97**) vacated spinnings on *Crataegus monogyna* 18.x.2004; near Kilbeg NG6406 (**104**) vacated spinnings on *Crataegus monogyna* 14.x.2004 — DW

304 *P. devoniella* (Staint.) — Tovakaig NG6112, Gillean Burn NG5908 and Camas nam Mult NG7014 (**104**) vacated mines and folds on *Corylus avellana* 14.x.2004 — DW

309 *P. torquillella* (Zell.) — Stoke, Hayling Island SU7102 (11) 23.viii.2003, genitalia det., first record of a second brood in Britain — B. Elliott & JRL

311a *Dialectica scalariella* (Zell.) — Kingsdown TR3848 (**15**) 27.ix.2004, det. DJLA — F. Solly *per* DJLA, *Ent. Rec.* **117**: 95-96. **New to the British Isles**

318 *Phyllonorycter tenerella* (Joann.) — Yardley Chase SP8354 (**32**) mine on *Carpinus*, with pupal exuviae, 16.ix.2004 — DVM

321a *P. platani* Staud. — Newport SZ5090 (**10**) mines on *Platanus* 27.ix.2004 — DTB; Chichester SU8605 (**13**) mines 15.ix.2004 — SJP; Broadcampton SP1637 (**33**) mines 27.x.2004 — J. Clayton *per* KPB; Hereford SO5139 (**36**) mines 10.ix.2003; Coventry SP3276 (**38**) mines 30.x.2004 — NJS

322 *P. muelleriella* (Zell.) — Nantgwyn SN3623 (**44**) 5.vi.2004 — JSB

323 *P. oxyacanthae* (Frey) — Kirkton NJ0226 (**95**) mines on *Crataegus monogyna* 5.x.2004; Strontian NM8162 (**97**) mines on *Crataegus monogyna* 19.x.2004 — DW

324 *P. sorbi* (Frey) — Ashdown Forest TQ4230 (**14**) mine on *Sorbus aucuparia* 15.vii.2004, moth bred and genitalia det. — GAC

332a *P. leucographella* (Zell.) — Llanymynech Rocks SJ2621 (**40**) mines on *Crataegus* 24.vii.2004 — SHH; Llangattock SO2017 (**42**) mines on *Pyracantha* 29.vi.2004 — JRL; Minera SJ2652 (**50**) mines on *Pyracantha* and *Crataegus* 16.x.2004 — SHH & B. Formstone

333 *P. salictella* Zell. — Farnham Gravel Pit SE3559 (**64**) mines on *Salix* sp. 30.x.2003, moths bred, det. HEB — CHF

335 *P. salicicolella* (Sirc.) — Balnacoil NC7810 (**107**) mines on *Salix aurita* 29.x.2003, moth bred — DW

336 *P. dubitella* (H.-S.) — Chorlton SJ8192 (**59**) mine on *Salix caprea* 4.vii.2004, moth bred — B. Smart *per* SMP; Ellington Banks MoD SE2773 (**64**) mines on *Salix caprea* 20.ix.2003, moth bred, det. HEB — CHF

339 *P. ulicicolella* (Staint.) — Ashdown Forest TQ4731 (**14**) 14.vi.2004 — GAC

344 *P. strigulatella* (L. & Z.) — Stone TQ5774 (**16**) mines on *Alnus incana* 22.x.2004, moths bred — DJLA & JRL; Eaton Ford TL1760 (**30**) mines on *Alnus incana* 18.x.2004 — DVM; Farnham Gravel Pit SE3559 (**64**) mines on *Alnus incana* 30.x.2003, moths bred, det. HEB — CHF

345 *P. rajella* (Linn.) — Kirkton NJ0226 (**95**) mines on *Alnus glutinosa* 5.x.2004 — DW

351 *P. lautella* (Zell.) — Talybont Reservoir SO1020 (**42**) mines on *Quercus petraea* 1.xi.2004 — JRL

352 *P. schreberella* (Fabr.) — Coed Gwempa SN4311 (**44**) mine on *Ulmus* sp. 24.ix.2004 — JSB

354 *P. emberizaepenella* (Bouché) — Coed Gwempa SN4311 (**44**) mine on *Lonicera* 24.ix.2004 — JSB

359 *P. nicellii* (Staint.) — Wester Glernerney NJ0045 (**95**) mines on *Corylus avellana* 5.x.2004 — DW

360 *P. kleemannella* (Fabr.) — Tovakaig NG6112 (**104**) mines on *Alnus glutinosa* 14.x.2004 — DW

363 *P. platanoidella* (Joann.) — Talybont Forest SO1020 (**42**) mines on *Acer platanoides* 1.xi.2004 — JRL

366a *Cameraria ohridella* Deschk. & Dim. — Blandford Forum ST8807 (**9**) mines on *Aesculus* 8.x.2004 — IRS; Ventnor SZ5476 (**10**) tenanted mine15.ix.2004 — DTB; Portsmouth SU6604 (**11**) tenanted mines 30.viii.2004, moths bred — JRL; Southwood SU8455 (**12**) mines 27.vi.2004 — RDE, *Ent. Rec.* **116**: 229-229; Chichester SU8404 (**13**) mines 25.ix.2004 — SJP; Hainault Forest TQ4793 (**18**) mines 8.ix.2004 — IRS; Waltham Abbey TL3801 (**19**) mines 24.ix.2004 — M. Hanson & BG; Ipswich TM2043 (**25**) tenanted mines 5.viii.2004 — N. Sherman *per* AWP; Hintlesham TM0643 (**26**) tenanted mines 7.viii.2004 — N. Sherman & G. Bull *per* AWP; Surlingham TG3006 (**27**) mines viii.2004 — A. Musgrove *per* KS; Thetford TL8782 (**28**) mines 8.x.2004 — L. Gregory *per* KS

367 *Phyllocnistis saligna* (Zell.) — Melton TM2955 (**25**) mines on *Salix* sp. 29.viii.2004, det. AWP — N. Sherman *per* AWP; Tewkesbury (37) mines on *Salix purpurea* & *S. fragilis* ix. 2004, first county record since 19th C. — R. Homan *per* ANBS

369 *P. xenia* Hering — South Norwood TQ6834 (**17**) mines on *Populus nigra* 26.vi.2004, moths bred, new foodplant record — MB; Norwich TG2308 (**27**) mines on *Populus alba* 8.vii.2004 — A.G. Irwin *per* JC

CHOREUTIDAE

387 *Prochoreutis sehestediana* (Fabr.) — Wintersett Country Park SE3815 (**63**) 6.vi.2004, genitalia det. HEB — P. Smith *per* HEB

388 *P. myllerana* (Fabr.) Gight NJ8238 (**93**) larvae on *Scutellaria galericulata* 27.v.2004, moths bred — MRY

389 *Choreutis pariana* (Cl.) — Meriden Shafts SP2683 (**38**) 26.ix.2004 — NJS

GLYPHIPTERIGIDAE

391 *Glyphipterix simpliciella* (Steph.) — Monawilkin H0853 (**H33**) 21.vi.2004 — RJH

395 *G. haworthana* (Steph.) — Crymlyn Bog SS6894 (**41**) 9.v.2004 — DJG

397 *G. thrasonella* (Scop.) — Craignagore H6776 and Cregganconroe H6575 (**H36**) 21.vi.2004 — RJH

YPONOMEUTIDAE

409a *Argyresthia trifasciata* Staud. — Ashdown Forest TQ4432 (**14**) 14.vi.2004 — GAC; Studham TL0217 (**30**) 14.vi.2004 — C.R.B. Baker *per* DVM; Bewdley SO7875 (**37**) 1.vii.2003 — M. Flack *per* ANBS; Hadfield SK0196 (**57**) 9.vi.2004, det. SHH — P. Greenall *per* SHH; Broughty Ferry NO4631 (**90**) 10.vi.2004 — J. Clayton *per* KPB

409b *A. cupressella* Wals. — Plympton SX5255 (**3**) 14.vi.2004, det. MFVC — CL; Stoke Prior (**37**) 1.vii.2004 — J. Rush *per* ANBS

416 *A. glaucinella* Zell. — Coed Gwempa SN4311 (**44**) 28.vi.2004 — JSB

427 *Yponomeuta cagnagella* (Hübn.) — Balchrystie NO4502 (**85**) larval webs on *Euonymus* 7.vi.2004 — KPB

428 *Y. rorrella* (Hübn.) — Llangynidr SO1520 (**42**) 5.viii.2004 — JRL; Kilnsea & Spurn TA4115 (**61**) seventy-two between 11.viii and 31.viii.2004 — B.R. Spence *per* HEB

429 *Y. irrorella* (Hübn.) — Icklesham TQ8815 (**14**) 4.viii.2004, det. MSP — I. Hunter *per* SJP

431 *Y. sedella* Treits. — Pool Hill, Newent SO7329 (**34**) vii.2004, det MWH — M. Bradley *per* RGG

435 *Zelleria hepariella* Staint. — Baildon SE1538 (**64**) 1.viii.2004, det. HEB — D. Parkinson *per* HEB

439 *Swammerdamia compunctella* (H.-S.) — Foxglove Covert, Catterick SE1697 (**65**) 11.vi.2004, det. HEB — J.C. Warwick, S.P. Worwood & CHF

440 *Paraswammerdamia albicapitella* (Scharf.) — Bishop Monkton SE3465 (**64**) 17.vii.2004, det. HEB — D.J. & D.M. Bowers *per* CHF

445 *Ocnerostoma friesei* Svens. — Kimbolton TL0968 (**31**) 14.viii.2004 — BD & W. Caress

450 *Scythropia crataegella* (Linn.) — Bwlch SO1422 (**42**) 5.ix.2004 — NRL

468 *Rhigognostis incarnatella* (Steud.) — Newport SN0538 (**45**) 29.vi.2004 — A.D. Lewis *per* RE, **New to Wales**; Mortlach Moss, Bin Forest NJ5044 (**93**) 30.v.2004 — MRY

473 *Acrolepiopsis assectella* (Zell.) — Oxford SP5307 (**23**) 3.iv.2004 — CL; Fair Isle HZ27 (**112**) 15.vi.2004 —MRY

476 *Acrolepia autumnitella* Curt. — Ravenstone Road Copse SP8553 (**32**) tenanted mines on *Solanum dulcamara* 2.ix.2004 — DVM

LYONETIIDAE

264 *Bedellia somnulentella* (Zell.) — Cuddy Hill SD4938 (**60**) vacated mines on *Calystegia sepium* 15.ix.2004 — SMP

COLEOPHORIDAE

491 *Coleophora gryphipennella* (Hübn.) — Alva Glen NS8898 (**87**) cases on *Rosa* sp. 8.ix.2004 — KPB

503 *C. fuscocuprella* H.-S. — Rahugh Ridge N3832 (**H23**) two cases on *Corylus avellana* 18.vi.2004, both parasitized, which accounts for the prolonged larval feeding time over from the previous year — RJH

511 *C. orbitella* Zell. — Winmarleigh Moss SD4347 (**60**) case on *Betula pubescens* 9.x.2004 — SMP; Windy Hills, Fyvie NJ3783 (**93**) case on *Betula* 3.x.2004 — MRY; Glenbeg NJ0127 (**95**) cases on birch saplings 5.x.2004; Loch a Chuilinn NH2861 and Grudie NH3061 (**106**) cases on birch saplings 19.x.2003; Torboll NH7498 (**107**) cases on birch scrub 2.x.2003 — DW

512 *C. binderella* (Koll.) — Crowcombe Heathfield ST1333 (**5**) case on *Alnus glutinosa* 26.v.2004 — JAMcG

517 *C. alcyonipennella* (Koll.) — Stoke Prior SO9567 (**37**) 26.viii.2003 — J. Rush *per* ANBS; Studley Roger SE2971 (**64**) 28.v.2004, det. HEB — D.J. & D.M. Bowers *per* CHF

517a *C. frischella* (Linn.) — West Sedgemoor ST3424 (**5**) 25.v.2004, genitalia det. JC — JAMcG; Sandbanks TF4692 (**54**) 27.v.2004, genitalia det. — MSP

519 *C. deauratella* L. & Z. — Llangynidr SO1520 (**42**) 29.vi.2004 — JRL

520 *C. fuscicornis* Zell. — Ewarton TM2234 (**25**) 6.vi.2004 — AWP

536 *C. betulella* Hein. — Harlech SH5832 (**48**) cases on *Betula pubescens* 2.v.2004, det. JRL from photo of cases & larva — ANG & JEG

544 *C. albicosta* (Haw.) — Jones's Covert TL1693 (**31**) 16.v.2004 — BD

545 *C. saturatella* Staint. — Ipswich TM2043 (**25**) 14.vii.2004, genitalia det. JC — N. Sherman *per* AWP

546 *C. genistae* Staint. — Clophill TL0837 (**30**) 14.vii.2004, genitalia det. DVM — L.J. Hill *per* DVM

553 *C. striatipennella* Nyl. — Ripon Parks SE3075 (**64**) 23.vii.2004, det. HEB — J.C. Warwick, S.P. Worwood & CHF

556 *C. trochilella* (Dup.) — Markfield SK4910 (**55**) 10.viii.2004, genitalia det. — AJM

560 *C. paripennella* Zell. — Rahugh Ridge N3832 (**H23**) case on *Centaurea nigra* 18.vi.2004 — RJH

561 *C. therinella* Tengst. — Tilshead SU0247 (**8**) 2.viii.2004, genitalia det. JRL — JP

565 *C. saxicolella* (Dup.) — Eye TM1473 (**25**) 5.viii.2004, genitalia det. N. Whinney — P. Kitchener *per* AWP

566 *C. sternipennella* (Zett.) — Clare Island L7184 (**H27**) 8.vii.2003, genitalia det. — KGMB, *Ent. Gaz.* **56**: 65, **New to Ireland**

573 *C. atriplicis* Meyr. — Crossens Marsh, Southport SD3520 (**59**) 5.vii.2004, genitalia det. — SMP

577 *C. artemisicolella* Bruand — Kirby Muxloe SK5203 (**55**) 22.vii.2003, genitalia det. AJM — J.R. McPhail *per* MPS

581 *C. taeniipennella* H.-S. — Minsmere TM4767 (**25**)10.vi.2004, genitalia det. JBH — R. Harvey & JBH; Fair Isle HZ27 (**112**) 8.vii.2004, genitalia det. — MRY

583 *C. tamesis* Waters — Minsmere TM4767 (**25**) 28.vi.2004, genitalia det. JBH — R. Harvey *per* JBH; Crianlarich NN3725 (**88**) 26.vi.2004, genitalia det. JRL — SEM

ELACHISTIDAE

594 *Elachista gleichenella* (Fabr.) — Rahugh Ridge N3832 (**H23**) 18.vi.2004 — RJH

601a *E. nobilella* Zell. — White Downs TQ14J (tetrad) (**17**) 5.vi.2003, genitalia det. — GAC, *Ent. Rec.* **117**: 133-137. **New to the British Isles**

603 *E. subnigrella* Dougl. — Regent's Park TQ2883 (**21**) 22.v.2004, genitalia det. — T. Freed *per* AMD

607 *E. canapennella* (Hübn.) — Monawilkin H0853 (**H33**) 21.vi.2004 — RJH

609 *E. maculicerusella* Bruand — Llangynidr SO1520 (**42**) mines, one tenanted, on *Phalaris arundinacea* 18.ix.2004 — JRL; Nosterfield NR SE2779 (**65**) 11.viii.2004, det. HEB — J.C. Warwick & CHF

617 *E. megerlella* (Hübn.) — Bookham Common TQ1256 (17) 7.vii.2004, genitalia det., first county record since VCH — GAC

620 *E. gangabella* Zell. — Ketton Quarry SK9705 (**55**) 5.vi.2004, det. AJM — APR & MPS

621 *E. subalbidella* Schl. — Dingestow Court SO4509 (**35**) 5.vi.2004 — SDSB

622 *E. adscitella* Staint. — Botany Bay SU9834 (17) 15.vi.2004, first record since VCH — AMD

624 *Biselachista trapeziella* (Staint.) — Berriedale ND1222 (**109**) tenanted mines on *Luzula sylvatica* 24.v.2004, moth bred — DW

628 *B. eleochariella* (Staint.) — Warre Wood SY5983 (**9**) 15.6.2004, genitalia det. — PHS

629 *B. utonella* (Frey) — Bishop Monkton SE3465 (**64**) 28.vii.2004, det. HEB — D.J. & D.M. Bowers *per* CHF

630 *B. albidella* (Nyl.) — Ashdown Forest TQ4527 (**14**) 13.vii.2004, genitalia det. — GAC

631 *Cosmiotes freyerella* (Hübn.) — Preston Montford SJ4314 (**40**) 25.vii.2004 — SHH; Carmel Woods SN5916 (**44**) 18.v.2004 — JSB

632 *C. consortella* (Staint.) — Minsmere TF4666 (**25**) viii.2004, genitalia det. JC — G. Lyons *per* JC

633 *C. stabilella* (Staint.) — Arthog SH6516 (**48**) 5.viii.2004, genitalia det. ANG — ANG & JEG

OECOPHORIDAE

638a *Denisia albimaculea* (Haw.) — Warre Wood SY5983 (**9**) 2.vi.2004 — PHS

642 *Batia unitella* (Hübn.) — Llangynidr SO1520 (**42**) 5.viii.2004 — JRL; Brechfa Forest SN5133 (**44**) 26.vi.2004 — D. Grundy *per* JSB

642a *Metalampra italica* Baldizzone — Plympton SX5457 (3) 7.viii.2004, at light, the second specimen of this species taken in RJH's garden, the first was on 16.viii.2003 and was the first British record of the species which hitherto was believed to be endemic to Italy — RJH; Welwyn TL2417 (**20**) two on 28.vii.2004 and another one 'about a week later' — RJWU

645 *Borkhausenia minutella* (Linn.) — Les Effards, St Sampson, Guernsey WV3381 (113) 6 & 13.vi.2004; La Garenne, St. Sampson, Guernsey WV3181 (113) 14.vi.2004 — M.P. Lawlor *per* PDMC

656 *Tachystola acroxantha* (Meyr.) — Cheltenham SO9424 (**33**) 11.vi.2004 — R. Homan *per* RGG

877 *Stathmopoda pedella* (Linn.) — Bishops Stortford TL4822 (**20**) 8.viii.2004, det. CWP — J. Fish & J. Reeves *per* CWP; Bransford (**37**) 14.vii.2004 — ANBS

660 *Pseudatemelia josephinae* (Toll) — Cors Bodgynydd SH7659 (**49**) 18.vi.2004, genitalia det. — AMD

671 *Depressaria ultimella* Staint. — Kate's Bridge TF1015 (**53**) 10.v.2004, genitalia det. C. Smith — RWG

674 *D. badiella* (Hübn.) — Ellington Banks MoD SE2773 (**64**) 3.ix.2004, det. HEB — J.C. Warwick, S.P. Worwood & CHF; Newtonmore NN7298 (**96**) larva on *Hypochoeris radicata* 24.vii.2004, moth bred — RJH

678 *D. sordidatella* Tengst. — Puddletown SY7695 (9) 29.vii.2004, genitalia det. PHS, first county record for over 100 years — H. Wood Homer *per* PHS; Molesworth TL0877 (**31**) 13.vii.2004, genitalia det. BD — K. Royles *per* BD; Dingestow Court SO4509 (**35**) 17.vii.2004 — SDSB

690 *Agonopterix cnicella* (Treitschke) — Saye Bay, Alderney WA5909 (**113**) larva on *Eryngium maritimum* 15.v.2004, moth bred — PHS

691 *A. purpurea* (Haw.) — Ufton Fields SP3751 (**38**) 21.viii.2004 — A. Prior & V. Weston *per* NJS

695 *A. alstromeriana* (Cl.) — Legar SO2117 (**42**) 30.iv.2004 — J.M. & M.P. Rees *per* NRL; Cronykeery T2998 (**H20**) 31.iii.2004 — AT

696 *A. propinquella* (Treits.) — Pamphill Moor ST9900 (9) found dead in grain store 19.vi.2004, genitalia det., first county records for over 100 years — PHS

704 *A. scopariella* (Hein.) — Alsager SJ8154 (**58**) 23.viii.2004, genitalia det. — M. Dale *per* SHH

706 *A. nervosa* (Haw.) — Dunbeath ND1530 (**109**) 27.vii.2003 — DW

ETHMIIDAE

717 *Ethmia terminella* Fletcher — Landguard Bird Observatory TM2831 (**25**) twenty-three between 9.vi and 18.vii.2004 — N. Odin *et al. per* AMD

720 *E. bipunctella* (Fabr.) — Kingsham (**13**) 9.viii.2003 — SJP

GELECHIIDAE

724 *Metzneria lappella* (Linn.) — Swallow Cliff ST3266 (**6**) larvae in seedheads of *Arctium lappa* 13.iii.2004, moth bred — RJH

726 *M. metzneriella* (Staint.) — Somerton SM9300 (**45**) larva in seedhead of *Centaurea nigra* 11.i.2004 — D. Harries *per* RE

729 *Isophrictis striatella* ([D. & S.]) — Cheshunt TL3503 (**20**) 15.vii.2004, genitalia det. CWP — M Cooper *per* CWP; Rushmere St Andrew TM2043 (**25**) 24.vii.2004 — JBH; Yaxley TL1791 (31) 22.vii.2004, genitalia det. DVM, first county record for over 120 years — A. Frost *per* DVM; Stoke Prior (**37**) 6.vi.2004 — J. Rush *per* ANBS

733 *Eulamprotes wilkella* (Linn.) — Weybridge TQ0864 (17) 28.vi.2004, first county record since VCH — ARM

735 *Monochroa tenebrella* (Hübn.) — Markfield SK4910 (55) 21.vii.2004, genitalia det., first county record since VCH — AJM

736 *M. lucidella* (Steph.) — Lye Valley SSSI SP5405 (**23**) 6.vii.2004 — CL

737 *M. palustrellus* (Dougl.) — Earith TL3075 (31) 9.vii.2004, det. BD, first county record for over 120 years — D. Griffiths *per* BD

740 *M. hornigi* (Staud.) — Shaggs SY8583 (**9**) 2.viii.2004 — MSP; Ringstead Downs TF6940 (**28**) 29.vi.2004, genitalia det. — JC

741 *M. suffusella* (Dougl.) — Saltfleetby NNR TF4693 (**54**) 27.v.2004 — AMD & MSP

742 *M. lutulentella* (Zell.) — Bishop Monkton SE3465 (**64**) 10.vii.2004, det. HEB — D.J. & D.M. Bowers *per* CHF

752 *Aristotelia ericinella* (Zell.) — Rushmere St Andrew TM2043 (**25**) 6.viii.2004 — JBH

753 *A. brizella* (Treits.) — St Peters, Guernsey WV2578 (**113**) 21.vii.2004, det. PHS — PDMC

777 *Bryotropha basaltinella* (Zell.) — Folksworth TL1490 (**31**) 28.v.2004, det. DVM — A. Frost *per* BD

781 *B. umbrosella* (Zell.) f. *mundella* (Dougl.) — Coull Links NH8194 (**107**) 23.vi.2003 — RJH

783 *B. boreella* (Dougl.) — Cors y Sarnau SH9738 (**48**) 19.vii.2004, genitalia det. ANG — M. Hull & M.J. Hammett *per* ANG, **New to Wales**

786 *B. desertella* (Dougl.) — Catworth TL0872 (**31**) 6.viii.2004, genitalia det. BD — K. Royles *per* BD

788 *B. politella* (Staint.) — Monawilkin H0853 (**H33**) 21.vi.2004, genitalia det. — RJH

789 *B. domestica* (Haw.) — Hutton Conyers SE3273 (**65**) 7.viii.2004, det. HEB — CHF

756 *Parachronistis albiceps* (Zell.) — Ashill ST3319 (**5**) 16.vii.2004 — JAMcG

762 *Athrips mouffetella* (Linn.) — Maes yr Haf SN0538 (**45**) 26.vii.2004 — A.D. Lewis *per* RE

776 *Teleiopsis diffinis* (Haw.) — Ashdown Forest TQ4528 (**14**) 28.viii.2004, genitalia det. — GAC

803 *Gelechia muscosella* Zell. — Belton TG4803 (**25**) 16.vii.2004, genitalia det. JC — AWP

806 *G. nigra* (Haw.) — Clifton Wood ST5712 (9) 14.vii.2004, first county record for over 100 years — J. Astley, P. Butter & P. Davey, *per* PHS

813 *Scrobipalpa salinella* (Zell.) — Flint Castle Saltings SJ2473 (**51**) larvae on *Aster tripolium* and *Suaeda maritima* 11.v.2004, moths bred; Heswall SJ2580 (**58**) larvae on *Aster tripolium* and *Salicornia* sp. 11.v.2004, moths bred — IFS; Crossens Marsh, Southport SD3520 (**59**) larval mine on *Aster tripolium* 2.v.2004, moth bred, genitalia det. — SMP

815 *S. nitentella* (Fuchs) — Ythan Estuary NK0026 (**93**) 30.v.2004; Tarlair NJ7264 (**94**) 29.vi.2004, genitalia det. — MRY

819 *S. costella* (H. & W.) — Cronykeery T2998 (**H20**) 5.i.2004 — AT

820 *S. artemisiella* (Treits.) — N. of Dornoch Firth Bridge NH7497 (**107**) 23.vi.2003 — RJH

821 *S. murinella* (Herr.-Schäff.) — Monawilkin H0853 (**H33**) larvae in leaves and shoots of *Antennaria dioica* 19 & 21.vi.2004, moths bred — RJH

822 *S. acuminatella* (Sirc.) — Lerwick HU4641 (**112**) mines on *Cirsium palustre* 3.vi.2004 — KPB

826 *Caryocolum vicinella* (Dougl.) — Tarlair, Macduff NJ7264 (**94**) 29.vi.2004 — MRY

832 *C. blandella* (Dougl.) — Llangorse SO1327 (**42**) 25.viii.2004 — NRL; Hutton Conyers SE3273 (**65**) 7.viii.2004, det. HEB — CHF

839 *Nothris congressariella* (Bruand) — Portland Bird Observatory SY6868 (**9**) 3.ix.2004 — M. Cade *per* PHS

841 *Sophronia semicostella* (Hübn.) — Caerwent ST4891 (**35**) 18.vii.2004 — SDSB

843 *Aproaerema anthyllidella* (Hübn.) — Yaxley TL1791 (**31**) 1.viii.2004, det. DVM — A. Frost *per* BD; Nosterfield NR SE2779 (**65**) 11.viii.2004, det. HEB — CHF

844 *Syncopacma larseniella* (Gozm.) — Oversley Wood SP1056 (**38**) 20.vii.2004, genitalia det. — NJS

849 *S. cinctella* (Clerck) — Flixton SJ741938 (**59**) 28.vi.2004, fascia obsolete, ♂ genitalia det SMP — K. McCabe *per* SMP

854 *Anacampsis blattariella* (Hübn.) — Scuthorpe Moor TF9030 (**28**) 6.viii.2004, genitalia det. — JC

858 *Hypatima rhomboidella* (Linn.) — Sharpthorne TQ3732 (**14**) 27.vii.2004 — PC

864 *Dichomeris ustalella* (Fabr.) — Shorn Cliff ST5499 (**34**) 3.vi.2004 — MSP & RGG

866 *Brachmia blandella* (Fabr.) — Llangynidr SO1520 (**42**) 4.viii.2004 — JRL

808 *Platyedra subcinerea* (Haw.) — Clophill TL0837 (**30**) 29.v.2004, genitalia det. DVM — L.J. Hill, *Ent. Rec.* **116**: 225

840 *Thiotricha subocellea* (Steph.) — Caerwent ST4891 (**35**) 18.vii.2004 — SDSB

BLASTOBASIDAE

873 *Blastobasis lignea* Wals. — Llangynidr SO1520 (**42**) 4.viii.2004 — JRL

BATRACHEDRIDAE

878 *Batrachedra praeangusta* (Haw.) — Inchmarlo NO6796 (**91**) 13.vii.2004 — C.W.N. Holmes *per* RMP

MOMPHIDAE

889 *Mompha divisella* H.-S. — Felindre Farchog SN1039 (**45**) 24.ix.2004, genitalia det. MSP — J. Atkinson *per* MSP

889a *M. bradleyi* Riedl — Enderby Quarry SP5399 (**55**) 18.v.2004, genitalia det. AJM — AJM & MPS

891 *M. sturnipennella* (Treits.) — Dingestow Court SO4509 (**35**) 9.iv.2004 — SDSB

COSMOPTERIGIDAE

894 *Cosmopterix zieglerella* (Hübn.) — St Cross SU4727 (**11**) vacated nines on *Humulus* 20.ix.2004, det. RDE — THW

896b *C. pulchrimella* Chambers — Church Cove SW7112 (**1**) tenanted mines on *Parietaria judaica* 28.x.2004, moths bred — MSP; Portloe SW9339 (**2**) tenanted mines 2.i.2004, moths bred — PHS, *Ent. Gaz.* **55**: 118; Staplegrove ST2126 (**5**) 3.xi.2004, det. PHS — JAMcG

898 *Limnaecia phragmitella* Staint. — Eswick HU4853 (**112**) 10.viii.2004, det. JC — R. Terry *per* JC; nr Arigna, Lough Allen (**H29**) larvae in heads *of Typha* 19.vi.2004, moths bred; Doagh Lough H0752 (**H33**) larvae in heads of *Typha* 20.vi.2004, moths bred — RJH

907 *Dystebenna stephensi* (Staint.) — Stour Wood TM1931 (**19**) 16.vii.2004 — AMD

908 *Sorhagenia rhamniella* (Zell.) — Aldbury Nowers SP 9512 (**20**) 24.vii.2004, genitalia det. — CWP

SCYTHRIDIDAE

918 *Scythris limbella* (Fabr.) — Stoke Prior (37) 6.vi.2004, first county record since 19th C. — J. Rush *per* ANBS

920a *S. inspersella* (Hübn.) — Bawtry Forest SK6395 (**63**) 17.vii.2004 — R.I. Heppenstall *per* HEB

TORTRICIDAE

925 *Phtheochroa rugosana* (Hübn.) — Hutton Conyers SE3273 (**65**) 31.v.2004, det. HEB — CHF

951 *Aethes beatricella* (Wals.) — Weybridge TQ0864 (**17**) 14.vii.2004 — ARM

955 *Eupoecilia ambiguella* (Hübn.) — Spurn TA4111 (**61**) 7.viii.2004 — M.J. Coverdale *per* HEB

960 *Falseuncaria ruficiliana* (Haw.) — Thorpe Hall, Rudston TA1067 (**61**) 24.v.2004, det. HEB — A.S. Ezard *per* HEB

962 *Cochylis roseana* (Haw.) — Irlam SJ7293 (**59**) larvae in head of *Dipsacus fullonum* 28.iii.2004, moths bred — K. McCabe *per* SMP

964 *C. dubitana* (Hübn.) — Culbin Sands NH9964 (**95**) 12.viii.2004 — MRY

964a *C. molliculana* Zell. — Hawford (**37**) 7.vi.2003 — J. Rush *per* ANBS

987 *Ptycholomoides aeriferanus* (H.-S.) — Henallt SO2340 (**42**) 2.viii.2004 — NRL; Ellington Banks MoD SE2773 (**64**) 21.vii.2004, det. HEB — CHF

991 *Clepsis senecionana* (Hübn.) — Holt Heath SU0504 (9) 4.viii.2004, first county record for over 100 years — SMP

994 *C. consimilana* (Hübn.) — Inchmarlo NO6796 (**91**) 14.vii.2004 — C.W.N. Holmes *per* RMP

998 *Epiphyas postvittana* (Walk.) — Broughty Ferry NO4631 (**90**) 4.vi.2004 — J. Clayton *per* KPB

1002 *Lozotaenia forsterana* (Fabr.) — Windyhills, Fyvie NJ7999 (**93**) 17.vii.2004 — C.J. Harlow *per* MRY; Granish Moor NH9015 (**95**) 24.vii.2004 — RJH; Tarlogie Wood NH7582 (**106**) 28.vi.2004 — DW

1016 *Cnephasia longana* (Haw.) — Preston Montford SJ4314 (**40**) 23.vii.2004, genitalia det. AMD — M. Bailey *per* SHH; Llangorse SO1327 (**42**) 4.viii.2004 — NRL

1018 *C. communana* (H.-S.) — Cockayne Hatley TL2549 (30) in Rothamsted trap 4 - 10.vi.2004, first county record since VCH, genitalia det. — DVM; Boultbee's Wood SP2584 (**38**) 14.vi.2004, genitalia det. — NJS

1026 *Exapate congelatella* (Cl.) — Beinn Vrackie NN9662 (**89**) xi.2004 — KPB

1029 *Eana osseana* (Scop.) — Berriedale ND1222 (**109**) 27.vii.2003 — DW

1030 *E. incanana* (Steph.) — Park Mill Woods SS5390 (**41**) 28.vi.2004 — D. Grundy *per* DJS

1034 *Spatalistis bifasciana* (Hübn.) — Nuneaton SP3493 (**38**) 7.vi.2003 — NJS

1036 *Acleris forsskaleana* (Linn.) — Cronykeery T2898 (**H20**) 30.vii.2003 — AT

1040 *A. caledoniana* (Steph.) — Achairn ND2648 (**109**) 21.vii.2002 — DW

1041 *A. sparsana* ([D. & S.]) — Kergord Plantation, Mainland of Shetland HU3954 (**112**) 20.viii.2004, genitalia det. MRY — N. Riddiford *per* MRY

1042 *A. rhombana* ([D. & S.]) — Cronykeery T2998 (**H20**) 24.ix.2004 — AT

1044 *A. ferrugana* ([D. & S.]) — Roecliffe SE3865 (**64**) 16.iii.2004, det. HEB — D.J. & D.M. Bowers *per* CHF

1051 *A. logiana* (Cl.) — Windsor Forest SU9872 (**22**) 30.vi.2004 — AMD; Dunston Common TG2202 (**27**) 4.x.2004 — A. Musgrove *per* KS

1055 *A. hyemana* (Haw.) — Inchmarlo NO6796 (**91**) 15.x.2004 — C.W.N. Holmes *per* RMP

1079 *Piniphila bifasciana* (Haw.) — Oversley Wood SP1056 (**38**) 12.vi.2004 — M. Kennard, A. Prior, V. Weston & D. Grundy *per* NJS

1089 *Apotomis semifasciana* (Haw.) — Eye TM1473 (**25**) 29.vii.2004, genitalia det. N. Whinney — P. Kitchener *per* AWP

1097 *Endothenia gentianaeana* (Hübn.) — Irlam SJ7293 (**59**) larvae in heads of *Dipsacus fullonum* 9.iii.2004, moths bred — K. McCabe *per* SMP

1106 *Lobesia reliquana* (Hübn.) — Nantgwyn SN3623 (**44**) 7.v.2004 — JSB; Bishop Wood, SE5533 (**64**) 8.vi.2004 — E.D. Chesmore *per* HEB

1107 *L. botrana* ([D. & S.]) — Ipswich TM2043 (**25**) 16.viii.2004 — N. Sherman *per* AWP

1116 *Ancylis comptana* (Fröl.) — Great Cornard TL8864 (**26**) 31.vii.2004 — S. Read *per* AWP

1117 *A. unguicella* (Linn.) — Crownhill Down SX5659 (**3**) 27.vi.2004 — RJH

1119a *A. diminutana* (Haw.) — Ketton Quarry SK9705 (**55**) 5.vi.2004. det. AJM — APR & MPS

1123 *A. laetana* (Fabr.) — Linn of Tummel NN9060 (**88**) 5.vi.2004 — J. Clayton *per* KPB

1132 *Epinotia subocellana* (Don.) — Dunbeath ND1530 (**109**) larvae on *Salix aurita* 27.vii.2003, moths bred — DW

1137 *E. tetraquetrana* (Haw.) — Talybont Forest SO0617 (**42**) 29.vi.2004 — JRL

1149 *E. crenana* (Hübn.) — Cliffs of Magho H06578 (**H33**) one larva in spun leaf of *Salix aurita* 20.vi.2004, moth bred — RJH, **New to Ireland**

1157 *Crocidosema plebejana* Zell. — Pilning ST5584 (**34**) 11.viii.2004 — J. Martin *per* RGG; Llanishen, Cardiff (**41**) 17.vi.2004, det. DJS — S.R. Golaswezski *per* DJS

1158 *Rhopobota ustomaculana* (Curtis) — Allt nan Glander, Glen Livet NJ1728 (**94**) larvae on *Vaccinium vitis-idaea* 20.iv.2004, moths bred — MRY

1165 *Zeiraphera isertana* (Fabr.) — West Tanfield SE2476 (**64**) 14.vii.2004, det. HEB — J.C. Warwick, S.P. Worwood & CHF

1166 *Z. griseana* (Hübn.) — Trestra, Mainland of Shetland HU3551 (**112**) 21.viii.2004, genitalia det. MRY — N. Riddiford *per* MRY

1168 *Gypsonoma sociana* (Haw.) — Duck End NR, Maulden TL0537 (**30**) 3.vii.2004, genitalia det. DVM — L.J. Hill *per* DVM; Invertromie NN9977 (**96**) 27.vi.2003 — RJH

1170 *G. oppressana* (Treits.) — Keynsham ST6469 (**6**) 28.vi.2004 — DJG

1171 *G. minutana* (Hübn.) — Eaton Ford TL1760 (**30**) 18.vii.2004 — A.A. Lawrence *per* DVM

1178 *Epiblema roborana* ([D. & S.]) — Cronykeery T2898 (**H20**) 27.vii.2004 — AT

1181 *E. grandaevana* (L. & Z.) — Elveden Forest TL7980 (**26**) 11.vi.2004 — G. Finch *per* HEB

1187 *E. costipunctana* (Haw.) — Invertromie NN9977 (**96**) 27.vi.2003; N. of Dornoch Firth Bridge NH7486 (**107**) 23.vi.2003 — RJH

1191 *Eucosma catoptrana* (Rebel) — Spurn TA4015 (**61**) 28.v.2004 — B.R. Spence *per* HEB

1193 *E. tripoliana* (Barr.) — Longbridge Deverill ST8640 (**8**) three on 13.viii.2004 — DJLA, *Ent. Rec.* **116**: 258; Cockayne Hatley TL2549 (**30**) in Rothamsted trap 6-12.viii.2004, genitalia det. — DVM; Pembrey SN3605 (**44**) 1.viii.2004 — SDSB *per* JSB; Crossens Marsh, Southport SD3520 (**59**) 22.vii.2004 — SMP

1197 *E. campoliliana* ([D. & S.]) — Legar SO2117 (**42**) 15.vii.2004 — J.M. & M.P. Rees *per* NRL

1200a *E. parvulana* (Wilk.) — Botley Wood SU5409 (**11**) 15.vii.2004, female genitalia det. — RJD

1211 *Rhyacionia pinicolana* (Doubld.) — Hutton Conyers SE3273 (**65**) 25.vii.2004, det. HEB — CHF

1214 *Retinia resinella* (Linn.) — Strachan NO6891 (**91**) galls on *Pinus sylvestris* 2.ix.2004 — C.W.N. Holmes *per* RMP

1219 *Lathronympha strigana* (Fabr.) — St Cyrus NNR NO7463 (**91**) 24.vii.2004 — RMP

1222 *Strophedra nitidana* (Fabr.) — Pickworth Great Wood SK9714 (55) 12.vi.2004, first county record since VCH — APR

1224 *Pammene luedersiana* (Sorh.) — Drumcroy Hill NN7263 (88) flying at noon 13.v.2004 — KPB

1229 *P. albuginana* (Guen.) — Ealing TQ1583 (**21**) 14.v.2004, genitalia det. R. Terry — D. Howden & A. Colshaw *per* CWP

1233 *P. aurita* Raz. — Chimney, nr. Bampton SP3600 (**23**) 30.vii.2004 — MFVC; Maes yr Haf SN0538 (**45**) 22.vii.2004 — A.D. Lewis *per* RE

1235 *P. trauniana* ([D. & S.]) — Kingsthorpe SP7463 (**32**) pair *in copula* beaten from *Acer campestre* 24.v.2004, det. DVM — P.D. Sharpe *per* DVM

1236 *P. fasciana* (Linn.) — Henallt SO2340 (**42**) 2.viii.2004 — NRL

1237 *P. germmana* (Hübn.) — Brampton Wood, TL1869 (**31**) 16.vi.2004 — BD; Pembrey Forest SN3803 (**44**) 7.vi.2004 — JSB

1238 *P. ochsenheimeriana* (L. & Z.) — Horsenden Hill TQ1684 (**21**) 24.iv.2004, genitalia det. CWP — R. Terry *per* CWP

1239 *P. rhediella* (Clerck) — Kirkby Malzeard SE1975 (**64**) 31.v.2004, det. HEB — CHF

1272 *P. aurana* (Fabr.) — Newtonmore NN7298 (**96**) 25.vi.2003 — RJH

1240 *Grapholita caecana* (Schl.) — Leaden Hall SU2015 (**11**) 3.vi.2004 — RJM

1241 *G. compositella* (Fabr.) — Kinghorn NT0086 (**85**) 22.v.2004, det. KPB — S. Little *per* AMD; Newtonmore NN7298 (**96**) 25.vi.2003 — RJH

1247 *G. funebrana* (Treit.) — Ripon Parks SE3075 (**64**) 23.vii.2004, det. HEB; Hutton Conyers SE3273 (**65**) 20.vii.2004, det. HEB — CHF

1255a *Cydia medicaginis* (Kuzn.) — Orford Ness NNR TM4349 (**25**) 15.viii.2004, genitalia det. JBH — M. Marsh & J. Askins *per* JBH

1256 *C. servillana* (Dup.) — Branscombe SY2088 (**3**) 29.v.2004 — BPH & PHS

1257 *C. nigricana* (Fab.) — Great Cornard TL8939 (**26**) 23.v.2004 — JBH, AJM & S. Read

1261 *C. pomonella* (Linn.) — Culbin Sands NH9964 (**95**) 12.viii.2004 — MRY

1262 *C. amplana* (Hübn.) — Ash Priors ST1528 (**5**) 6.viii.2004; Draycott ST4851 (**6**) 13.viii.2004 — D. Evans *per* JAMcG; Dovercourt TM2230 (**19**) 7.viii.2004 — C. Gibson *per* BG; Landguard TM2831 (**25**) 11.viii.2004 — JBH, N. Odin & M. Marsh; Pilning ST5584 (**34**) 10.viii.2004 — J. Martin *per* RGG

1267 *C. cosmophorana* (Treits.) — Foxglove Covert, Catterick SE1697 (**65**) 11.vi.2004, det. HEB — J.C. Warwick, S.P. Worwood & CHF

1268 *C. coniferana* (Ratz.) — Pembrey Forest SN3803 (**44**) 7.vi.2004 — JSB

1269 *C. conicolana* (Heylaerts) — Rushmere St Andrew TM2043 (**25**) 9.vi.2004, genitalia det. — JBH; Old Weston TL0977 (**31**) 7.vi.2004, genitalia det. BD — K. Royles *per* BD

1274 *Dichrorampha alpinana* (Treits.) — Blagdon ST5160 (**6**) 5.vi.2004, genitalia det. — DJG

1278 *D. sequana* (Hübn.) — Sudbury TL8643 (**26**) 23.v.2004 — JBH, AJM & S. Read

1279 *D. acuminatana* (L. & Z.) — Rushmere St Andrew TM2043 (**25**) 20.v.2004 — JBH

1282 *D. sylvicolana* Hein. — Crianlarich NN3725 (**88**) 25.vi.2004 — SEM

1284 *D. gueneeana* Obraz. — Hutton Conyers SE3273 (**65**) 12.vii.2004, det. HEB — CHF

1285 *D. plumbana* (Scop.) — Enderby Quarry SP5399 (**55**) 18.v.2004, genitalia det. AJM — AJM & MPS

1286 *D. sedatana* Busck — Enderby Quarry SP5399 (**55**) 25.v.2004, genitalia det. AJM — MPS

1287 *D. aeratana* (P. & M.) — Rushmere St Andrew TM2043 (**25**) 9.vi.2004, genitalia det. — JBH

EPERMENIIDAE

483 *Epermenia chaerophyllella* (Goeze) — Mullaghahy H0437 (**H30**) larvae on *Heracleum* 19.vi.2004 — RJH

SCHRECKENSTEINIIDAE

485 *Schreckensteinia festaliella* (Hübn.) — Muchra Den NT2216 (**79**) larval workings on *Rubus idaeus* 15.ix.2004; Creag nan Eun NO1375 (**89**) larval workings on *Rubus idaeus* 18.x.2004 — KPB

PYRALIDAE

1291 *Haimbachia cicatricella* (Hübn.) — Orford Ness NNR TM4349 (**25**) four between 14.vii & 4.viii.2004, det. JBH — J. Askins & M. Marsh *per* JBH

1292 *Calamotropha paludella* (Hübn.) — Hartshill SP3394 (**38**) 12.viii.2004 — R. Ruban & M. Kennard *per* NJS; Chester SJ4575 (**58**) 5.viii.2004 — M. Barlow & S. Holmes *per* SHH; Leigh, Manchester SJ6498 (**59**) 7.viii.2004 — J.D. Wilson *per* SMP

1294 *Crambus pascuella* (Linn.) — Ordiquhill, Cornhill NJ5755 (**94**) 2.vii.2004 — R. Leverton *per* AMD

1297 *C. uliginosellus* Zell. — Goss Moor SW9661 (2) 12.vi.2004, genitalia det., first confirmed Cornish record since 1906 — RJH

1300 *C. pratella* (Linn.) — West Bexington SY5386 (9) 12.vi.2004, conf. PHS, first county record for over 100 years — R. Eden *per* PHS; Eaton Ford TL1760 (**30**) 5.vi.2004, genitalia det. BD — A.A. Lawrence *per* BD

1302 *C. perlella* (Scop.) — Plain of Fidge, Sanday HY7140 (**111**) 31.vii.2004 — S.V. Gauld *per* AMD

1303 *Agriphila selasella* (Hübn.) — Llangorse SO1326 (**42**) 10.viii.2004 — NRL; Culbin Sands NH9964 (**95**) 12.viii.2004 — MRY

1307 *A. latistria* (Haw.) — Chinnor SU7599 (**23**) 21.viii.2004 — M. Townsend *per* MFVC; South Gare NZ5528 (**62**) 14.viii.2004 — P.W. Forster *per* AMD

1314 *Catoptria margaritella* ([D. & S.]) — Trowlesworthy Warren (3) larva amongst *Campylopus flexuosus* 9.iv.2004 which it ate and then fed on *Eriophorum angustifolium,* moth bred. Larva not previously found in the wild in the British Isles nor possibly on the continent — RJH; Magdalen Wood SE2476 (**65**) 14.vii.2004 — CHF *et al. per* AMD

1316 *C. falsella* ([D. & S.]) — Tentsmuir Forest NO4926 (**85**) 28.vii.2004 — N. Littlewood *per* AMD

1323 *Pediasia contaminella* (Hübn.) — Earith TL3975 (**31**) 6.vii.2004, det. BD — D. Griffiths *per* BD; Spurn NNR TA4115 (**61**) 7.viii.2003, most northerly record — B.R. Spence *per* AMD

1324 *P. aridella* (Thunb.) — Penclacwydd SS5398 (**44**) 18.vii.2004 — B. Stewart *per* JSB

1325 *Platytes alpinella* (Hübn.) — Oldmeldrum NJ8227 (**93**) 9.viii.2003 — MRY

1326 *P. cerussella* ([D. & S.]) — Hartland Point SS2327 (**4**) 22.vi.2003 — BPH & R. McCormick *per* AMD

1328 *Schoenobius gigantella* ([D. & S.]) — Eaton Ford TL1760 (**30**) 5.vi.2004 — A.A. Lawrence *per* BD; Ketton Quarry SK9705 (55) 5.vi.2004, first county record since VCH — AJM, APR & MPS; Kilnsea TA4115 (**61**) 10.vii.2003 — B.R. Spence *per* AMD

1334a *Scoparia basistrigalis* Knaggs — Ashurst (11) larvae amongst *Mnium hornum* 3.iv.2004, moth bred and genitalia det., larva previously unknown — RJH & PHS

1335 *S. ancipitella* (La Harpe) — Coed Tregyb SN6421 (**44**) 27.vi.2004 — D. Grundy *per* JSB; Arthog SH6516 (**48**) 18.vii.2004 — ANG & JEG

1340 *Eudonia truncicolella* (Staint.) — Gortgor H0850 (**H33**) larva amongst unidentified moss on rock 19.vi.2004, moth bred — RJH

1342 *E. angustea* (Curtis) — Hutton Conyers SE3273 (**65**) 3.ix.2004 — CHF *per* AMD

1350 *Nymphula stagnata* (Don.) — Insh Marshes NH8102 (**96**) 21.vii.2001— DGG *et al. per* AMD

1354 *Cataclysta lemnata* (Linn.) — Cronykeery T2998 (**H20**) 11.viii.2004 — AT

1358 *Evergestis pallidata* (Hufn.) — Leeworthy Mill SS3518 (**4**) 8.viii.2003 — J Rush *per* AMD; Bishop Monkton SE3465 (**64**) 28.vii.2004, det. CHF — D. & D. Bowes per AMD

1365 *Pyrausta despicata* (Scop.) — Old Weston TL0977 (31) 13.vii.2004, det. BD, first county record since VCH — K. Royles *per* BD

1366 *P. nigrata* (Scop.) — Caerwent ST4891 (**35**) 17.vii.2004 — M.E. Anthoney *per* SDSB

1374a *Sclerocona acutellus* (Eversm.) — Barnet TQ2596 (**21**) 9.vi.2004, det. CWP — R. Terry *per* CWP, *Ent. Rec.* **116**: 145-146; Market Bosworth SK4002 (**55**) 13.vi.2004, det. AMD & APR, neighbouring cottages recently re-thatched — D. & M. Penton *per* MPS

1376 *Eurrhypara hortulata* (Linn.) — Tentsmuir Forest NO4926 (**85**) 28.vii.2004 — N. Littlewood *per* AMD

1380 *Phlyctaenia perlucidalis* (Hübn.) — Bould Wood SP2520 (**23**) 25.vi.2002 — MFVC; Ledbury SO7236 (**36**) 29.vi.2004 — MWH; Sand Hutton Common SE6858 (**62**) 8.vi.2004 — E.D. Chesmore *per* AMD

1392 *Udea olivalis* ([D. & S.]) — Hutton Conyers SE3273 (**65**) 7.vi.2004 — CHF *per* AMD

1397 *Mecyna asinalis* (Hübn.) — Caerwent ST4891 (**35**) 18.vii.2004 — SDSB

1402a *Diasemia accalis* (Walk.) — Gravesend TQ6473 (**16**) 24.v.2004 — DJLA, *Ent. Rec.* **116**: 159-160, **Adventive species new to the British Isles**

1403a *Duponchelia fovealis* (Dup.) — Spurn TA4115 (**61**) 15.viii.2004 — B.R. Spence *per* HEB; West Melton SE4200 (**63**) indoors 5.iii.2004 — HEB

1408 *Palpita vitrealis* (Rossi) — Heald Green SJ8586 (**58**) 5.ix.2004 — B.T. Shaw *per* SHH

1416 *Pyralis lienigialis* (Zell.) — Bronwydd SN4123 (**44**) 12.vii.2004, det. JSB — A. Johnson *per* JSB, **New to Wales**

1417 *P. farinalis* (Linn.) — Legar SO2117 (**42**) 30.vi.2004 — J.M. & M.P. Rees *per* NRL

1426 *Achroia grisella* (Fabr.) — Cronykeery T2898 (**H20**) 26.vii.2004 — AT

1430 *Paralipsa gularis* (Zell.) — Gravesend TQ6572 (**16**) 15.x. & 16.xii.2004 — R. Kiddie *per* DJLA

1437 *Acrobasis consociella* (Hübn.) — Kilnsea TA4115 (**61**) 12.vii.2003 — B.R. Spence *per* AMD

1441 *Oncocera semirubella* (Scop.) — Wordwell TL8372 (**26**) 14.viii.2004 — AWP *et al.*

1445 *Pempelia formosa* (Haw.) — Kilnsea TA4115 (**61**) 14.vii.2004 — B.R. Spence *per* HEB

1446 *Salebriopsis albicilla* (H.-S.) — Oversley Wood SP1056 (**38**) 7.vi.2004 — NJS *et al.*

1447 *Sciota hostilis* (Steph.) — Durlston Country Park SZ0377 (**9**) 16.vii.2004, det. MFVC — S. Nash *per* AMD

1448a *Elegia fallax* (Staud.) — St Peters, Guernsey WV2578 (**113**) 16.iv.2003, genitalia det. PHS — PDMC, *Ent. Gaz.* **56**: 75- 79, **New to the British list**

1449 *E. similella* (Zinck.) — Oversley Wood SP1056 (**38**) 15.vi.2004 — D. Grundy *per* NJS

1451 *Pyla fusca* (Haw.) — Old Weston TL0977 (31) 10.ix.2004, genitalia det. BD, first county record for over 120 years — K. Royles *per* BD

1454b *Dioryctria sylvestrella* (Ratz.) — Bedgebury Pinetum TQ7233 (**16**) 8.vi.2004 — DJLA; Stoke Holy Cross TG2301 (**27**) 14.vii.2004 — A. Musgrove *per* AMD

1455 *D. simplicella* Hein. — Hutton Conyers SE3273 (**65**) 8.viii.2004 — CHF *per* AMD

1458 *Myelois circumvoluta* (Geoffr.) — Penrhyndeudraeth SH5939 (**48**) 20.vi.2004 — CWP

1462 *Pempeliella dilutella* ([D. & S.]) — Ashridge Estate SP9712 (**20**) 17.vii.2004, genitalia det. — CWP

1469 *Euzophera cinerosella* (Zell.) — Penclacwydd SS5398 (**44**) 18.vii.2004 — B. Stewart *per* JSB

1486 *Apomyelois bistriatella* (Hulst) — Chichester SU8503 (**13**) 2.viii.2003 — SJP; Arthog SH6515 (**48**) 6.vii.2004 — ANG & JEG; Wintersett Country Park SE3815 (**63**) 7.viii.2004, genitalia det. HEB — P. Smith *per* HEB

1473 *Ephestia elutella* (Hübn.) — Lyme Handley SJ9584 (**58**) 18.vii.2003 — SHH *per* AMD

1476 *E. parasitella* Staud. — Strumpshaw Fen TG3406 (**27**) 31.v.2003 — S. Farrell *et al.* *per* AMD

1485 *Phycitodes maritima* (Tengst.) — Bishop Monkton SE3465 (**64**) 5.vii.2004, det. HEB — D.J. & D.M. Bowers *per* CHF; Hutton Conyers SE3273 (**65**) 17.viii.2004, det. HEB — CHF

PTEROPHORIDAE

1488 *Agdistis bennetii* (Curt.) — Hindolveston TG0429 (**27**) 29.vii.2003 — JC *per* AMD

1497 *Amblyptilia acanthadactyla* (Hübn.) — Stoke Holy Cross TG2301 (**27**) 2.xi.2004 — A. Musgrove *per* AMD; Windyhills, Fyvie NJ8039 (**93**) 14.v.2004, det. C.J. Harlow — H. Taylor *per* RMP; Nethy Bridge NJ0519 (**95**) 25.v.2004 — MRY *per* AMD

1502 *Platyptilia isodactylus* (Zell.) — Llangorse SO1326 (**42**) 10.viii.2004 — NRL; Fair Isle HZ27 (**112**) 17.vii.2004 — MRY *per* AMD

1504 *P. pallidactyla* (Haw.) — Crianlarich NN3725 (**88**) 25.vi.2004 — SEM

1509 *Stenoptilia pterodactyla* (Linn.) — Caerwent ST4891 (**35**) 18.vii.2004 — SDSB

1511 *Merrifieldia tridactyla* (Linn.) — Rahugh Ridge N3832 (**H23**) 18.vi.2004, genitalia det. — RJH

1517 *Adaina microdactyla* (Hübn.) — Kilnsea TA4016 (**61**) 6.vi.2004, det. HEB — P.A. Crowther *per* AMD

1518 *Ovendenia lienigianus* (Zell.) — Earith TL3075 (**31**) 18.vi.2004, det. BD — D. Griffiths *per* BD

1519 *Euleioptilus carphodactyla* (Hübn.) — Eye TM1473 (**25**) 31.vii.2004, conf. AWP — P. Kitchener *per* AWP

1524 *Emmelina monodactyla* (Linn.) — Hutton Conyers SE3273 (**65**) 11.ii.2004 – CHF *per* AMD; Ordiquhill, Cornhill NJ5755 (**94**) 11.iv.2004 — R. Leverton *per* AMD

A newly discovered colony of Barberry Carpet *Pareulype berberata* ([D. & S.]) (Lep.: Geometridae) in Oxfordshire

On 7 August 2004, two good condition examples of the Barberry Carpet were attracted to a single MV light at a site in west Oxfordshire (in VC 23) by Christopher and Stephanie Carter, who kindly sent MCT a good photograph of one of them as confirmation, in February 2005. They had never run a light trap before 2005, and are to be congratulated on correctly identifying the moths. This is the first record in modern Oxfordshire since 1981, and the first record from VC 23 since 1979. Previously, two were caught in a light trap at Littleworth near Faringdon (VC 22) in 1979, one in June and one in August, and one in May 1981 (Corley, M.F.V. 1981. *Pareulype berberata* ([D. & S.]) (Lep.: Geometridae) in Oxfordshire. *Ent. Gaz.* **36**:152), but subsequent searches for the foodplant in the area were unsuccessful. A worn example was caught in a MV light trap in Kidlington, north of Oxford (VC 23) on 23 June 1979 (Waring, 2000. *British Wildlife* **11**:175-182).

The trapping site is in open country with numerous hedgerows, many of which are tall (>5m). A search for the main foodplant Wild Barberry *Berberis vulgaris* was made by MCT, BE and the Carters, in May 2005. John Campbell (formerly of Oxfordshire Biological Records Centre) had casually noted a small Barberry bush in a roadside hedge less than a kilometre from the trap site several years previously, and several bushes were found along this road, with many more in field boundary hedges nearby along and near a footpath. We returned on 24 June with PW, and in spite of wet conditions found 12 *berberata* larvae, mainly fairly small (c.5-6mm long) by beating. Most were beaten from vigorous re-growth along the side of tall hedges at about 1-1.5m from the ground, with seven larvae along one 5m stretch. This species is included in Red Data Book category 1 (Endangered) and is protected against deliberate killing, injury or sale by Schedule 5 of the *Wildlife and Countryside Act* (1981). The work was carried out under licence from English Nature and all larvae were returned to the foodplant. Roughly thirty Scarce Tissue *Rheumaptera cervinalis* (Scop.) larvae were also found.

Further light trapping was carried out at the original site in 2005, but no more moths were seen. Further monitoring and searching to ascertain the extent and strength of the colony is planned for 2006. At present it appears to be quite isolated, since the nearest known colonies are a considerable distance away in Wiltshire (Waring, P., Townsend M.C., and Lewington, R., 2003. *Field Guide to the Moths of Great Britain and Ireland*, British Wildlife). However, the extent of the foodplant was not known at this site and other populations may await discovery in the wider area.— MARTIN C. TOWNSEND, 69 Alice Smith Square, Littlemore, Oxford OX4 4NQ (E-mail: martin.townsend4@ntlworld.com), PAUL WARING, 1366 Lincoln Road, Werrington, Peterborough PE4 6LS (E-mail: paul_waring@btinternet.com) and BOB EELES, 69 Alexander Close, Abingdon, Oxfordshire OX14 1XB (E-mail: eeleseveretts@diggingandmoths.fsnet.co.uk).

A STUDY OF THE HIBERNATION BEHAVIOUR OF *HYPENA ROSTRALIS* (L.) (LEP.: NOCTUIDAE) – THE BUTTONED SNOUT MOTH

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Abstract

The behaviour of *Hypena rostralis* prior to, during and after hibernation was studied in a wild population and in captive stock. The process of going into hibernation appeared to have two stages, the first at the end of September when movement in and out of the hibernation site still continued and a second in late November when the adults began to settle down. By early December they had become inactive and remained in this state until March or early April when movement started again. They left the hibernation sites by 26 April. The movement seems to be triggered by day length rather than temperature. The use of buildings may be atypical and natural sites may be favoured.

Introduction

Butterfly Conservation reports were the main source of information for this project, but smaller articles by Waring (in press), Plant (1987), Frohawk (1934) and Wedd (1986) were all reviewed. Down (2004) described encounters with adult moths from the 1950s and 1980s and the large numbers found hibernating in underground bunkers in East Tilbury from 1989 to the present day.

The moth is classed as Nationally Scarce as it was thought it had declined significantly (UK Biodiversity Group 1999). The demolition or removal of old buildings and the flailing of hedgerows containing *Humulus lupulus* Hop, *Rubus* spp. Bramble, and *Salix caprea* Sallow would appear to be part of the possible reason for the reduction in numbers (Townsend, 2002). It is possible that the reduction in records in recent years could well be erroneous because it relies on modern records from light-traps instead of more traditional field techniques such as beating for larvae (Collins, 2000). Findings from Field and Watkins (2005) agree as larvae seemed to be far more common in Essex and Cambridgeshire than the records from light-trapping might suggest. At Writtle only one adult has been caught over the period 1968-2004 in the Rothamsted light trap (Gardiner & Field, 2001; Field & Watkins, 2005) even though larvae have been found on the surrounding *H. lupulus* plants and there are adults hibernating only 300 m from the trap.

Hibernation is a strategy that allows organisms to survive unfavourable periods. This period of dormancy is governed primarily by day length. Temperature tends to fluctuate wildly at all times, but the alternation of night and day, or changes in day length throughout the year, have shown regular and exact rhythms for millions of years. Moths have adapted to these rhythms and make use of them (Novak, 1999; Young, 1997).

Other factors, including temperature, also play a role. Temperature is a basic factor controlling the life of moths and activity can only take place within a certain temperature range. Below this range activity is reduced to the basic physiological process required for survival. Being cold-blooded, the temperature of moths is largely determined by the external environment. Once they have reached some minimum temperature they can further raise their temperature by flapping their wings and thus become active (Novak, 1999). Conversely, once their temperature has fallen below some minimum temperature they are unable to generate enough heat and so they must become inactive.

In temperate species hibernation is intense from November to January, the unfavourable winter period, and hibernation can consist of several phases (Novak, 1999). This is suggested to apply to this moth, which appears to be virtually inactive at this time, over-wintering in the adult stage (Down, 2004).

Methods

A large range of buildings were searched during January and February of 2003 (Table 1), and the winters of 2003/4 and 2004/5. All the sites searched were adjacent to where larvae had been discovered on *H. lupulus* and in most cases these buildings formed the nearest buildings to the site.

Table 1. Buildings searched for hibernating adults in January/February 2003

Site	Wooden	Brick/stone	Steel	Concrete
Writtle College	all	all	all	all
Gunpowder mills Waltham Abbey		11		10
Southend Priory Park		3	1	
Southend Park Lane	2	1		
Writtle Church		1		
Garage, Dovercourt		Asbestos		
Pill boxes at TL 6026 and TL 5926				4
Garage at TL 6026	1			
Hollow tree at TL 6026				

In early August 2003 a large cage was erected at Writtle College. The cage had a double membrane floor and had two *H. lupulus* plants in large tubs and growing up trellis installed in it. Cut nectar sources such as *Achillea millefolium* Yarrow, *Senecio jacobaea* Ragwort, *Cirsium arvense* Creeping thistle, *Cirsium vulgare* Spear thistle and *Arctium minus* Burdock were placed in bottles of water within the cage. These were replaced throughout the season with flowering plants which could be suitable nectar sources for the adults. A purpose built hibernation chamber was placed within the cage on 20 August 2003 and three data loggers were installed; one outside the cage, one inside the cage and one inside the hibernation chamber. Between 11 August and the 28 August eight adults and four larvae were released into the cage. Their behaviour was then monitored throughout the period until hibernation ceased.

A sports equipment store of brick construction with no windows, wooden roof supports, asbestos roof and double garage doors also used by the adult for hibernation had a data logger installed on the 26 September and was monitored frequently during the hibernation period.

The data from this project was examined for indications of the conditions that trigger the moth's hibernation behaviour. As the minimum temperature will have the most influence on the moth's hibernation activity, it is this temperature, together with day length, that has been concentrated on. Where there was evidence of extremely high winds, either from local reports or damage at the site, this was taken into account. It is important to remember that this data is based on observations over only one and a half seasons with relatively few individuals at two sites.

Results

Survey of buildings

Live adults were identified at two sites plus a dead adult was found at a third. The first three adults were discovered in October 2002 in a garage where *H. rostralis* had been known to hibernate before. This was next to the site where larvae were beaten from *H. lupulus* in 2001 (Field, 2003). By early February, when checked again, they had disappeared. The second site where an adult was observed was in a garage on the Writtle College estate. In the winter of 2003-4 one adult was again found hibernating in that garage, while in 2004-5 four adults were noted in December 2004. A dead adult was also discovered on the College estate in 2003, but this time in a farm building. The area where the moth was discovered was used as a staff rest room and the moth was dead on the back of an arm chair.

Large numbers of *H. rostralis* have been observed hibernating at a site in East Tilbury over the last 14 years (Down, 2004). This site was searched on 2 February 2004 and 48 adults were found, of which 13 were males and 35 females. They were all hibernating alone with the nearest adult usually being about 2-3 metres away. In one bunker there were 22 (4 males & 18 females). In a second bunker there were 25 adults (9 males & 16 females), while in the third bunker, which was larger and darker and had cork on the walls, only one female was found.

Entering hibernation in the wild (autumn 2003)

The moths were variously present and absent from the time of first sighting (26 September) until 24 November, when it became present more frequently. Up until this time the minimum temperature had not fallen below 0.7°C and the day length had reduced to 10.1 hours. Between 27 November and 5 December the moth was present but moving intermittently. The minimum temperature of -1.4°C was on the 28 November and by the end of the period the day length had reduced to 8 hours.

Prior to 28 the minimum temperature had fallen steadily from 11°C (19th) to 1.1°C (27th). Activity ceased from 9 December until the end of March the following year. The minimum temperature had reached -2.2°C (8 December) and day length 7.92 hours (Table 2).

Table 2. Entering hibernation - autumn 2003.

Dates	No. of adults	Min temp °C	Day length (hours)	Remarks
25-29/9	2	5.8 to 15.3	11.9 to 11.7	1 adult left 26/9 second left 29/9 after slight movement
30/9-6/10	0	5.8 to 13.5	11.65 to 11.25	
7/10	1	8.0	11.18	
8/10 to 21/10	0	0.7 to 13.1	11.12 to 8.53	
24/10	1	3.9	8.4	
25/10	0	2.7	8.37	
27/10 to 5/12	1	-1.4 to 7.3	8.27 to 8.0	Moved intermittently (max 20 cm)
8/12	0	-2.2	7.93	
9/12 to 23/1	1	-5.3 to 9.1	7.92 to 8.67	No movement

Entering hibernation – a study using captive stock (autumn 2003)

The moths were active within the cage up until 26 September, when they began to settle for days in the same place. Just prior to this time the minimum temperature had fallen to -2.2°C and the day length had reduced to 11.9 hours. A moth was present in the hibernation chamber between 7 October and 4 November, and others were moving intermittently about the cage, being seen less frequently as time went by. Between these dates the minimum temperature had varied between -4.9°C (28 October) and 7.7°C (10 October), and day length had reduced to 9.42 hours. Between the 5 and 18 November the moths in the hibernation chamber and the cage became more active. Between these dates the minimum temperature was 0.1°C and the day length reduced to 8.67 hours. Activity ceased from 4 December until January the following year. The minimum temperature had reached -0.1°C (9 November) and day length 8.05 hours. Prior to 4 December, the minimum temperature had risen from -4.4°C (28 November) to 6.9°C (4 December) (Table 3).

Entering hibernation

The moths seemed to begin to settle down from about 26 to 29 September. The day lengths for this period ranged between 11.7 and 11.9 hours. The minimum temperature in the previous week ranged between -2.2 and 15.3°C. The moths become more settled between 18 and 24 November. The day lengths for this period ranged between 8.4 and 8.67 hours. The minimum temperature in the previous week ranged between 1.5 and 11.0°C. Activity ceased between 4 and 9 December. The day lengths for this period ranged between 7.92 and 8.05 hours. The minimum temperature in the previous week ranged between -4.4 and 7.3°C (Table 4).

Table 3. Entering hibernation - autumn 2003

Dates	No. of adults	Min temp °C	Day length (hours)	Remarks
23/9 to 26/9	1 to 4	-2.2 to 1.1	11.9	Adults seen in varying locations
29/9 to 6/10	1 to 4	-0.6 to 11.3	11.7 to 11.25	Some adults in same place for more than one day
7/10 to 16/10	1 in hc	1.9 to 7.7	11.18 to 10.6	Other adults in varying locations
20/10 to 4/11	1 in hc	-4.9 to 6.5	10.35 to 9.42	Other adults seen occasionally
5/11 to 11/11	1 in hc	-0.1 to 7.3	9.37 to 9.03	2 other adults seen daily in cage
13/11 to 17/11	2 in hc	0.7 to 11.7	8.92 to 8.67	One other adult seen in cage on 13/11
18/11 to 3/12	1 in hc	-4.4 to 10.2	8.58 to 8.07	Occasional change of position
4/12	1 in hc	6.9	8.05	No further movement until January

hc – hibernation chamber

Table 4. Entering hibernation 2003.

Dates and day lengths	End summer activity (date)	End summer activity (day length)	Begin to settle down (date)	Begin to settle down (day length)
Wild	26/09/03	11.9	24/11/03	8.40
Captive	29/09/03	11.7	18/11/03	8.67

Previous 7 days MINIMUM temp	End summer activity Min (°C)	End summer activity Max (°C)	Begin to settle down Min (°C)	Begin to settle down Max (°C)
Wild	not known	15.3	6.9	11.0
Captive	-2.2	7.3	1.5	7.3

Dates and day lengths	Become inactive (date)	Become inactive (day length)
Wild	26/09/03	11.9
Captive	29/09/03	11.7

Previous 7 days MINIMUM temp	Become inactive Min (°C)	Become inactive Max (°C)
Wild	-2.2	7.3
Captive	-4.4	6.20

Wild = Inside the store at Writtle College.
Captive = Inside the hibernation chamber in the cage at Writtle College.

Emergence from hibernation in the wild – spring 2003

Prior to the first movement (21 March) the minimum temperature had not fallen below freezing for 25 days and day length had reached 12.15 hours. The fall in minimum temperature between 7 April and 13 April seems to coincide with the moth not moving. Prior to the moth leaving the minimum temperature rose on the 14 April and remained at a warmer level for about 6 days and day lengths had reached 14.12 hours (Table 5).

Table 5: Emergence from hibernation in the wild - spring 2003.

Dates	No. of adults	Min temp °C	Day length (hours)	Remarks
14/1 to 19/3	1	-3.5 to 8.8	8.35 to 12.15	No movement
21/3	1	4.3	12.28	Slight movement
24/3 to 2/4	1	3.9 to 8.8	12.48 to 13.07	Slight changes in orientation from original
3/4 to 16/4	1	0.3 to 10.6	13.15 to 13.98	No movement
18/4 to 20/4	0	6.5 to 9.9	14.12 to 14.25	Left hibernation

Spring 2004

Prior to the first significant movement (1 April) the minimum temperature had not fallen below freezing for 28 days and day length had reached 14.43 hours. The movement on 1 April seems to coincide with a marked rise in the minimum temperature on that day. Prior to the moth leaving (20-23 April) the minimum temperature rose sharply on the 21 April (20: 3.1, 21: 10.6) and day lengths had reached 14.3 hours (Table 6).

Table 6. Emergence from hibernation - spring 2004

Dates	No. of adults	Min temp °C	Day length (hours)	Remarks
9/12 to 23/1	1	-2.2 to 7.7	7.92 to 8.67	No movement
26/1 to 30/3	1	-3.1 to 11.3	8.82 to 12.87	Slight movement
1/4	1	9.9	13.02	Moved 1.5 m
2/4 to 20/4	1	1.5 to 9.5	13.07 to 14.25	Moved 0.5m on 2/4 then no movement
23/4	0	7.7	14.33	Left hibernation

Emergence from hibernation – a study using captive stock (spring 2004)

Prior to the first significant movement (Monday, 12 Jan) the minimum temperature had not fallen below freezing for 8 days and day length had reached 8.2 hours. There had been very high winds the previous weekend. The original moth in the hibernation chamber began moving before the introduction of more moths (4 Feb).

The introduced moths may have taken time to find a satisfactory place to hibernate within the cage. This might account for the various movements of those visible within the cage between 9 Feb and 14 April, although there was a general rise in minimum temp from the 9 to 21 March. The minimum temp only fell below freezing again on 25 and 26 March but reached 9.9 on 16. The frame of the cage was found to have been bent, probably by the wind, at some time between the 4th and 23rd of March and there was further evidence of high wind again on 5 and 7 April. When the first moth left the hibernation chamber (14 - 15 April) the minimum temperature had dropped from 5.8 (13) to -0.1 (14). The minimum temp rose and fell again (-1.8, 20) but after that did not fall below freezing again and the moths left on the nights of 23, 24 and 26. Day length had reached 14.62 hours (Table 7).

Table 7. Emergence from hibernation - spring 2004

Dates	No. of adults	Min temp °C	Day length (hours)	Remarks
4/12 to 6/1	1 in hc	-5.8 to 7.7	8.05 to 8.00	No movement
12/1 to 4/2	1 in hc	-4.4 to 11.7	8.2 to 9.32	Move occasionally
4/2	7 in hc			6 moths introduced
9/2 to 1/3	4 in hc	-6.3 to 7.7	9.6 to 10.95	2 in cage
4/3	3 in hc	4.6	11.15	2 in cage
23/3 to 14/4	4 in hc	-2.2 to 8.8	12.42 to 13.87	2 in cage
15/4 to 26/4	1 to 3 in hc	-1.8 to 9.5	13.92 to 14.62	2 in cage
27/4 to 18/5	0 in hc	4.3 to 10.2	14.67 to 15.83	2 seen in cage but none after 18/5

The moths begin to move between 12 January and 1 April. The day lengths for this period ranged between 8.2 and 13.02 hours. The minimum temperature in the previous week ranged between 1.1 and 6.9°C. The moths left their hibernation shelter between 14 April and 26 April. The day lengths for this period ranged between 13.87 and 14.62 hours. The minimum temperature in the previous week ranged between -2.2 and 10.6°C (Table 8).

Discussion

Entering hibernation

After the summer the moths appear to begin to investigate different hibernation sites from about 26 September. They become more settled at about 18 to 24 November, and these varying periods of activity and inactivity last until about 4 to 9 December, when activity ceases. This appears to demonstrate distinct stages of preparation for hibernation. They appear to investigate hibernation sites as a response to day lengths. Although the day lengths were almost the same for both locations, the preceding week's minimum temperature had a wide range. This seems to indicate that they begin to settle as a response to day length, regardless of the temperature.

Table 8. Emergence from hibernation spring 2003 and 2004.

Dates and day lengths	First movement (date)	First movement (day length)	Leave hibernation (date)	Leave hibernation (day length)
Wild Spring 03	21/03/03	12.28	18 - 20/04/03	14.12 - 14.25
Wild Spring 04	01/04/04	13.02	20 - 23/04/04	14.25 - 14.43
Captive Spring 04	12/01/04	8.2	14 - 26/04/04	13.87 - 14.62

Previous 7 days MINIMUM temp	First movement Min (°C)	First movement Max (°C)	Leave hibernation Min (°C)	Leave hibernation Max (°C)
Wild Spring 03	1.1	5.4	0.7 - 5.4	10.6 - 10.6
Wild Spring 04	2.3	6.9	4.6 - 3.1	8.4 - 10.6
Captive Spring 04	2.3	5.4	-2.2 - -1.8	5.8 - 9.5

Emerging from hibernation

Generally the moth remains inactive during the winter months, and first begins to move in the spring but remains within its winter shelter. After various periods of activity and inactivity within the shelter the moth leaves. It appears that the moth becomes aware that it should prepare to leave the shelter of the hibernation site and, when all the required conditions are met, it leaves. In this instance it is not clear whether day length or minimum temperature influenced the first stirring of the moth, as the day lengths and the minimum temperature both had a wide range. It might be significant that the temperature had not fallen below freezing in the previous week or more, regardless of the day lengths. But it is possible that they leave their place of hibernation as a response to day length, regardless of the temperature. When they left the place of hibernation the day lengths had reached about 14 hours whereas the previous week's minimum temperature had ranged between -2.2 and 10.6°C.

The captive spring 2004 data differs in that the first activities were considerably earlier than the wild data. The hibernation chamber was not as stable as the brick store, and all of the earlier-than-usual movements made by the original moth may have been in response to the high winds or other disturbance and not by the previous week's above-freezing temperatures. The moth in the store in the spring of 2004 may have changed orientation slightly (26 January) after a similar period of above-freezing conditions. However, after this minor adjustment it did not move again until 1 April. There had been similar periods of above-freezing conditions in between, for example around the 3 and 15 February. However, it should be noted that the moths in the hibernation chamber appeared undisturbed by the high winds evident on 5 and 7 April and these were also preceded by similar periods of above-freezing conditions.

The moth has probably two distinct phases of hibernation. The moths might enter a midway stage between hibernation and full activity, triggered by some element in their environment. If this stage were triggered by above-freezing conditions throughout the preceding week, then the uncharacteristic early activity could have been due to high winds buffeting the unstable hibernation chamber when the moth was in this midway stage. However, on other occasions similar conditions did not appear to cause any disturbance to other moths in the hibernation chamber. The last moths left the hibernation chamber slightly later than the wild moths left the store.

It was possible that unusually early movements of the moth in the hibernation chamber in the spring of 2004 were atypical. The chamber may not have been an ideal environment for the moth to hibernate in. If the atypical result was excluded the revised data would be as found in Table 9.

Table 9. Movement spring 2003 and 2004.

Dates and day lengths	**First movement (date)**	**First movement (day length)**	**Leave hibernation (date)**	**Leave hibernation (day length)**
Wild Spring 03	21/03/03	12.28	18 - 20/04/03	14.12 -14.25
Wild Spring 04	01/04/04	13.02	20 - 23/04/04	14.25 -14.43
Captive Spring 04	04/03/04	11.5	14 - 26/04/04	13.87 -14.62

Previous 7 days MINIMUM temp	**First movement Min (°C)**	**First movement Max (°C)**	**Leave hibernation Min (°C)**	**Leave hibernation Max (°C)**
Wild Spring 03	1.1	5.4	0.7 - 5.4	10.6 - 10.6
Wild Spring 04	2.3	6.9	4.6 - 3.1	8.4 - 10.6
Captive Spring 04	-6.3	-1.8	-2.2 - -1.8	5.8 - 9.5

In this case the moths began to move between 4 March and 1 April. The day lengths for this period ranged between 11.5 and 13.02 hours. The minimum temperature in the previous week ranged between -6.3 and +6.9°C. This seems to indicate that day length might be more important than temperature to trigger the first movement. The days had all reached similar lengths whereas the previous week's minimum temperatures had a wide range and the data for leaving the hibernation sites is similar.

Hibernation is not as simple as the adults using the nearest suitable buildings. Many suitable buildings near large stands of *H. lupulus* have been searched and hibernating adults have only been located in two such buildings. Finding hibernating adults in natural locations is almost impossible but is suspected to be the norm. The moths showed no interest in leaving the hibernation sites in warm spells in spring and the first adults recorded at light-traps tend to occur around the end of April which agrees with our assessment that the adults leave hibernation around 20 April.

This study, based on limited data, indicates that the moth's hibernation behaviour seems to be governed more by day length than temperature, although cold weather in early April may delay their departure, and cold weather in early December may influence the beginning of their period of total inactivity.

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MONITORING GLOW-WORM *LAMPYRIS NOCTILUCA* L. (COL.: LAMPYRIDAE) POPULATIONS IN GRAZED AND MOWN GRASSLANDS

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Abstract

Glow-worms *Lamyyris noctiluca* L. (Col.: Lampyridae) were studied in grasslands under varying management regimes. Meadows subjected to a single summer cut for hay supported smaller colonies than unmanaged sites although the reasons for this are unclear. Grasslands mown regularly throughout the summer showed an increase in numbers of females; it is theorised that this might be a consequence of favourable adjacent habitats and that the shorter sward provided advantage to females displaying to males in flight overhead. A mosaic of regularly mown and tall unmanaged grassland may provide the ideal habitat. Grasslands subjected to grazing by cattle or rabbits supported only small colonies.

Introduction

Gardiner and Tyler (2002) and Gardiner *et al.* (2002) suggest that grassland management may be particularly important for the future survival of *Lampyris noctiluca* L. colonies. Populations of this species may have declined due to cessation of grassland management through the decline in sheep farming and the decimation of Rabbit *Oryctolagus cuniculus* populations due to myxomatosis which has led to scrub encroachment of grasslands and subsequent loss of suitable habitat (Gardiner and Tyler, *op. cit.*). Conversely, overgrazing may also be detrimental and some observers have reported reduced numbers of glowing females on grazed sites, perhaps due to the negative impact of grazing on snail (larval food) populations. However, many of these reports are purely anecdotal and there is an urgent need for scientific recording of populations to determine management techniques that may increase the remaining populations of *L. noctiluca* (Tyler, 2002). The aim of this paper is to compare the abundance of *L. noctiluca* in grazed, mown and unmown grasslands using a simple transect counting method, to elucidate the importance of grassland management in determining colony size in Essex.

Sampling of *Lampyris noctiluca* populations

A transect was established at each of 16 Essex sites with a known *L. noctiluca* colony in 2001 to allow the abundance of glowing adult females to be ascertained. Two transects each were established in grazed grassland (rabbit grazed heathland / woodland (O. S. grid reference TL 7806) and cattle grazed unimproved pasture TL 5420 (breeds: Belted Galloway, Welsh Black and British White, stocking density: 1 cow per hectare), combined transect length = 4150 m, no of surveys = 24), and grassland regularly mown every two or three weeks throughout the summer

(TM 0019 and TL 5538, combined transect length = 510 m, no of surveys = 21). Six transects each were established in grassland mown once a year during the summer (May – September), often for hay (cuttings removed) or to keep a grassy verge from scrub encroachment (cuttings not removed) (site grid references: TL 7720, TL 7807, TQ 7885, TL 9526, TQ 6986, TQ 6888, combined transect length = 1660 m, no of surveys = 48) and unmanaged grassland (control) (site grid references: TQ 7086, TQ 9094, TL 8513, TQ 810860, TQ 835991, TQ 607792, combined transect length = 2250 m, no of surveys = 51).

Each transect at each site was at least 100 metres in length and was walked once in each of three two-week periods in 2001: 9-22 July, 23 July-5 August, and 6-19 August and many of the transects were walked in the same periods in 2002, 2003 and 2004 (some transects were discontinued in later years of the survey due to practical difficulties) to allow any changes in density in managed grasslands between years to be incorporated into the data. Any glowing adult females that were observed along the route were recorded. It was felt that these three periods adequately incorporated the peak glowing season in Essex when most adult females will be displaying. The main disadvantage to using transect counts of glowing females as an estimation of colony size is that females only mate once, after which they stop glowing (Tyler, 2002). Therefore, low numbers of glowing females at a site may indicate successful breeding on previous nights rather than a small colony.

The walks were standardised so that comparisons could be made between the densities of females per 100 m in grasslands with differing management. Survey participants were required to commence each walk between 2200 and 2300 hours, and to terminate by 0000 hours. A slow strolling pace was recommended for the walks to reduce the risk of overlooking glowing females along the route. Surveys were not conducted in unfavourable conditions, for example, when it was cold, wet or windy, because counts may be reduced under such climatic extremes (Alexander, 1992).

Analysis of differences in abundance between grassland type

The authors used Kruskal Wallis multiple comparison test (Heath, 1995) to determine whether there was any statistical difference between the median density of adult females per 100 m in grassland that was grazed, mown regularly, mown once a year or unmanaged (control). Dunn's non-parametric procedure (Gardiner, 1997) was then performed to ascertain significant differences in female abundance between the four grassland types. As there were a large number of samples being compared, the authors accepted significant differences at $P<0.01$.

Results and discussion

The total number of glowing females counted in this survey was 1259 from 144 surveys over the four year monitoring period (2001-2004). There were significantly lower densities (at $P<0.001$) of adult females recorded from grazed pasture (sward height < 10 cm) than from sites which were mown or unmanaged (Table 1), suggesting that grazed pasture supported only small colonies of *L. noctiluca* in this study. It may be that grazing (by rabbits and cattle) has a negative impact on snail populations that provide food for the larvae of this species and larger populations in Essex may be found in habitats which are unmanaged and have taller and ranker vegetation (> 30 cm in height) that support large snail populations (Tyler, 2002). It seems that this study adds quantitative data to the anecdotal argument that grazing can lead to reduced *L. noctiluca* populations. Indeed at the site heavily grazed by rabbits (sward height < 10 cm), recorded numbers fell from 40 glowing females in 2001 to only three females in 2004.

Table 1. *Lampyris noctiluca* abundance in managed grasslands in Essex (data for all four years was pooled).

Grassland management	Median no. of females per 100 m (range)*	Total no. of females counted	Max count
Grazed (cattle/rabbits)	0.04 (2)[a]	76	29
Mown frequently	2.33 (9)[b]	149	27
Mown once a year	1.00 (8)[c]	163	20
Unmanaged (control)	2.71 (21)[b]	871	101

* Median values in this column followed by a different superscript letter are significantly different at P<0.001 (Kruskal Wallis multiple comparison test)

It would seem that meadows cut once a year for hay in the summer support smaller colonies than unmanaged sites (Table 1), suggesting that mowing at this time of year may lead to reduced colony size although the precise reasons behind the low abundance in these Essex meadows are unclear and further research is needed. However, grasslands under hay management did display increases in female abundance, for example, in one unimproved hay meadow, nine glowing females were recorded in 2001, 35 females in 2003 and 20 females in 2004.

Grasslands mown frequently throughout the summer (< 10 cm sward height) tended to have densities of glowing females that were comparable to unmanaged grassland (> 2 females per 100 m; Table 1). The authors suggest that the relatively high abundance of *L. noctiluca* at these sites was due to the favourability of the surrounding habitats which were hedgerows and tall grassland / scrub which may have offered abundant larval food and shelter. It may be that females preferred to display on the short grassland habitats because it is easier for them to be spotted by flying males in these open areas (Tyler, 2002). A mosaic of regularly mown and tall unmanaged grassland may therefore be the ideal management for *L. noctiluca* providing adequate female display areas and larval habitat. Tyler (2002) suggests that random mowing of sites (mower meandering across site and route varied each year) to create a fine-scale mosaic of short and tall vegetation may be beneficial to

L. noctiluca populations and this study of Essex colonies seems to provide some evidence to promote the use of this management technique to enhance abundance of this species in grasslands.

Conclusion

This study of Essex *L. noctiluca* colonies showed that populations of this species were particularly large in unmanaged and frequently mown habitats suggesting that a combination of these two management techniques at a site may well have a favourable impact upon populations of this species. Pastures grazed by cattle and rabbits had particularly small colonies perhaps due to the adverse effect of grazing on snail populations.

Acknowledgements

The authors would like to thank all survey participants who walked transects at the different sites. Our gratitude is also extended to Writtle College for providing finance and resources for the duration of the survey.

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Dasineura thomasiana (Kieffer) (Dip.: Cecidomyiidae), new to the Isle of Man

From research work in Ireland, the author has become familiar with the galls of the cecidomyiid *Dasineura thomasiana* (Kieffer). Young terminal leaves of lime *Tilia* are rolled or crinkled and distorted with thickened veins. As a result, while recently incorporating his galls into the collections of the National Museum of Ireland, he recognised unnamed Manx specimens of *D. thomasiana*. The galls was collected by him on a lime tree at the Onchan Pleasure Park (O.S. grid reference SC 3978) on 5 July 1998 but were not determined at the time. White larvae were noted as being present. The identification has been confirmed using M. Redfern, P. Shirley & M. Bloxham (2002. *Field Studies* **10**: 207-531). The species is not included in the comprehensive list of Manx Cecidomyiidae by K. M. Harris & F. D. Bennett (2003. *Entomologist's Record* **115**: 109-115).— J. P. O'Connor, National Museum of Ireland, Kildare Street, Dublin 2, Ireland.

Hazards of butterfly collecting. Pulling the legs off flies, Bangladesh, 2002

In recent years the classification of butterflies has been subjected to much genetic/molecular analysis, where the DNA of a few genes are used to create a "natural tree of life" (cladogram) of the family, tribe, genus, or species-group in question. It used to be expensive to read genes, but now the cost is down to a few dollars a go.

In 2001, I started a correspondence with Niklas Wahlberg in Stockholm who was working on the higher systematics of the Nymphalidae. There were some key species he really wanted, one of them *Stibochiona nicea*. I first – and very surprisingly too – ran into this species in Bangladesh. It happened to be one of my childhood favourites from black and white photographs – and having later seen colour photos did nothing to lessen my enthusiasm for the species.

As I gleaned more information on molecular systematics, I decided that giving time to this was a useful public service. So I tried to help Niklas. On my visits to Srimangal in Bangladesh, I sent him what seemed interesting Nymphalidae. However, his preference was to have two or three legs pickled in pure alcohol (actually fresh butterflies carefully dried and expedited to a cryo-freeze facility are quite OK, and increasingly even ordinary specimens are fine for several years as gene-sequencing techniques improve).

So during my first forays into molecular research I pickled the legs of butterflies. I did it at the wonderful guest-house run by the British Development Agency (DFID) at Srimangal. It actually sat on a hilltop surrounded by some of what little forest remains in Bangladesh. A major problem was getting out of the swimming-pool fast enough if something really interesting appeared. Otherwise one could just watch the huge birdwings *Troides helena* passing by.

Usually there were not many people about, but the first evening I was getting molecular data happened to be that of a large barbeque weekend by High Commission staff from Dhaka – some were even camping. I had appropriated the ping-pong table to pack the day's exceptionally good catch. And here is the rub – I was in full view of about a hundred people, sitting at the ping-pong table with a pair of forceps, carefully pulling the legs off innocent butterflies and putting them in little tubes of alcohol. I have rarely had as many teasing remarks as on that evening: the quintessential image of a child pulling the legs off flies (though this child was almost 60). But it provided a fine platform for lecturing on the butterflies of Bangladesh! And someone was kind enough to snap the image of me at work.

We had only seen *Stibochiona nicea* once before and it took several trips before we finally found another – in the middle of the main road, knocked down by a car, on a day when we had not seen it nature! This was sufficient for Niklas – he was able to complete his analysis of the tribe Pseudergolini.

So far molecular systematics have resulted in significant changes in the way we view the higher classification. I am convinced that Niklas has the right end of the stick when it comes to the subfamily and tribal classification of the Nymphalidae. I have even agreed – and one does that with reluctance and much heart-searching – that the genus *Kamilla* Collins & Larsen, 1991 should be subsumed in *Junonia*. I still find it counter-intuitive, but the molecular data are too convincing.

In another study to which I contributed, Antonia Monteiro and Naomi Pierce analyzed the classification of some fairly mundane members of the Satyrinae, the large genus *Bicyclus* – no readers of this note would have problems in identifying them as typical Satyrinae. Now, this genus had been through the hands and the microscope of the excellent traditional taxonomist, Michel Condamin, in great detail in 1973. So what happened? The classification of species, subspecies, and species-groups of Condamin was generally confirmed. But the relationships between the various species-groups were radically changed – and I accept these changes. To my mind the paper of Monteiro & Pierce provides fine new data, without invalidating the splendid work of Condamin – and is that not exactly the way we want science to work?

So I am happy that I no more need be seen pulling the legs off butterflies in public and yet be able to contribute to molecular research. I am sure that we will get a flood of useful information.

Of course, at one time it was thought that male genitalia would answer all our taxonomic questions. They did not, and nor will molecular studies, but they will continue to give a much better picture of the relationships of the butterflies that we all love.— TORBEN B. LARSEN, UNDP Vietnam, c/o Palais des Nations, 1211 Geneva 10, Switzerland (E-mail: torbenlarsen@netnam.vn).

Phyllonorycter leucographella (Zell.) (Lep.: Gracillariidae): Larval mines found on new foodplant

Phyllonorycter leucographella was first discovered in Britain in 1989 feeding on Firethorn *Pyracantha*, since then it has been found on Apple *Malus* sp., Pear *Pyrus* sp, Hawthorn *Crataegus* sp. and Whitebeam *Sorbus aria*, all members of the Rosaceae.

On the morning of the 5 October I received a bag of leaf mines from Kevin Royles, a friend of mine, so that I could check his identifications. He had collected the mines on the 3 October from the Church Yard in Brington, Huntingdonshire. There were several mines from various tree species and amongst them was a London Plane leaf *Platanus hybrida* with a mine over the mid-rib. Kevin had suggested

Phyllonorycter corylifoliella, but to me it looked like *P. leucographella*. However, I had not heard of any previous record of this species feeding on this foodplant, so I photographed it and e-mailed the photograph to John Langmaid who confirmed my identification.

On the 14 October I visited Priory Park, St Neots, Huntingdonshire with the intention of finding *Cameraria ohridella* on the Horse Chestnuts in the park. After a lengthy search I eventually found a few mines on two trees. I thought while I was in the park I would record any other mines I saw, so I searched out as many different tree species I could find. Several London Plane have been planted in the park, so I checked them for *Phyllonorycter platani*. I then noticed several mines on the top of the leaves, which were identical to the mine previously seen. These proved to be further examples of *P. leucographella*. The large leaves on London Plane were supporting up to three individual mines along the mid-rib and on one leaf a mine was over the middle of one of the major veins to the side of the mid-rib.— BARRY DICKERSON, 27 Andrew Road, Eynesbury, St Neots Cambridgeshire PE19 2QE (E-mail Barry@eynesbury27.freeserve.co.uk).

A note on the Sandhill Rustic *Luperina nickerlii demuthi* Goater & Skinner (Lep: Noctuidae), especially its apparent capacity to survive under water

The Sandhill Rustic *Luperina nickerlii demuthi* Goater & Skinner is abundant on salt marshes in south-east England, where it has been recorded from Essex, Kent and Suffolk. It comes readily to light (after about 11.30pm), especially to light traps placed in the middle of saltmarshes where the larval foodplant *Puccinellia maritima* occurs in abundance. Here it is by far the commonest moth; for example on 30 August 1998 on saltmarsh near West Mersea, 31 *demuthi* (three females, 28 males) came to 80 watt m.v. light between 11.30pm and 12.30am compared with 10 other moths consisting of four species.

I have never seen any of the other three British Isles *nickerlii* subspecies (*gueneei*, *knilli* and *leechi*) feed from flowers, although they have a functional proboscis which they use to imbibe water. However, I have a single sighting of a male *demuthi* taking nectar from Sea Lavender *Limonium vulgare* Miller at West Mersea on the same date; this plant is abundant on many saltmarshes in south-east England.

The areas from which *demuthi* is recorded are often under water at high tide. I once heard my generator come to a halt when the tide rose around it at The Swale, a saltmarsh in Kent. The moths must therefore be able to cope with regular submergence. Indeed, it is noticeable that, if trapping at low tide (the safest time to be out on the saltmarsh at night), *demuthi* flies along the runnels and up over the bank edges to the lamps. The estuary sites where *demuthi* is found may be as much as 7-8 km from the open sea, so that there is probably some reduction in the salinity of the water in comparison with the open sea.

In order to test tolerance by *demuthi* of salt water immersion, I took four adult male *demuthi* collected from West Mersea home to Cornwall. They were placed on a tray of growing *Puccinellia maritima*, each one settling on a grass stem, and the tray lowered into a large aquarium. I collected sea water from the Hayle estuary in north Cornwall and mixed it with a small amount of tap water to reduce the salinity.

Figure 1. male *Luperina nickerlii demuthi* Goater & Skinner on *Puccinellia maritima* in saline water inside an aquarium. The surface of the water is clearly visible above a few centimetres above the moth.

The sea water was then poured slowly into the tank to replicate the rising tide, gradually submerging the *Puccinellia* and the moths, but leaving the highest stems out of the water. The following observations were made:

Moth 1 - stayed where it was as the water rose above it

Moth 2 - climbed up a tall *Puccinellia* stem as the water rose and remained above the water

Moth 3 - climbed up a tall *Puccinellia* stem as the water rose and remained above the water

Moth 4 - climbed up a tall *Puccinellia* stem and then crawled back down again a few centimetres under the water where it remained for the duration of the experiment (Figure 1).

I kept the water in the tank for 30 minutes to replicate high tide on the saltmarsh, before gradually lifting the tray of *Puccinellia* and the moths out of the tank. The moths appeared to be unharmed by the experience, although of course the submergence may have reduced their life expectancy.— ADRIAN SPALDING, Tremayne Farm Cottage, Praze-an-Beeble, Camborne, Cornwall.

Common Rustic *Mesapamea secalis* (L.) egg-laying on Sand Couch-grass *Elytrigia juncea*

I came across a female *Mesapamea* species laying eggs on Sand Couch-grass *Elytrigia juncea* close to the sea on Loe Bar, Cornwall, on 19 August 2005. Examination of the grass stem showed that 8 eggs had been laid on the inside surface of a sheath above the first stem node above ground level. Genitalia examination showed that the moth was in fact Common Rustic *Mesapamea secalis* (L.). I can find no other record of this foodplant for *M. secalis*. Emmet (1991. Chart showing the Life History and Habitats of the British Lepidoptera. In A.M. Emmet & J. Heath. in T*he moths and butterflies of Great Britain and Ireland*. Harley Books. Colchester) gives grasses (Gramineae) as well as *Luzula pilosa*, although Crafer (2005. *Foodplant List for the Caterpillars of Britain's Butterflies and Larger Moths*. Atropos Publishing. Meltham.) lists *M. secalis* as feeding generally from *Elytrigia* sp., as well as from *Holcus mollis*, *Festuca pratensis*, *F. ovina*, *F. arundinacea* and *Deschampsia cespitosa*. (Crafer's list may include foodplants used in captive breeding or on the continent).— ADRIAN SPALDING, Tremayne Farm Cottage, Praze-an-Beeble, Camborne, Cornwall TR14 9PH.

Six-metre grass margins and butterflies

A joint project between Butterfly Conservation (Cambridgeshire and Essex Branch), NIAB and RSPB started at the RSPB farm in Cambridgeshire in Spring 2004 and aims to find out whether standard grass margins, that tend to be dominated by vigorous species such as Cocksfoot *Dactylis glomerata*, can be made more attractive to a range of common grassland butterflies. A set of 50 metre long margin experiments were set up to explore the impact of adding flowering plants and comparing the effects of using wild and cultivated seed. Six replicates of four different treatments, native grasses, native grasses with native wildflowers, cultivar grasses, and cultivar grasses with cultivars of wildflowers, were established in the spring of 2004 with monitoring taking place from the Spring of 2005. Adult butterflies numbers were counted using the transect method four times a week, when possible, during the peak flight period of June to the end of July. Far more butterflies were observed on the native grasses and wildflower margins (Table 1) than on any of the other treatments.

Table 1. Adult butterfly numbers summer 2005.

Butterflies	**native grasses**	**native grasses & wild flowers**	**grass cultivars**	**grass cultivars & wild flowers**
All species	192	884	179	223
Maniola jurtina Meadow brown	71	353	63	69
Aphantopus hyperanthus Ringlet	35	74	26	22
Thymelicus sylvestris/lineola Small & Essex Skipper	7	36	16	6
Ochlodes faunus Large skipper	5	32	6	8
Pieris brassicae Large white	5	70	6	9
Pieris rapae Small white	57	185	56	85
Pieris napi Green-veined white	3	59	2	6
Aglais urticae Small tortoiseshell	2	62	1	6

Other related trials at the RSPB Farm include sets of replicated 10 x 6 metre margin plots sown with either *Dactylis glomerata* or Red Fescue *Festuca rubra*, designed to compare different varieties of these species. The single varieties of grass (either cultivated or native) were sown with a 20% admixture of *Trifolium pratense*, *Leucanthemum vulgare* and knapweed *Centaurea* spp. to attract butterflies and to determine the interaction between the grasses and broad-leaved plants.

Monitoring started last spring with night-time searches for feeding caterpillars and then observation of adult butterflies and vegetation structure during the summer flight period. Further work is required before any conclusions can be drawn from these trials, however DNA studies show clear differences between the two cultivated *Festuca* spp. varieties and between cultivated and wild material. In turn, these different varieties influence the number of flowers produced by the broad-leaved plants, which appears to affect adult butterfly number. Thus the species of grass has a considerable effect on butterfly numbers with almost twice as many adults recorded on average on *Festuca* compared with *Dactylis*.

It is hoped that further monitoring will take place for the next two years and anybody interested in helping especially with the evening larval searches should contact me.— ROBIN FIELD, 166 Sherwood Avenue, Northampton, NN2 8TE, e-mail rfield8633@aol.com.

Red-tipped Clearwing *Synanthedon formicaeformis* (Esp.) (Lep.: Sesiidae) rediscovered at Borough Fen Decoy, Northamptonshire, with nearby records from Northamptonshire and Cambridgeshire

On 28 June 2004, I visited Borough Fen Duck Decoy near Newborough, Northamptonshire (O. S. grid reference TF 200080; VC 32), with some pheromone lures to follow up a record of the Red-tipped Clearwing *S. formicaeformis*. The species was discovered and last observed there by the late Rick Pilcher in 1975 and is listed in his book about the Decoy (Cook & Pilcher, 1982. *The history of Borough Fen Decoy*. Providence. Ely.). The lures were MYO, TIP & VESP, as supplied by the Dutch Plant Research International in 2001. I am delighted to report that a single fresh individual of the Red-tipped Clearwing turned up to my lures at 15.30 hours. when I suspended them against the trunk of a fallen Crack Willow tree *Salix fragilis* by one of the arms of the decoy, near the centre of the site. The moth settled briefly on a sunny patch on the trunk by two of the lures, which I was using in combination because I did not have one specifically for the Red-tipped Clearwing. I had removed the MYO lure by this stage. I have used the combination of three lures successfully to detect the Red-tipped Clearwing in the past but find the species pays only a fleeting interest, unlike the more sustained attention paid by some species of clearwing to other pheromone lures (e.g. Waring, 2001b, c, 2004). The moth at the Decoy flitted off within a few seconds, flew past the lure and was not seen again. Quite a strong breeze was moving the leaves on the trees and the vegetation was dry. It is of interest to report that in the previous half hour I had tried the three lures in two other positions on the site, less than 100m away, both by a Crack Willow, in similar weather, without success. The moths reported by Waring & Wright (2003. *Br. J. ent. Nat. Hist.* **16**: 258-262) arrived at 13.55 hours, so my efforts at the Decoy had not started too early in the day however. I had also tried briefly at the Decoy without any success on the afternoon of 23 June 2004. Most of the willows on the site are Crack Willow but I have also seen Grey Willow *S. cinerea* near the capture site. I hope this experience may help and encourage others searching for this moth to find it successfully. From the records below, I would suggest that I was very early in the flight season.

The following information shows the significance of this new record. Rick Pilcher's record was the last of the few Northamptonshire records which the County Macro-moth Recorder for Northamptonshire, John Ward (pers. comm.), had on his files at the start of 2004. It transpires that my 2004 record was the first in the county for 29 years and only the second in 114 years! The status, distribution and records of the macro-moths of Northamptonshire can now be viewed on the web-site The only other records shown for this species in Northamptonshire are three from the nineteenth century and all three are the work of E. Wallis. The first was at Pytchley Spinney on 8 July 1888, the second was "near Kettering" on 3 July 1890 and the last of his records was "near Peterborough" on 8 July 1890. All were single adults and the 1890 records were of them resting on the leaves of Osier *Salix viminalis*. John informs me that in the past he has searched for the species a number of times in Northamptonshire, always in vain, including using pheromone lures on one occasion. Consequently the status of the moth in Northamptonshire is given as "rare, former resident but likely to be under-recorded". We now know it is still present. I e-mailed the result to John Ward who placed it on the web-site noticeboard within days. This may have encouraged others to search because two additional positive results were reported over the next few weeks. On 6 July 2004 Phil Horsnail attracted two individuals to pheromone lures at Pitsford Reservoir (SP 77) in the Nene Valley and on 20 July 2004 George Higgs attracted four to lures at Yardley Chase (SP 85).

There appear to be no records for Huntingdonshire since the publication of the Victoria History (Omer-Cooper, 1926), according to Barry Dickerson, County Moth Recorder for Huntingdonshire (pers. comm.). However, I was aware of two recent records of the species from VC 29 Cambridgeshire which led me to believe there was a good chance I would find the moth at the Decoy. Back in May 1991, I saw and photographed three live adult moths Peter Kirby had just reared from a discarded piece of felled willow collected the previous year from the side of the river Cam at Milton, (TL 488622), just north of Cambridge and about 40km south-east of Peterborough (see *British Wildlife* **12**: 284). The moths were subsequently exhibited at the annual exhibition of the British Entomological & Natural History Society (*Br. J. ent. Nat. Hist.* **5**: 57 & 82). Peter informs me that he has never seen the moth before or since in the three above counties, though he has seen it on single occasions in Norfolk, Yorkshire and Derbyshire. In October 1995, Howard Hillier telephoned me to report that he had been shown a good photograph of a live Red-tipped Clearwing taken that summer at Lattersey Pit (TL 284963) near Whittlesey, about 10km south-east of the Decoy. Subsequently, on 2 August 2004 Alan Stubbs saw a single adult, probably a female, at King's Dyke Pit (TL 247976) about 6km from Lattersey Pit. King's Dyke Pit is managed as a nature reserve by the brick company that owns it. The moth was flying around a fissure in the bark on the trunk of a Purple Osier *Salix purpurea*. The fissure was sticky and had attracted many aphids. No egg-laying was confirmed however. It seems likely that further searches of additional sites in these counties will produce evidence that the Red-tipped Clearwing is more widespread and better distributed than the existing records indicate.

I would like to thank the private owner of the Decoy for his access permission and his enthusiasm for me to record moths there, John Ward for the historical records, the above-named for their observations, and Writtle College for support in undertaking the fieldwork and preparing this report.— PAUL WARING, Reader, Centre for Environment & Rural Affairs, Writtle College, Essex. Contact address: Windmill View, 1366 Lincoln Road, Werrington, Peterborough, PE4 6 LS (E-mail: paul_waring@btinternet.com).

My myiasis *or* a brief account of the wondrous interconnectedness of life

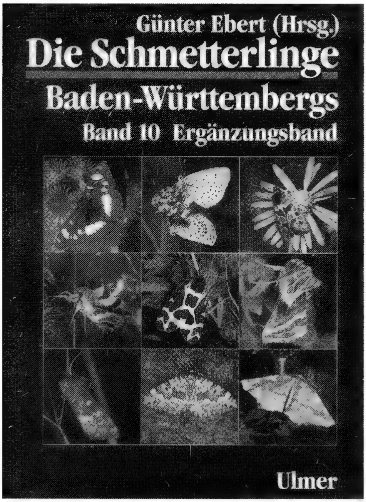
I was surprised yet fascinated – but honestly not alarmed – when I pulled a 16 mm (5/8") maggot from my flesh, an uninvited "guest" that returned with me from two weeks of butterfly fieldwork in the Central American country of Belize. It was the Neotropical or human bot, the parasitic larva of the botfly *Dermatobia hominis* Linnaeus, family Oestridae, known in Latin America by such names as berne, nuche, and tórsalo. This widespread dipteran, which infests a large number of different mammals and even birds, has a remarkable, if not unique, life history. (Other less specialized myiatic flies reported to parasitize people occur in most of the world's warmer regions.) The female botfly does not lay eggs directly on human skin, but rather captures an active mosquito, other species of fly, or tick and carefully deposits 15 to 30 ova on the underside of the body. When, for example, the carrier mosquito sucks blood, contact with or warmth from the host (in this case, me!) stimulates rapid hatching, and the tiny grub quickly penetrates the skin through the bite or along a hair follicle. There it remains inside a subcutaneous cavity near the entrance hole that it needs for breathing, feeding raspingly on tissue and molting twice. The larval period lasts approximately eight weeks in the body (mine was there about five), after which the spiny maggot leaves the tumorous swelling it produced, dropping to the ground and pupating in the soil. After a month or so, the rather large, metallic blue adult fly, which has atrophied mouthparts and does not eat, emerges to mate and begin the life cycle again.

Besides occasional discomfort, itching, and fluid discharge, I was not terribly bothered by the bot. The lesion, which my doctor originally diagnosed as a boil, quickly healed, and I was assured my health was never at serious risk. Furthermore, these botfly grubs are said to secrete an antibiotic that prevents the growth of competing bacteria and other infective agents. The live maggot was donated to the entomology department at the California Academy of Sciences in San Francisco, where there was talk of using chicken meat to try to continue its development to adulthood.

I am almost embarrassed to add that, yes, I gave my "companion" the somewhat endearing name of Petey (the parasite).— KEITH WOLFE, 616 Alumrock Drive, Antioch, California 94509-6944, USA.

BOOK REVIEWS

Die Schmetterlinge Baden-Württembergs. Band 10, Ergänzungsband (Supplement) edited by **Günter Ebert**. 426pp., 83 colour and 46 monochrome photographs, 6 graphics, 7 distribution maps, hardback, size 240 x 170 mm. Verlag Eugen Ulmer, Wollgrasweg 41, D-70599 Stuttgart (Hohenheim), Germany. 2005. ISBN 3 8001 4383 6. In German. Price 49.90 (approx.£34), plus postage & packing. Available via Koch, Neff & Oetinger & Co. Verlagsauslieferung GmbH, Schockenriedstr. 39, D-70565 Stuttgart, Germany.



With the publication of this supplementary volume the splendid series of books covering the Lepidoptera of the large south-western German state of Baden-Württemberg has been completed. Its first section contains recent additional information, illustrated with the usual high quality colour photographs and spot distribution maps, of nearly 170 butterfly and moth species, plus corrections to earlier accounts. Another feature, however, of this section is a series of articles written by various authors on such subjects, among others, as the occurrence of Real's Wood White *Leptidea reali* Reissinger in Baden-Württemberg, new observations on the Clouded Apollo *Parnassius mnemosyne* (L.), the occurrence of the Poplar Admiral *Limenitis populi* (L.) and Niobe's Fritillary *Fabriciana niobe* (L.), and the discovery that the Marbled Fritillary *Brenthis daphne* (Bergstrasser) is indigenous to the extreme south-west of the state. Other articles deal with the findings of new research concerning the ecology of Hesperiid butterflies of the genus *Pyrgus* and moths such as the footman moths *Eilema lutarella* (L.) and *E. pygmaeola* (Doubleday), and the Sallow Nycteoline *Nycteola degenerana* (Hb.).

The second section deals with developments in the conservation of Lepidoptera species in Baden-Württemberg. Of probably particular interest to British Lepidopterists are those concerning the Marsh Fritillary *Eurodryas aurinia* (Rottemburg) and Fisher's Estuarine Moth *Gortyna borelii* Freyer. The third section is also concerned with conservation, being the results of the Species Protection Programme undertaken from 1992 to 2004, and updates the Red List of Baden-Württemberg species. Section four is chiefly an historical account of Lepidoptera studies and research in the state, covering particularly the period from 1800 up to and including 2004. It concludes with a list, with brief biographical details, of the 40 authors and more than 100 entomologists who contributed records to the 10 volumes. Section five contains the final part of the table of habitat distributions of species which was begun in Volume 1 (butterflies) and continued in Volume 3 (moths). Then follow impressive lists of the known foodplants of both imagines and larvae of all the species in Baden-Württemberg arranged under the scientific names of the families and species of plants. I have found this a very useful resource, especially when used in conjunction with the late Maitland Emmet's life history and habits of the British Lepidoptera charts in Volume 7, Part 2, of Emmet & Heath's *The Moths and Butterflies of Great Britain and Ireland* (Harley Books, 1992).

As mentioned in my reviews of the earlier volumes of the series in this journal (1992, **104**: 87; 1995, **107**: 203-204; 1998, **110**: 146-147; 1999, **111**: 46; 2002, **114**: 183-184; **116**: 141-142), a high proportion of the species included in the work also occur in the British Isles, either as residents or as immigrants. Under the enthusiastic leadership of the editor, Günter Ebert, of the State Natural History Museum at Karlsruhe, seventeen other well known German entomologists have contributed sections to this last volume. It is well worth adding it to the earlier ones to complete a series of great value to European lepidopterists, including those of the United Kingdom. I can thoroughly recommend it to readers of the *Entomologist's Record*. At 49.90 (about £34 at the time of writing), plus postage & packing, it is a very good buy. Non-German speakers should find that with judicious help from a dictionary they can extract much valuable information from these straight-forward, lucidly written and beautifully illustrated books.

John F. Burton

World catalogue of insects. Volume 6. Gracillariidae (Lepidoptera) by **Willy de Prins and Jurate de Prins.** 502 pp., 240 x 170 mm., hardbound, ISBN 87 88757 64 1. Apollo Books, 2005, price DKK 760 (£69 at November 2005) and **volume 7. Amphizoidae, Aspidytidae, Haliplidae, Noteridae and Paelobiidae (Coleoptera, Adephaga)** by **Anders N. Nilsson and Bernhard J. Van Vondel**. 172 pp., 240 x 170 mm, hardbound, ISBN 87 88757 49 8. Apollo Books, 2005, price DKK 320 (£29 at November 2005).

These are the two latest additions to the series that aims, ultimately, to catalogue all the insect species known in the world – a somewhat challenging task. In preparing to write about these two volumes I was struck by an article in a magazine that I read recently that proclaimed "... not even the experts know how many insects there are in the world" – before continuing with its own estimate that was, I suspect, not supported by any meaningful science. Nevertheless, with all this trendy talk of biodiversity these days it is sobering to realise that the magazine spoke true, so that any attempt to address this problem is surely to be warmly applauded.

Of course, it is extremely unlikely that the nomenclatural and other conclusions reported in these volumes will find favour with everyone, though at least it might get taxonomists in different countries talking to each other. Apollo Books are to be applauded (again!) for this very worthwhile series of volumes.

First Supplement to A Bibliography of Irish Entomology by **James P. O'Connor, Patrick Ashe and John Walsh**. 186 pp., paperback, 297 x 210 mm, ISBN 0 9511514 8 7. Irish Biogeographical Soiciety/National Museum of Ireland, 2005. €30 (£25) from National Museum of Ireland, Kildare Street, Dublin 2, Ireland.

Dedicated to the late Professor Bryan Beirne (1918-1998), who is perhaps most widely known, amongst an enormous number of other achievements, for his authorship of the book *British Pyralid and Plume Moths*, first published in 1952, this *Supplement* covers the years 1981 to 2000 for journals already abstracted in the original *Bibliography of Irish Entomology* and a number of additional journals. A number of corrections to and omissions from the earlier work are included. A list of abstracted journals is presented in an Appendix. The problem of citation of articles referring to material exhibited at the Annual Exhibition of the British Entomological and Natural History Society has been solved by giving them under the names of the report compilers rather than the exhibitors. The work is an essential reference source for anyone undertaking research or survey in Ireland. Potential authors of reports arising from field work will find it an important means of checking whether or not their discoveries are already known!

A catalogue and index of the publications of the Irish Biogeographical Society by **James P. O'Connor**. 76 pp., folded and stapled to A5 in card cover, ISBN 0 9511514 7 9. Occasional publication number 8 of the Irish Biogeographical Society, 2005. Price €10 inclusive of postage and packaging.

This booklet is exactly what it says on the cover and is another useful work of reference for anyone interested in the invertebrate fauna of this relatively poorly-covered country.

Carabidae de la Península Ibérica y Baleares. vol. 1. Trechini, Bembidiini by **V. M. Ortuño and M. Toribio**. 456 pp., 247 x 172 mm., hardbound, ISBN 84 931847 8 0. Argania Editio, Balmes 61, pral. 3, 08007 Barcelona, Spain, 2005. €80 plus €8 European postage.

This is the latest in a series of volumes from Argania Editio in a series that looks set to cover most of the insect groups affecting Spain and Portugal and the Balearic Islands. The text is in Spanish and so the book is not easily usable by many British Coleopterists though it could be argued, of course, that if we go to learn about insects in another country we ought to at least *try* to learn the language too! In reality, the book will have two uses for most British readers. First, the pictures (which are in English!), will be useful; these include many drawings of diagnostic features and of the genital structures, as well as Iberian distribution maps. Second, people like me who have the odd specimen lurking in a box somewhere will get someone to translate the relevant key so it can be used.

If we dig slightly deeper than these comments, however, what we will find is that this work is a scholarly treatment of the *Bembidion* of Iberia, several of which are also found in Britain. It is a work that will find a useful place in the library of British entomologists who are serious in their study of this group of ground beetles.

ADDENDA ET CORRIGENDA

The following errors, in relation to volume 117, have been communicated to the Editor:

page 96	The date for the early *Colias croceus* at West High Down should read 8 February not 3 February.
page 144	The correct Log Book number for *Eucosma rubescana* should be 1191 not 1119.
pages 207 – 220	In the article Collecting in Lappland, June & July 2004 a number of spelling errors appear to affect various place names. We have been notified of the following: in Sweden *Abisco* should read *Abisko*, *Jukkasjarvi* should read *Jukkasjärvi*, *Kalixfor* should read *Kalixfors*, *Krotvik* should read *Krokvik*, *Narvick* should read *Narvik*, *Nulla* should read *Nuolja*, *Borklieden* should read *Björkliden* and *Glommertrask* should read *Glommerträsk* whilst in Norway *Aalta* ahould read *Alta* and *Nordcap* should read *Nordkapp*. Whilst several of the errors were certainly a consequence of the peculiarities of the Custom Dictionary and associated automatic spelling correction facility within the Microsoft Word 2003 software used by the Editor we nevertheless apologise to any Scandinavian readers who may have been upset by our apparent ignorance of their countries.

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Papers

Notes

Book Review

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