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PUBLISHED BI-MONTHLY

Vol. 110

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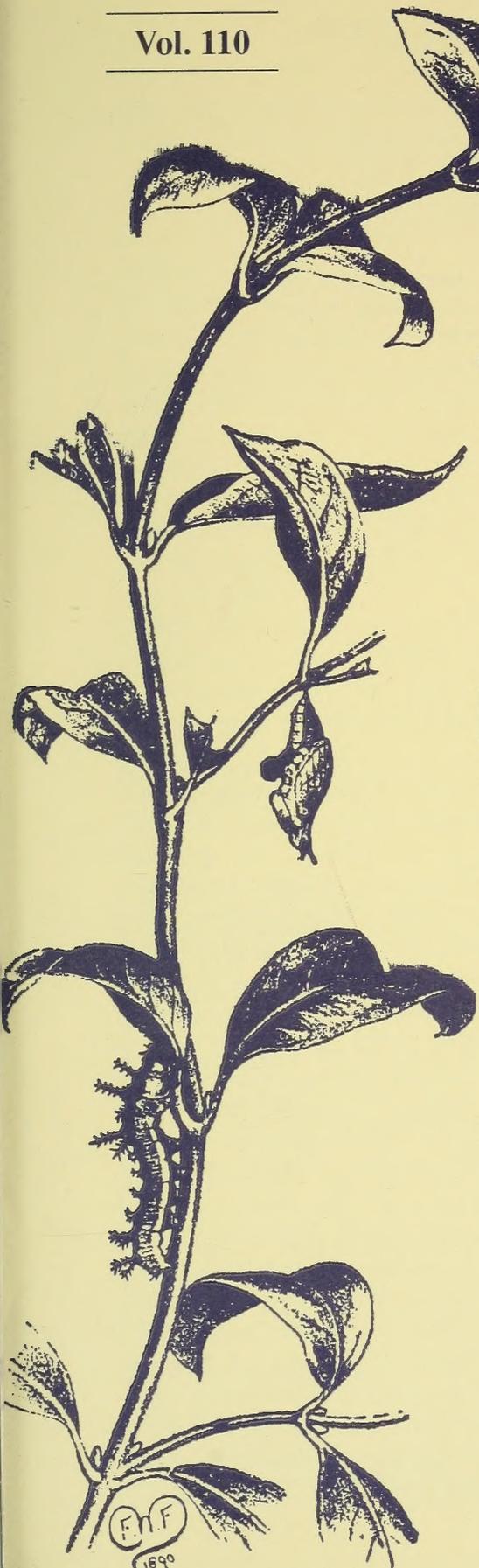
THE  
ENTOMOLOGIST'S RECORD  
AND  
JOURNAL OF VARIATION

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*January/February 1998*

ISSN 0013-3916



F.H.F.  
1690

# THE ENTOMOLOGIST'S RECORD AND JOURNAL OF VARIATION

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**THE IMMIGRATION OF LEPIDOPTERA TO THE BRITISH ISLES IN 1994**BERNARD SKINNER<sup>1</sup> AND MARK PARSONS<sup>2</sup><sup>1</sup> 5 Rawlins Close, South Croydon, Surrey CR2 8JS<sup>2</sup> Department of Entomology, The Natural History Museum, Cromwell Road, London SW7 5BD

ALTHOUGH 1994 WAS a noticeable improvement on the previous year in terms of both the range of species recorded and number of records received, it could in general terms be classified only as an average year for migrants. As in past years the first reports of the commoner butterflies and moths were in March and April, but then only in very small numbers. May witnessed a handful of Delicate *Mythimna vitellina* (Hübner) in the West Country and very little else with the notable exception of a single Striped Hawk-moth *Hyles livornica* (Esper) in Sussex on the 5th and a Water Betony *Shargacucullia scrophulariae* ([Denis & Schiffermüller]) at Swanage, Dorset, on the 18th. The latter probably constitutes only the second authenticated record of this species in Britain; the first having been taken in 1949, also at Swanage.

June and most of July were mostly uneventful; a welcome exception was an example of The Orache *Trachea atriplicis* (Linnaeus) attracted to light in south-east Kent on 3rd July. This species, a former resident, but last reported in 1915, reappeared as a probable migrant in 1986 since when seven individuals have been recorded in the south-eastern quarter of England. Two specimens, the first for England, of the pyrale *Evergestis limbata* (Linnaeus) were reported from the Isle of Wight towards the end of July. The following months brought the common and less common, but generally not the rare, migrant species normally associated with late summer and autumn which arrived regularly in average numbers. The most notable captures during this period were two male Pale Shoulder *Acontia lucida* (Hufnagel) both on the same night, but at light traps over 100 miles apart in Kent and Dorset. This species, of which less than ten examples have previously been reported in Britain, was last recorded in 1880.

In the hope of aiding the compilation of the migrant reports for future years and enabling a quicker publication it is requested that records should be stated clearly with as full details as possible and ideally the Watsonian vice-county should be given. If it is not possible to give the vice-county, a six figure grid-reference would aid the placing of the record within a vice-county at the compilation stage. The dates given for the records should be the day of the sighting, or if from a light trap it should be the date of the evening that the trap was operated. If the date given with the records is for the following morning, this should be stated clearly so that the records could be suitably amended to ensure a consistent approach.

The species listed in the annexes are laid out following Bradley & Fletcher (1979), although the nomenclature has been updated utilising Karsholt & Razowski (1996). Several records were supplied by more than one contributor and it is possible that some duplication of records has occurred, although every effort was made to eliminate this. Little attempt has been made to interpret locality data and it is possible that the same site is occasionally treated by different names. Records placed

in square brackets either require confirmation, are known to be releases or, in the case of the Cypress Carpet *Thera cupressata* (Geyer), are of individuals that are considered to be resident but are included for interest. The abbreviations listed below are used in Annex 1.

### Abbreviations

I	Primary immigrants
R	Resident
R(i)	Recent resident/Invader
R(t)	Temporary resident
V	Vagrant/wanderer

## ANNEX 1: RECORDS OF "SCARCER" SPECIES

### YPONOMEUTIDAE

#### *Yponomeuta evonymella* (Linnaeus) [I?]

SOUTH-EAST YORKSHIRE (61): Spurn Head, 24.7 - 3; 25.7 (BS).

#### *Y. rorella* (Hübner) [I?/V?]

DORSET (9): Gaunt's Common, 8 (per PD).

### ETHMIIDAE

#### *Ethmia bipunctella* (Fabricius) [I?/V?]

DORSET (9): Weymouth, 3.8 (Sterling & Sterling 1995); SOUTH HAMPSHIRE (11): Southsea, 31.7 (J.R. Langmaid per Agassiz *et al* (1996)).

### TORTRICIDAE

#### *Cydia amplana* (Hübner) [I?]

DORSET (9): Portland Bird Observatory, 30.7 (MC).

### PYRALIDAE

#### *Euchromius ocella* (Haworth) [I/E?]

WEST CORNWALL (1): Perrancombe, Perranporth, 22.12 - 1 recently dead male on indoor windowsill (FHNS, see also Smith (1995)); St. Agnes, Isles of Scilly, 13.8 (JH & MH, see also Smith (1995)).

#### *Pediasia fascelinella* (Hübner) [I]

EAST KENT (15): Dungeness, 30.7 (SPC, see also Clancy (1995c)); Dymchurch, 2.7 (JO per Clancy (1995c)).

#### *Evergestis limbata* (Linnaeus) [I]

ISLE OF WIGHT (10): Chale Green, 23.7; 30.7 (Colenutt 1995).

#### *E. extimalis* (Scopoli) [I?/V?]

Note: Records outside Thames estuary and Breckland only.

DORSET (9): Gaunt's Common, 8 (per PD); ISLE OF WIGHT (10): Chale Green, 30.7 (Colenutt 1995); Godshill, 24.8 (Cramp 1995); EAST SUSSEX (14): Norman's Bay, undated (Simmons 1995b); KENT: Coast, exact locality not given, 24.9 (Porter 1995b); EAST KENT (15): Sandwich Bay Bird Observatory, 4.8; 25.9 (ACJ); Sholden, Deal, undated (TB).

***Sitochroa palealis* ([Denis & Schiffermüller]) [I?/R?/R(t)?]**

SOUTH DEVON (3): Starcross, 5.8; 6.8; 7.8 (AHD); DORSET (9): Portland Bird Observatory, 13.7 (MC); ISLE OF WIGHT (10): Compton Down, 21.7 - 1 by day (SAKJ); SOUTH HAMPSHIRE (11): Beaulieu, 3.8 (BIJ per BG); Havant, 7.7 (per BG); Matley Grange, 10.7 (P.A. Budd per BG); EAST KENT (15): Dungeness, 13.7 (SPC); Greatstone, 24.7 (BB per SPC); Sholden, Deal, undated (TB); Whitstable, 25.7 (Bradford 1995b); BERKSHIRE (22): Milton Hill, nr. Didcot, 3.8 (Easterbrook 1995).

Summary: (3): 3; (9): 1; (10): 1; (11): 3; (15): 4; (22): 1.

***Ostrinia nubilalis* (Hübner) [I?/R?]**

Note: Records outside Thames estuary only.

WEST CORNWALL (1): Cadgwith, 1.9 (JHC); Ruan Minor & Cadgwith, 31.8 - 2 females (JHC); SOUTH DEVON (3): Abbotskerswell, 25.9 - 2 (BPH); East Prawle, 26.9; 27.9 (BRB per Agassiz *et al* (1996)); SOUTH SOMERSET (5): Porlock, 28.6 (JR per Agassiz *et al* (1996)); DORSET (9): Portland Bird Observatory, 13.7 to 15.7 - 4; 6.9 (MC); ISLE OF WIGHT (10): Chale Green, 12.7 - 2; 22.7; 23.7; 25.7 - 3; 27.7; 1.8; 25.9; 26.9 (SC per SAKJ); 30.7 (Colenutt 1995); Freshwater, 23.8 (SAKJ); SOUTH HAMPSHIRE (11): Christchurch, 3.7 - 2 (per PD); NORTH HAMPSHIRE (12): Selborne, 20.7 (AEA); EAST SUSSEX (14): Peacehaven, 24.6 - 2; 3.7; 11.7; 12.7 - 3; 14.7; 15.7; 31.8; 24.9 (CRP); WEST NORFOLK (28): Cranwich Camp, 18.7 (BFS per Agassiz *et al* (1996)); DERBYSHIRE (57): Alveston, 27.6 (I. Travers-Ayre, per Agassiz *et al* (1996)).

Summary: (1): 3; (3): 4; (5): 1; (9): 6; (10): 13; (11): 2; (12): 1; (14): 11; (28): 1; (57): 1.

***Udea fulvalis* (Hübner) [I?/R(t)]**

ISLE OF WIGHT (10): Chale Green, 30.7 (SC per SAKJ); Freshwater, 17.8 (SAKJ); SOUTH HAMPSHIRE (11): Christchurch, late 7 - several at light and on flowers of Buddleia at night (M. Jeffes per BG); 4.8 - 4 (BG).

***Maruca vitrata* (Fabricius) (=testulalis (Geyer)) [I?/E?]**

SOUTH ESSEX (18): Bradwell-on-Sea, 21.7 (AJD).

***Palpita unionalis* (Hübner) [I]**

DORSET (9): Swanage, 4.11 (RC per DB); SOUTH HAMPSHIRE (11): Beaulieu, 26.11 (BIJ per BG); WEST SUSSEX (13): Walberton, 3.11 - 2; 4.11; 7.11; 11.11; 18.11; 20.11 (JTR per CRP); EAST KENT (15): Dungeness Bird Observatory, 29.9 (per SPC); Lydd, 4.11 (KR per SPC); KENT: Coast, exact locality not given, 24.9 (Porter 1995b); WEST KENT (16): Tonbridge, 3.11 (Anon.); WARWICKSHIRE (38): Charlecote, 4.11 (AG per DB); CHANNEL ISLANDS (113): Guernsey, St. John, 27.9 (Austin 1994).

Summary: (9): 1; (11): 1; (13): 7; (15): 2; Kent: 1; (16): 1; (38): 1; (113): 1.

***Sciota adelphella* (Fischer von Roslerstamm) [R?/R(t)?/R(i)?]**

Skinner (1995a) reviews the history and present status of the species in Great Britain. Based on sightings in 1994 he suggests that the species was "possibly established in at least four localities, Greatstone, Littlestone, Dymchurch and New Romney" (all EAST KENT (15)).]

***Dioryctria abietella* ([Denis & Schiffermüller]) [I?/V?/R?]**

DORSET (9): Portland Bird Observatory, 4.7 to 27.7 - 8 (MC); NORTH HAMPSHIRE (12): Farnborough, 21.7 - 2; 4.8 (RWP); EAST KENT (15): Dungeness, 28.6 - 2; 2.7; 4.7; 10.7; 12.7; 13.7 - 3; 21.7 - 5; 22.7; 31.7 (KR per SPC); Dungeness Bird Observatory, 26.7 (per SPC); Dymchurch, 21.7 (JO per BFS); Greatstone, 20.7; 24.7 (BB per SPC); Littlestone, 3.7; 10.7; 11.7; 12.7; 13.7; 15.7; 21.7; 22.7; 24.7; 26.7; 30.7 (KR per SPC); Lydd, 3.7; 12.7; 13.7; 14.7; 15.7; 20.7; 24.7; 25.7; 26.7; 27.7; 1.8; 3.8; 5.8; 6.8; 12.8 (KR per SPC); New Romney, 28.6; 3.7 - 2; 7.7; 10.7; 12.7; 15.7; 21.7; 24.7; 25.7; 26.7; 28.7; 30.7; (KR per SPC); Sandwich Bay Bird Observatory, 1.7; 2.7; 13.7; 15.7; 18.7; 24.7 (TB); Sholden, Deal, 11.7; 18.7; 25.7 (TB); Whitstable, 19.7 (Bradford 1995b); SOUTH-EAST YORKSHIRE (61): Spurn Head, 24.7 - 4 (BS); Tophill Low, 27.7 (PAC); [SHETLAND ISLES (112): Cullivoe, 8.8 - record requires confirmation (per MGP)].

Summary: (9): 8; (12): 3; (15): 69; (61): 5; [(113): 1].

***D. simplicella* Heinemann (=mutatella Fuchs) [I?/V?]**

DORSET (9): Portland, 18.7 (per PD).

***Conobathra tumidana* ([Denis & Schiffermüller]) [I]**

DORSET (9): Gaunt's Common, 8 (per PD); SOUTH HAMPSHIRE (11): Christchurch, 4.8 (Skinner 1995b); WEST SUSSEX (13): Pagham, 11.8 (BFS, see also Skinner (1995b)); Walberton, 5.8 (JTR per CRP).

***Mussidia nigrivenella* Ragonot [I]**

EAST KENT (15): Dungeness Bird Observatory, 10.8 - 1 female (record previously published in error as 12.8 in Clancy (1995a)) (per SPC).

***Ancylosis oblitella* (Zeller) [I?/R(t)?/R?]**

WEST SUSSEX (13): Walberton, 30.7 (JTR per CRP); CAMBRIDGESHIRE (29): Mepal, Ely, 1.7 (R. Partridge per Agassiz *et al* (1996)).

**PAPILIONIDAE****The Swallowtail *Papilio machaon* Linnaeus [In/I?]**

Note: Subspecies was not stated for the following records.

SURREY (17): Redhill, 7.8 (S. Gale per GAC); [CAMBRIDGESHIRE (29): Girton, 30.7 (per CCS, see also Sparks (1995)); 10.8 (per CCS); 17.9 - larva, (4 to 5 caterpillars had previously been found feeding on cultivated dill *Anethum graveolens* and parsley *Petroselinum crispum*) (Sparks 1995). Gardiner (1995) considers the Girton examples to have originated from a escapee from a captive breeding colony of subspecies *gorganus*; LEICESTERSHIRE (55): Loughborough, 2.9 (a possible release?) (A. Knight)]; SHETLAND ISLES (112): Voe, 2.8 - 1 found dead by road (T. Baldwin per Pennington (1996)).

**PIERIDAE****Pale Clouded Yellow *Colias hyale* (Linnaeus) [I]**

CORNWALL: Exact locality not given, 27.8 (G. Sutton per NB, see also Bowles (1994c)).

**[Berger's Clouded Yellow *C. alfacariensis* Ribbe [I]**

SOUTH DEVON (3): Near Two Bridges, Dartmoor, 27.8 - 1 male (Mrs J.C. Cox) (record unconfirmed).]

**Clouded Yellow *C. croceus* (Fourcroy) [I]**

Summary only: The vice-county number is given in brackets, followed by the number of individuals sighted in each vice-county. Where no numbers were given for an individual record, it was taken to be one. For some records the numbers given were approximate, therefore the totals given below are approximate and serve to give an indication of numbers recorded. This is followed by the monthly representation of the records. In a few cases it was impossible to assign a given record to an individual month. These records were ignored. As with the totals for the vice-counties, the monthly totals are approximate.

Cornwall: 1 (+larvae); Truro area: 5; South Cornwall: 10+; (1): 23; (2): 71+; Devon: 232\* (+larvae); (3): 239+; (4): 6; (5): 3; (6): 5; (7): 1; (8): 3; (9): 261+; (10): 154+; (11): 14; (12): 1; Sussex, Brighton: 2; Burgess Hill: 1; (13): 120; (14): 141+; (15): 29; (16): 5; (17): 9+; (18): 1; (23): 4; (28): 1; (38): 2; (39): 2; (44): 25+; (45): 1; (56): 7; (61): 2; (72): 1; (73): 1; (113): 17; (H5): 1; (H38): 1.

June: 15; July: 96+; August: 352+; September: 161+; October: 128 (+larvae); November: 7; December: 1.

Earliest date: 1.6, Portland, Dorset (9) (MC).

Latest date: 15.12, Dawlish Warren, South Devon (3) (J. Fortey per Bristow (1995)).

\* Total given for Devon comes from Bristow (1995) and includes records given under the totals for VCs 3 and 4.

**Bath White *Pontia daplidice* (Linnaeus) [I]**

DEVON: Exact locality not given, 29.7 - 2 (R. Jewell per NB, see also Bowles 1994c)).

**LYCAENIDAE****[Short-tailed Blue *Cupido argiades* Pallas [I]**

EAST KENT (15): Rochester, 16.6 (W.L.M. Mulhall per NB, see also Bowles (1994c)).

**NYMPHALIDAE****[Large Tortoiseshell *Nymphalis polychloros* (Linnaeus) [I?]**

Locality not given, late 3 - several, after hibernation (Bowles 1994a) (a possible release (per NB))).

**Camberwell Beauty *N. antiopa* (Linnaeus) [I]**

WEST SUSSEX (13): Selsey, 24.9 (S. Jupp per CRP); EAST SUSSEX (14): Plumpton, early 6 (T. Smith per CRP); SURREY (17): Bletchingly, 3.8 (Mrs S. Ruck per GAC); EAST SUFFOLK (25): Diss, 8 (K. Young per NB); WEST NORFOLK (28): Wells, 2.9 (D. Holman per NB, see also Bowles (1994d)); east of Wells, 3.9 (S. Stirrup per NB, see also Bowles (1994d)); west of Wells, 3.9 (D. Holman per NB, see also Bowles (1994d)); WORCESTERSHIRE (37): Hartlebury near Stourport, 21.1 - discovered by a woodyard workman, flying (after hibernation) in late 4 (per NB, see also Bowles (1994a)); NOTTINGHAMSHIRE (56): Harlow Wood, nr. Mansfield, 5.9 (Ms A. Evans per SW); NORTH YORKSHIRE: Exact locality not given, 1.8 (Bowles 1994c).

**Queen of Spain Fritillary *Argynnis lathonia* (Linnaeus) [I]**

Bristol, 22.8 (per NB, see also Bowles (1994c)); STAFFORDSHIRE (39): Locality not given, 5.9 (per T. Beynon).

**The Monarch *Danaus plexippus* (Linnaeus) [I]**

DORSET (9): Worth Matravers, undated (C. Nunn per NB); EAST SUSSEX (14): Keymer, 11.9 (M. Legrys per CRP, see also Dey (1995)); Seaford, 21.8 (B. Reed per CRP); WEST KENT (16): Beckenham, 25.7 (M. Keen per Sokoloff (1994)); Staplehurst, 1.8 (K. Derret per NB); SOUTH SOMERSET (5): Linstock, 21.9 (B.J. Hill per BES, see also Slade (1995)); NORTH SOMERSET (6): Berrow, 2.9 (A.M. Slade & Mrs. B. Slade per BES, see also Slade (1995)); SUFFOLK: Exact locality(s) not given, 8 - 2 (Bowles 1995) (one was from EAST SUFFOLK (25): Blyth Estuary, 3.8 (R. Stewart per NB)); EAST NORFOLK (27): Eaton, 29.8 (per NB); DERBYSHIRE (57): Arkwright, 22.9 (Frost 1995).

**GEOMETRIDAE****Sub-angled Wave *Scopula nigropunctata* (Hufnagel) [I]**

ISLE OF WIGHT (10): Freshwater, 5.8 (SAKJ, see also Knill-Jones (1995b)).

**Tawny Wave *S. rubiginata* (Hufnagel) [I]**

DORSET (9): Portland Bird Observatory, 11.8 (MC); SOUTH HAMPSHIRE (11): Christchurch, 5.8 (Jeffes 1995); WEST SUSSEX (13): Walberton, 11.8 (JTR per CRP); EAST KENT (15): Dungeness Bird Observatory, 12.8 (per SPC, see also Clancy (1995a)); Lydd, 4.8 (KR per SPC); Sholden, Deal, 31.7 (TB per BFS).

**Bright Wave *Idaea ochrata* (Scopoli) [I]**

DORSET (9): Portland Bird Observatory, 14.7 (MC).

**Least Carpet *I. rusticata* ([Denis & Schiffmüller]) [I?/R?/R(t)?]**

ISLE OF WIGHT (10): Chale Green, 6.8 (SC per SAKJ); 30.7 (Colenutt 1995).

**The Vestal *Rhodometra sacraria* (Linnaeus) [I]**

WEST CORNWALL (1): St. Agnes, Isles of Scilly 6.7; 11.8; 12.8 - 2; 13.8 - 3; 15.8; 1.9 (JH & MH); 23.8 (RJH); SOUTH DEVON (3): Abbotskerswell, 6.6 (BPH); Dunsford, 21.8

(JW & JW<sup>2</sup>); Starcross, 7.8; 22.8 - 2; 28.8 (AHD); Teignmouth, undated (McCormick 1995); SOUTH SOMERSET (5): Stoke Trister, undated (JB per KB); West Luccomb, Porlock, 4.8 (JR); NORTH SOMERSET (6): Westonzoyland, 25.7; 30.8 (DM per KB); DORSET (9): Locality not given, 30.7; 8 to 14.10 - 2 (per PD); Portland, 5.8 - 2 (BFS); Portland Bird Observatory, 8.7; 3.8 to 14.8 - 6 (3 of which were on 14.8); 7.11 (MC); Sleppe Heath, Arne, 5.8 - 1 male; 6.8 - 2 (JHC); Wimborne, 7.8 (MB); Woolgarston, Corfe Castle, 5.8; 11.8; 13.8 (DB<sup>2</sup>); ISLE OF WIGHT (10): Binstead, 6.8; 7.8; 10.8; 15.8; 19.8; 20.8; 22.8; 23.8 (BJW); Chale Green, 4.8; 6.8; 11.8 - 2; 21.8; 23.8 (SC per SAKJ); Freshwater, 1.8; 5.8; 12.10 (SAKJ); 30.7; 4.8; 13.8 (DBW per SAKJ); St. Helens, 26.7 (P.J. Cramp per SAKJ); SOUTH HAMPSHIRE (11): Beaulieu, 12.7; 22.8; 2.9; 9 to 18.10 - 7; 24.10 (BIJ per BG); Chandlers Ford, 22.8 (BG); Havant, 22.8 (BC); Sparsholt, 6.8; 11.8 - 2 (RAB); Sparsholt College, 5.8 (AHD); NORTH HAMPSHIRE (12): Farnborough, 1.7 (RWP); Selborne, 4.7 (Aston 1995); WEST SUSSEX (13): Hassocks, 29.8 (DD per CRP); Pagham Harbour, 23.8 - 10 (BFS); 30.8 - 2 (SC<sup>2</sup> per CRP); Thorney Deeps, 20.8 - 1 by day (BC); Walberton, 29.7; 4.8; 5.8 - 2; 6.8; 7.8; 10.8; 23.8 - 4; 24.8 - 2; 25.8 - 2; 29.8 - 2; 30.8; 31.8; 2.9; 3.9; 25.9; 21.10; 9.11 (JTR per CRP); EAST SUSSEX (14): Crowborough, undated (Simmons 1995a); Icklesham, 10.8; 22.8; 24.9 (IH per CRP); Peacehaven, 5.8 - 3; 8.8; 12.8; 14.8; 17.8; 19.8 - 2; 22.8 - 5; 23.8; 27.8; 30.8 - 2; 31.8; 2.9; 6.9 (CRP); EAST KENT (15): Child's Forstal Wood, 29.8 (Bradford 1995a); Densole, 4.8 - 1 male; 22.8 - 1 male (TR); Dungeness, 5.8 (KR per SPC); 22.8; 25.8 (SPC); Dungeness Bird Observatory, 4.8 (per SPC); Dymchurch, 10.8; 23.9 (JO per BFS); Folkestone Warren, 22.8 - 1 male & 1 female (TR & DB); Greatstone, 8.6; 13.8; 22.8 (BB per SPC); Lydd, 30.7; 1.8; 12.8 (KR per SPC); Nagden Marshes, 22.8 (MSP); New Romney, 2.8; 5.8; 12.8 (KR per SPC); Sandwich Bay Bird Observatory, 1.8; 22.8; 30.8 - 2 (ACJ); Sholden, Deal, 4.8; 6.8; 22.8 (TB); Whitstable, 24.8 (Bradford 1995a); SURREY (17): Buckland, Betchworth, 21.8; 22.8 (CH); Lingfield, 21.8 - 3 (JHC); Richmond Park, 6.8 (D. Coleman per GAC); Wisley, 19.8 (A.J. Halstead); SOUTH ESSEX (18): Bradwell-on-Sea, 3.7 - 1 female; 7.7 - 1 male; 22.8 - 1 male; 27.8 - 1 male; 6.9 - 1 male (AJD); 31.7 - 1 female; 7.8 - 1 male; 19.8 - 1 female; 23.8 - 1 male; 26.8 - 1 female; 3.9 - 1 female; 4.9 - 1 female; BERKSHIRE (22): Mortimer West End, Reading, 23.8 - 2 (GD); Slough, 6.8 (Haywood 1995); OXFORDSHIRE (23): Long Wittenham, Abingdon, 29.7; 10.8; 23.8; 24.8 (DO); BUCKINGHAMSHIRE (24): Willen, Milton Keynes, 1.8 (GEH); BEDFORDSHIRE (30): Ampthill Park, 18.8 (Manning 1995); WEST GLOUCESTERSHIRE (34): Welshbury Wood, 1.7 (R. Barnett per RG); WARWICKSHIRE (38): Bidford-on-Avon, 4.8 (RC per DB); Charlecote, 4.8; 27.8 (DB); Rugby, 7.8 (Dr D. Porter per DB); CARMARTHENSHIRE (44): Erw-las, Llwynhendy, 8.8 (BS<sup>2</sup> per IKM); Penrhyngwyn, 4.8 (BS<sup>2</sup> per IKM); NOTTINGHAMSHIRE (56): Abbey Wood, Newstead Abbey Park, 8.8 (K.V. Cooper per SW).  
 Summary: (1): 10; (3): 7; (5): 2; (6): 2; (9): 19; (10): 22; (11): 17; (12): 2; (13): 38; (14): 25; (15): 29; (17): 7; (18): 12; (22): 3; (23): 4; (24): 1; (30): 1; (34): 1; (38): 4; (44): 2; (56): 1.

### **The Gem *Orthonoma obstipata* (Fabricius) [I]**

WEST CORNWALL (1): Cadgwith, 31.8 - 1 male (JHC); Lamorna Cove, 22.10 (MT per DB); Lizard Point, 21.10 - 2 (MT per DB); Praze-an-Beeble, Camborne, 10.11 (AS); St. Agnes, Isles of Scilly, 3.3; 18.7; 23.7; 12.8; 13.8 - 2; 14.8; 20.8; 29.8; 11.10; 12.10 - 2; 15.10; 22.10; 5.11 - 2; 10.11; 17.11; 24.11; 27.11 - 3; 15.12 (JH & MH); SOUTH DEVON (3): Abbotskerswell, 25.9; 17.12 (BPH); DORSET (9): Durlston Country Park, 5.11 (DB); Portland Bird Observatory, 14.10; 4.11 (MC); Swanage, 5.11 (DB); Woolgarston, Corfe Castle, 7.8; 10.10; 23.11; 24.11 (DB<sup>2</sup>); ISLE OF WIGHT (10): Chale Green, 9.7; 6.11; 21.11 - 3; 22.11; 23.11 (SC per SAKJ); SOUTH HAMPSHIRE (11): Beaulieu, 4.8 - 1 female; 13.9 - 1 female; 19.10; 23.10 - 1 female (BIJ per BG); Fareham, 13.6 (RJD per BG); SUSSEX: Brighton, 29.10 (SC<sup>2</sup> per CRP); WEST SUSSEX (13): Pagham Harbour, 4.11 (DB); Walberton, 29.10; 3.11; 4.11; 6.11 - 2; 7.11; 9.11; 14.11; 20.11; 22.11 (JTR per CRP); EAST SUSSEX (14): Peacehaven, 21.7 - 2; 7.11; 9.11; 14.11 - 2 (CRP); [7.9 (CRP per Waring (1994b))]; EAST KENT (15): Dungeness, 11.11 - 2 (SPC); Dungeness Bird Observatory, 5.11; 10.11 - 6; 12.11; 16.11 (per SPC); Dymchurch, 10.11 - 3 (JO per BFS); Greatstone, 7.11; 10.11 - 2; 11.11; 21.11; 22.11 (BB per SPC); Lydd, 4.11; 9.11; 10.11; 11.11; 12.11 (KR per SPC); Sandwich Bay Bird Observatory, 6.11; 9.11 - 6; 11.11 - 2 (ACJ);

Sholden, Deal, 31.7; 28.9; 11.11 - 4; 18.11 (TB); SURREY (17): Buckland, Betchworth, 8.11 (CH); Lingfield, 7.8 - 1 female (JHC); SOUTH ESSEX (18): Bradwell-on-Sea, 8.11 - 3 male; 9.11 - 1 female; 10.11 - 1 male (AJD); 8.11 - 1 male; 10.9 - 1 female; 11.11 - 1 male & 3 female; 12.9 - 2 male & 1 female (SD); Dovercourt, 11.11 (M.E. Anthony); BUCKINGHAMSHIRE (24) Willen, Milton Keynes, 11.11 (GEH); WARWICKSHIRE (38): Charlecote, 23.10 (DB); 12.11 - 2 (AG per DB); CARMARTHENSHIRE (44): Betws, 16.7 (BS<sup>2</sup> per IKM); SHETLAND ISLES (112): Eswick, 23.10 (per MGP).

Summary: (1): 28; (3): 2; (9): 8; (10): 7; Sussex, Brighton: 1; (11): 5; (13): 11; (14): 7; (15): 45; (17): 1; (18): 15; (24): 1; (38): 3; (44): 1; (113): 1.

### Spanish Carpet *Scotopteryx peribolata* (Hübner) [I]

EAST KENT (15): Greatstone, 6.9 - 1 male (BB per SPC).

### [Cypress Carpet *Thera cupressata* (Geyer) [R(i)]

DORSET (9): Durlston, undated (P. Bell per RP); undated (RC per RP); locality not given, 15.10 - 1 male (Porter 1995a); ISLE OF WIGHT (10): Freshwater, 20.10 (SAKJ); 11.7; 13.7; 24.11 - 2; 26.11 (DBW per SAKJ).]

### Lunar Thorn *Selenia lunularia* (Hübner) [I?/V?]

ISLE OF WIGHT (10): Binstead, 2.8 (BJW per Knill-Jones (1995b)).

### Feathered Beauty *Peribatodes secundaria* ([Denis & Schiffermüller]) [I?/V?]

EAST KENT (15): Greatstone Dunes, 14.7 (BFS & SPC).

### Lydd Beauty *P. ilicaria* (Geyer) (= *manuelaria* (Herrich-Schäffer)) [I]

EAST KENT (15): New Romney, 4.8 - 1 female (KR per SPC, see also Clancy (1995b)).

## SPHINGIDAE

### Convolvulus Hawk-moth *Agrius convolvuli* (Linnaeus) [I]

WEST CORNWALL (1): Cadgwith, 31.8 - 2 males (JHC); Camborne, 24.8 - 1 female (Mrs B. Langdon per Tremewan (1994)); St. Agnes, Isles of Scilly, 1.9; 4.9 - 2; 6.9 - 2; 7.9 - 3 (JH & MH); SOUTH SOMERSET (5): West Luccombe, Porlock, 1.9 (JR); DORSET (9): Portland Bird Observatory, 4.8 (MC); West Bexington, 23.8; 29 to 31.8 - 3; 14.9 (per PD); Woolgarston, Corfe Castle, 14.9 (DB<sup>2</sup>); ISLE OF WIGHT (10): Binstead, 18.9 - 1 found dead; 13.9 - 1 at tobacco flowers; 20.9 - 1 at red geranium flowers; 22.9 (BJW); SOUTH HAMPSHIRE (11): Beaulieu, 15.9 (BIJ per BG); WEST SUSSEX (13): Upper Beeding, 8.9 - 1 beaten down by heavy rain while feeding at buddleia (S. Webster per CRP); Walberton, 25.8 (JTR per CRP); EAST SUSSEX (14): Icklesham, 31.8 (IH per CRP); Peacehaven, 8.9 - 1 at rest on car wheel-hub (per CRP); 14.9 - 1 male (CRP); EAST KENT (15): Dungeness Bird Observatory, 23.8; 6.9 (per SPC); Folkestone, 25.8 (TR); Lydd, 21.9; 23.10 (KR per SPC); Sholden, Deal, 17.9 (at window) (TB); SOUTH ESSEX (18): Bradwell-on-Sea, 29.8 - 1 male; 6.9 - 1 male; 28.9 - 1 male (AJD); 13.9 - 1 female (SD); EAST NORFOLK (27), Cley, 4.9 (MT per DB); SOUTH LINCOLNSHIRE (53): Sleaford, 24.9 (P. Cawdell per RJ); NORTH LINCOLNSHIRE (54): Dalby, 3.10 (MED per RJ); Grebby, 7.9 (WGH per RJ); Roughton, 30.8 (K. Robertson per RJ); SOUTH-EAST YORKSHIRE (61): Spurn Head, 4.9 (PAC); ORKNEY ISLANDS (111): Herston, South Ronaldsay, 26.8 (Gauld 1995); Tankerness, 11.9 (Gauld 1995); SHETLAND ISLES (112): Yell, Burravoe, 25.8 (per MGP); North Roe, Isbister, 9.9 (per MGP); EAST CORK (H5): Whitechurch, 17.10 - 1 on clothes line (T. O'Byrne per KGMB).

Summary: (1): 11; (5): 1; (9): 7; (10): 3; (11): 1; (13): 2; (14): 3; (15): 6; (18): 4; (27): 1; (53): 1; (54): 3; (61): 1; (111): 2; (112): 2; (H5): 1.

### Death's-head Hawk-moth *Acherontia atropos* (Linnaeus) [I]

WEST SUSSEX (14): Arundel, 14.8 - 1 larva (T. Vanstone per CRP); EAST KENT (15): Dungeness Bird Observatory, 18.9 - 1 male (per SPC); HERTFORDSHIRE (20): Green Tye, 27.8 - large caterpillar on potato; 3.10 - 3 pupae; over following 2 weeks - 54 pupae found or reported

(Wilson 1995); OXFORDSHIRE (23): East Hendred, 24.8 - 2 fully fed larvae on *Jasminum officinale* (J. Hill per Owen (1995a)); NORTH LINCOLNSHIRE (54): Alkborough, 5.10 (G. Askew per RJ); Melton Ross Pit, 22.9 (K. Skelton per RJ).

#### **Humming-bird Hawk-moth *Macroglossum stellatarum* (Linnaeus) [I/R(t)?/R?]**

Summary only: The vice-county number is given in brackets, followed by the number of individuals sighted in each vice-county. Where no numbers were given for an individual record, it was taken to be one. For some records the numbers given were approximate, therefore the totals given below are approximate and serve to give an indication of numbers recorded. This is followed by the monthly representation of the records. In a few cases it was impossible to assign a given record to an individual month. These records were ignored. As with the totals for the vice-counties, the monthly totals are approximate.

Cornwall, Pendower: 1; Truro area: 1+; (1): 33+ (+1 larva); (2): 12; (3): 19; (5): 3; (6): 11; (8): 1; (9): 17; (10): 15; (11): 1; (12): 3; Sussex, Brighton: 1; (13): 46; (14): 66+; (15): 35 (+larvae); (16): 2; (18): 42; (24): 2; (25): 1; (28): 1 larva; (29): 1; (31): 7; (33): 6; (34): 1; (38): 3; (41): 1; (44): 4; (54): 4; (56): 2; (57): 2; (58): 2; (61): 5; (68): 4; (71): 1; (72): 1; (94): 1; (111): 1; (112): 3; (113): 2; (H3): approx. 35; (H4): 2; Co. Galway, Gortnaclogh: 1 larva; (H20): 1.

May: 1; June: 49+; July: 85 (+larvae); August: 74+ (+1 larva); September: 163+; October: 24.

Earliest date: 2.5, St. Agnes, Isles of Scilly, West Cornwall (1) (JH & MH).

Latest date: 23.10, Whinspit, Dorset (9) (SC per SAKJ).

#### **Spurge Hawk-moth *Hyles euphorbiae* (Linnaeus) [I]**

EAST SUSSEX (14): St. Leonards near Hastings, 22.8 - 1 full-fed larva (K.C. Pierce per CRP); LEICESTERSHIRE (55): Normanton-on-Soar, Loughborough, 9 - 1 dead in a garage (C. Wild).

#### **Bedstraw Hawk-moth *H. gallii* (Rottemberg) [I]**

WEST CORNWALL (1): Penhale sands, 8.9 - 1 full-grown larva (Mrs M. Atkinson per Dr F. Smith); EAST SUFFOLK (25): Dunwich, 23.7 to 25.7 (P. Batty per CRP per BFS); EAST GLOUCESTERSHIRE (33): Toddington Garden Centre, 3.9 - feeding on honeysuckle (Miss H.M. Caddick per RG).

#### **Striped Hawk-moth *H. livornica* (Esper) [I]**

EAST SUSSEX (14): Peacehaven, 5.5 (CRP); WARWICKSHIRE (38): Knowle, nr. Solihull, 26.11 (A.W. Divett per Waring (1995)).

#### **Silver-striped Hawk-moth *Hippotion celerio* (Linnaeus) [I]**

ISLE OF WIGHT (10): Bonchurch, 16.8 (JH<sup>2</sup> per BFS).

### **LYMANTRIDAE**

#### **Gypsy Moth *Lymantria dispar* (Linnaeus) [I]**

SOUTH DEVON (3): Plymouth, 10.8 - 1 male (R.F. McCormick per BFS); SOUTH HAMPSHIRE (11): New Forest, 5.8 - 1 male (D. Young per BFS); EAST KENT (15): Dungeness Bird Observatory, 4.8 - 1 male (per SPC).

### **ARCTIIDAE**

#### **Dotted Footman *Pelosia muscerda* (Hufnagel) [I]**

EAST KENT (15): Dymchurch, 16.7 (JO per BFS); Kingsgate, 31.7 (Harman 1995).

#### **Hoary Footman *Eilema caniola* (Hübner) [I?/V?]**

DORSET (9): Portland Bird Observatory, 4.8 (MC).

#### **Pigmy Footman *E. pygmaeola* (Doubleday) [I?/V?]**

Note: Subspecies not recorded.

DORSET (9): Portland Bird Observatory, 11.8 (MC).

**Four-spotted Footman *Lithosia quadra* (Linnaeus) [I]**

ISLE OF MAN (71): Ballaglass, 4.8 (L. Kneal per GDC).

**Jersey Tiger *Euplagia quadripunctaria* (Poda) [I?/R(t)?/V?]**

DORSET (9): Portland Bird Observatory, 11.8 (MC); Wimborne, 22.8 - 1 ab. *lutescens* (MB); ISLE OF WIGHT (10): Bonchurch, 13. 8; 20.8 (SAKJ).

**Scarlet Tiger *Callimorpha dominula* (Linnaeus) [I?/V?]**

EAST KENT (15): Sandwich Bay Bird Observatory, 27.6; 1.7 (ACJ).

**NOLIDAE****Kent Black Arches *Meganola albula* ([Denis & Schiffermüller]) [I?/V?]**

OXFORDSHIRE (23): Hartslock Nature Reserve, Goring, 29.6 (CMR, see also Raper (1995a & 1995b)); NORTH LINCOLNSHIRE (54): Gibraltar Point NNR, 22.7 (DB per RJ).

**Scarce Black Arches *Nola aerugula* (Hübner) [I]**

EAST SUSSEX (14): Rye Harbour, 31.7 (DJF per CRP); EAST KENT (15): Greatstone, 12.7 (BB per SPC); Dymchurch, 15.7 (JO per BFS).

**NOCTUIDAE****Coast Dart *Euxoa cursoria* (Hufnagel) [I?/V?]**

EAST KENT (15): Kingsgate, 13.8 (Harman 1995).

**Great Dart *Agrotis crassa* (Hübner) [I]**

DORSET (9): Portland Bird Observatory, 4.8 (MC).

**Pale Shining Brown *Polia bombycina* (Hufnagel) [I]**

EAST KENT (15): Greatstone, 25.6 (BB per SPC).

**White Point *Mythimna albipuncta* ([Denis & Schiffermüller]) [I]**

WEST CORNWALL (1): Cadgwith, 31.8 - 2; 1.9; 2.9 (JHC); St. Agnes, Isles of Scilly, 9.7; 13.8; 14.8; 18.8 - 2 (JH & MH); EAST CORNWALL (2): Portwrinkle beach, 15.7 (AS); DORSET (9): Durlston Country Park, 3.8; 5.8; 1.10 (RP); Portland Bird Observatory, 13.6; 3.8; 5.8; 29.8 (MC); West Bexington, 22.6; 28.6 (per PD); Woolgarston, Corfe Castle, 17.9; 19.9; 23.9 (DB<sup>2</sup>); ISLE OF WIGHT (10): Niton, 1.7 (AW per SAKJ); SOUTH HAMPSHIRE (11): Beaulieu, 19.6; 24.9 (BIJ per BG); Titchfield Haven, 13.9 (PMP per BG); WEST SUSSEX (13): Pagham Harbour, 11.8 (BFS); Walberton, 31.7; 10.8; 11.11 (JTR per CRP); EAST SUSSEX (14): Icklesham, 31.8 (IH per CRP); Peacehaven, 6.8 (CRP); EAST KENT (15): Dungeness, 12.9 - 4 (BFS); 28.6; 4.8; 5.8; 5.9 (KR per SPC); 1.6; 5.8; 6.9 (SPC); 21.8 - 2; 5.9; 13.9 - 3 (TR); Dungeness Bird Observatory, 25.6; 5.8 - 2; 30.8 (per SPC); Littlestone, 25.6 (KR per SPC); Lydd, 28.6 (KR); New Romney, 11.9 (KR per SPC); Whitstable, 12.8 (Bradford 1995a); WEST KENT (16): Tonbridge, 24.6 (Anon.); SURREY (17): Lingfield, 16.8 (JHC); SOUTH ESSEX (18): Bradwell-on-Sea, 5.8 - 1 male; 9.9 - 1 male (AJD); 4.9 - 1 female (SD); OXFORDSHIRE (23): Fyfield, 28.7 (D. Coulson per M. Townsend).

Summary: (1): 9; (2): 1; (9): 12; (10): 1; (11): 3; (13): 4; (14): 2; (15): 25; (16): 1; (17): 1; (18): 3; (23): 1.

**Delicate *M. vitellina* (Hübner) [I]**

WEST CORNWALL (1): Cadgwith, 29.8 - 2 males; 31.8 - 12; 1.9 - 5; 2.9 - 4 (JHC); Cusgarne, 21.5; 22.5 (AS); Lizard Point, 10.10; 21.10 - 2 (MT per DB); Poltesco, 16.5 - 1 male (APF); Praise-an-Beeble, Cambourne, 31.8; 11.10 (AS); St. Agnes, Isles of Scilly, 25.4; 30.4; 1.9; 4.9; 6.9 - 3; 7.9 - 2; 13.9; 18.9; 20.9; 28.9; 8.10 - 3; 9.10 - 5; 11.10 - 12; 12.10 - 8; 13.10 - 6; 14.10 - 4; 16.10 - 3; 2.11 (JH & MH); The Lizard, 19.9; 20.9 (DB); SOUTH DEVON (3): East Prawle, 25.9; 28.9; 29.9; 30.9 (BRB); DORSET (9): Durlston Country Park, 27.9; 7.10; 10.10; 4.11; 25.11;

26.11 - 3; 29.11 (RP); Portland Bird Observatory, 6.9 to 20.10 - 15 (MC); Swanage, 10.10; 11.10; 5.11 (DB); West Bexington, 28.6 (per PD); Woolgarston, Corfe Castle, 11.5; 7.6; 19.9 (DB<sup>2</sup>); ISLE OF WIGHT (10): Binstead, 12.10; 13.10 (BJW); Chale Green, 24.9; 25.9; 24.10; 5.11 (SC per SAKJ); Freshwater, 24.10 (SAKJ); SOUTH HAMPSHIRE (11): Beaulieu, 25.7; 20.9; 16.10 (BIJ per BG); Brockenhurst, 15.10 (JEC); Sparsholt, 12.9; 14.9 (RAB); WEST SUSSEX (13): Walberton, 13.9; 14.9; 3.11; 7.11 (JTR per CRP); EAST SUSSEX (14): Icklesham, 25.6 (IH per CRP); Peacehaven, 19.11 (CRP); EAST KENT (15): Densole, 14.8 (TR); Dungeness, 14.9 (KR per SPC); Dungeness Bird Observatory, 21.9 (per SPC); Greatstone, 14.9; 20.9; 12.10 (BB per SPC); Lydd, 11.9; 12.9 (KR per SPC); New Romney, 25.9; 29.9; 19.10; 5.11 (KR per SPC); Sandwich Bay Bird Observatory, 23.10 (ACJ); SOUTH ESSEX (18): Bradwell-on-Sea, 11.9 (AJD); CHANNEL ISLANDS (113): Guernsey, L'Ancrese, 17.6 (Austin 1994); Guernsey, St. John, 29.9 (Austin 1994).

Summary: (1): 88; (3): 4; (9): 22; (10): 7; (11): 6; (13): 4; (14): 2; (15): 13; (18): 1; (113): 2.

#### **White-speck *M. unipuncta* (Haworth) [I]**

WEST CORNWALL (1): Cadgwith, 31.8 - 1 female (JHC); Praze-an-Beeble, Camborne, 13.12; 14.12 (AS); St. Agnes, Isles of Scilly, 28.2; 13.8; 7.9; 18.9 - 2; 25.9; 27.9; 29.9; 9.10; 11.10; 13.10; 16.10 - 3; 28.10; 2.11; 11.11; 15.11 - 2; 22.11 - 4; 24.11 - 3; 25.11 - 4; 27.11 - 5; 30.11 (JH & MH); SOUTH SOMERSET (5): West Luccombe, Porlock, 21.4 (JR); DORSET (9): Durlston Country Park, 26.11; 27.11 - 3; 28.11 - 2 (RP); Portland, 15.9 (per PD); Portland Bird Observatory, 18.4; 16.9; 8.10; 10.11; 26.11 (MC); Woolgarston, Corfe Castle, 23.11 (DB<sup>2</sup>); ISLE OF WIGHT (10): Freshwater, 25.11; 27.11 (SAKJ); WEST SUSSEX (13): Wick, Littlehampton, 11.12 (R. Pratt per CRP); EAST SUSSEX (14): Peacehaven, 19.11 (CRP); EAST KENT (15): Lydd, 11.11 (KR per SPC).

Summary: (1): 39; (5): 1; (9): 13; (10): 2; (13): 1; (14): 1; (15): 1.

#### **The Cosmopolitan *M. loreyi* (Duponchel) [I]**

WEST CORNWALL (1): Cadgwith, 2.9 - 1 male (JHC); SOUTH DEVON (3): East Prawle, 26.9 (BRB); DORSET (9): Portland Bird Observatory, 4.11 (MC); ISLE OF WIGHT (10): Bonchurch, 23.10 (JH<sup>2</sup> per BFS); SURREY (17): Buckland, Betchworth, 6.11 (CH); NORTH LINCOLNSHIRE (54): Gibraltar Point NNR, 22.7 (P. Sharp per DB).

#### **Water Betony *Shargacucullia scrophulariae* ([Denis & Schiffermüller]) [I]**

DORSET (9): Durlston Head, 18.5 - 1 male (JHC).

#### **Red Sword-grass *Xylena vetusta* (Hübner) [I]**

DORSET (9): West Bexington, 18.4 (per PD); NORTH LINCOLNSHIRE (54): Scotton Common, 26.8 (RJ, WJJ, A. Credland & A.T. McGowan per RJ).

#### **Sword-grass *X. exsoleta* (Linnaeus) [I?/R?]**

SOUTH DEVON (3): Yarner Wood, 7.7 (McCormick 1997).

#### **Flame Brocade *Trigonophora flammea* (Esper) [I]**

DORSET (9): Durlston, 4.11, 5.11 (H. Murray per DB).

#### **The Orache *Trachea atriplicis* (Linnaeus) [I]**

EAST KENT (15): Densole, 3.7 - 1 male (TR); CHANNEL ISLANDS (113): Guernsey, L'Ancrese, 16.7 (Austin 1994).

#### **Angle-striped Sallow *Enargia paleacea* (Esper) [I]**

SURREY (17): Pirbright, 16.7 (GAC).

#### **The Concolorous *Chortodes extrema* (Hübner) [I?/V?]**

EAST KENT (15): Sandwich Bay Bird Observatory, 1.7 (conf. by genitalia examination) (ACJ).

#### **Blair's Wainscot *Sedina buettneri* (Hering) [I]**

NORTH ESSEX (19): Frinton-on-Sea, 16.10 (Ms B. Lock per Firmin (1995)).

**Vine's Rustic *Hoplodrina ambigua* ([Denis & Schiffermüller]) [I?/V?]**

SOUTH-EAST YORKSHIRE (61): Spurn Head, 16.8 (BS).

**Small Mottled Willow *Spodoptera exigua* (Hübner) [I]**

WEST CORNWALL (1): Cadgwith, 29.8 - 1 male (JHC); Praze-an-Beeble, Camborne, 29.9; 3.10; 15.10; 16.10 (AS); St Agnes, Isles of Scilly, 26.6; 3.7 - 2; 6.7 - 2; 9.7 - 2; 10.7 - 10; 12.7 - 3; 14.7; 16.7 - 4; 25.7; 5.8 - 3; 6.8 - 3; 8.8; 12.8 - 2; 13.8 - 6; 14.8 - 4; 18.8 - 3; 20.8 - 2; 29.8; 1.9; 4.9 - 3; 6.9; 24.11 (JH & MH); 22.8 (RJH); SOUTH DEVON (3): Abbotskerswell, 10.7 (BPH); Starcross, 5.8; 6.8; 7.8; 14.8 - 2; 15.8; 9.9; 10.9; 11.9 (AHD); Teignmouth, undated (McCormick 1995); SOUTH WILTSHIRE (8): Pepperbox Hill, 2.7 (A. Pickles per Waring (1994a)); DORSET (9): Locality not given, 12.7 (per PD) [maybe a duplicate of other records listed]; Durlston Country Park, 5.8; 6.8 (RP); Gaunt's Common, 28.6 (per PD); Lyme Regis, 2.7 (BPH); Oaker's Wood, 1.7 (per PD); Portland Bird Observatory, 1.7 to 3.9 - 27 (peaks of 3 on 2.7 and 3.7) (MC); ISLE OF WIGHT (10): Binstead, 23.8; 27.8 (BJW); Brook Down, 12.8 (SC per SAKJ); Chale Green, 22.8 - 2; 23.8 - 3; 3.9 (SC per SAKJ); Freshwater, 19.8 (SAKJ); SOUTH HAMPSHIRE (11): Beaulieu, undated - few (BIJ per BG); Brockenhurst, 16.8 (JEC); Keyhaven, undated (Scanes 1995); Sparsholt, 31.7; 6.8; 7.8; 10.8; 11.8; 17.8 - 3; 19.8 - 3; 23.8; 26.8; 27.8; 1.9; 3.9; 7.9; 12.9 (RAB); Tisbury, undated (DT per BG); Titchfield Haven, 1.6 (PMP per BG); NORTH HAMPSHIRE (12): Greywell Moors Reserve, Odiham, 16.8 (AHD); WEST SUSSEX (13): Pagham Harbour, 11.8; 23.8 - 4 (BFS); Walberton, 24.7; 31.7; 16.8; 22.8; 25.8 - 2; 26.8; 29.8; 30.8; 4.9 (JTR per CRP); EAST SUSSEX (14): Icklesham, 2 probably in 8 (IH per CRP); Norman's Bay, undated (Simmons 1995a); Peacehaven, 26.7; 27.7 - 3; 28.7 - 3; 29.7; 30.8; 31.8; 5.9; Ringmer, 16.8 (A. Batten per CRP); EAST KENT (15): Dungeness, 5.9 (KR per SPC); 13.9 - 1 male (TR); Dungeness Bird Observatory, 21.7; 20.8; 29.8 (per SPC); Dymchurch, 2.8; 6.8; 27.8 - 2 (JO per BFS); Greatstone, 19.8; 29.8 (BB per SPC); Littlestone, 11.8 (KR per SPC); Lydd, 5.8 (KR per SPC); Newington, Sittingbourne, 23.9 (R.E. & C.G. Lane); New Romney, 4.8; 11.9 (KR per SPC); SURREY (17): Buckland, Betchworth, 12.11 (CH); Tolworth, undated (Scanes 1995); SOUTH ESSEX (18): Bradwell-on-Sea, 26.8 (AJD); 27.7; 31.8; 23.8 (SD); OXFORDSHIRE (23): Long Wittenham, Abingdon, 1.7; 26.7; 11.8; 20.8 (DO); WARWICKSHIRE (38): Charlecote, 18.8; 20.8 (DB); Rugby, 22.8 (P.E. Nicholas per DB); ISLE OF MAN (71): Ballaugh Curraghs, 28.6 (Dr Wallace per GDC); Castletown, 23.8 (GDC); DUMFRIESSHIRE (72): Connansknowe, Kirkton, 8.8 (RM & BM).

Summary: (1): 63; (3): 11; (8): 1; (9): approx. 32; (10): 10; (11): 23+; (12): 1; (13): 15; (14): 15; (15): 16; (17): 2; (18): 4; (23): 4; (38): 3; (71): 2; (72): 1.

**Scarce Bordered Straw *Helicoverpa armigera* (Hübner) [I]**

WEST CORNWALL (1): St. Agnes, Isles of Scilly, 1.7; 16.7; 11.10 (JH & MH); SOUTH DEVON (3): [Abbotskerswell, 30.10 - 1 larva which had been feeding in the flower buds of carnations bought in a shop in Newton Abbot on 1.10 (BPH)]; East Prawle, 25.9; 26.9; 27.9 (BRB); DORSET (9): Locality not given, 30.7 - 2; 19 to 23.11 - 1 (per PD) [some maybe duplicates of other records listed]; Durlston Country Park, 27.9; 1.10 (RP); Gaunt's Common, 14.7 (per PD); Portland Bird Observatory, 26.9 to 30.9 - 14 (peak of 8 on 26.9); 23.10; 11.11 (MC); West Bexington, around 24.9 (per PD); ISLE OF WIGHT (10): Binstead, 28.9 (BJW); Freshwater, 14.10 (SAKJ); SOUTH HAMPSHIRE (11): Christchurch, 27.9 (Jeffes 1996); Titchfield Haven, 1.9 (Waring 1994b); WEST SUSSEX (13): Pagham Harbour, 30.8 (SC<sup>2</sup> per CRP); Walberton, 3.8; 21.10 (JTR per CRP); EAST SUSSEX (14): Crowborough, undated (Simmons 1995a); EAST KENT (15): Dungeness, 12.9 (BFS); Dungeness, 20.10 (KR per SPC); 31.8; 20.10 (SPC); Dungeness Bird Observatory, 29.9; 11.11 (per SPC); Greatstone, 24.9 (RET per SPC); Sholden, Deal, 21.8 (TB); Westbere, 2.10 (Harman 1995); SURREY (17): Lingfield, 4.9 (JHC); SOUTH ESSEX (18): Bradwell-on-Sea, 13.8; 16.8; 9.9; 10.9; 14.9 (AJD); [BERKSHIRE (22): Slough, undated - larva which probably emanated from a bunch of chrysanthemums in the house (Haywood 1995)]; WARWICKSHIRE (38): Charlecote, 28.9 (AG per DB).

Summary: (1): 1; (3): 1 [+1 larva]; (9): 23; (10): 2; (11): 2; (13): 3; (14): 1; (15): 9; (17): 1; (18): 5; [(22): 1 larva]; (38): 1.

**Marbled Clover *Heliothis virescens* (Hufnagel) [I?/V?]**

SOUTH HAMPSHIRE (11): Sparsholt, 6.8; 7.8; 17.8 (RAB); Timsbury, undated (DT per BG); NORTH ESSEX (19): Saffron Walden, 6.8 (Emmet 1995); HERTFORDSHIRE (20): Rushy Mead Nature Reserve, nr. Bishop's Stortford, 6.8 (Plant 1995).

**Bordered Straw *H. peltigera* ([Denis & Schiffermüller]) [I]**

WEST CORNWALL (1): Cadgwith, 31.8 - 2 males (JHC); St. Agnes, Isles of Scilly, 19.5 (JH & MH); SOUTH DEVON (3): Dunsford, 11.8 (JW & JW<sup>2</sup>); East Prawle, 26.9 (BRB); Exeter, 1.9 (P. Butter); Plympton, 6.7 (RJH); Teignmouth, undated (McCormick 1995); SOUTH SOMERSET (5): Haselbury Plucknett, 25.6 (M. Elvidge per KB); Stoke Trister, 5.5 (JB per Waring (1994a)); NORTH SOMERSET (6): Ashcott, 10.5; 9.7; 31.7 (J. C. Lidgate per KB); Westonzoyland, 3.9 (DM per KB); DORSET (9): Locality(s) not given, 3 to 21.7 - 14 (4 on 12.7) (per PD) [some maybe duplicates of other records listed]; Cheyne Weares, Portland, 28.6 - 1 by day (MC); Gaunt's Common, 1.6; 3.7 (per PD); Portland, 5.8 (BFS); Portland Bird Observatory, 10.7 to 26.9 - 14 (MC); Woolgarston, Corfe Castle, 4.7 - 2; 7.7; 9.7 - 2; 12.7 - 3; 15.7; 20.7 (DB<sup>2</sup>); ISLE OF WIGHT (10): Binstead, 8.7; 17.7; 26.8; 27.8 (BJW); Brownwich, 10.8 (RJD per BG); Chale Green, 30.7 (Colenutt 1995); 12.8 (SC per SAKJ); SOUTH HAMPSHIRE (11): Beaulieu, 3.8 (BIJ per BG); Chandlers Ford, 22.8 (BG); Chilling, 3 to 14.7 - 6; 3.8 (per BG); Christchurch, 7.6 (per PD); Fareham, 7.5; 13.6; 2.7; 12.7 (per BG); Hengistbury Head, 29.9 (Jeffes 1996); Hythe, 1.6; 26.9 - at flowers in garden (I.W. Staples per BG); Sparsholt, 7.8 (RAB); Titchfield Haven 17.5; 30.6 (PMP per BG); NORTH HAMPSHIRE (12): Farnborough, 16.7 (per BG); 7.9 (RWP); WEST SUSSEX (13): Woods Mill, Henfield, 5.8 (DD per CRP); Pagham (east side), 4.8 - 40 larvae (JHC); Pagham Harbour, 11.8 - 3 (BFS per CRP); Walberton, 3.6; 3.8; 21.9; 26.9; 27.9; 28.9 (JTR per CRP); EAST SUSSEX (14): Crowborough, 15.6; 7.7; 7.8 (Simmons 1995a); Icklesham, 25.6 (IH per CRP); Peacehaven, 2.6 (CRP); Rye, 2.8 (DJF per CRP); EAST KENT (15): Densole, 30.7; 5.8; 7.8; 31.8; 13.9 (TR); Dungeness, 15.7; 25.7; 28.7; 5.8; 14.9 (KR per SPC); 5.8; 8.8; 4.9 (SPC); 1.9 - 6 larvae; 5.9 - 15 larvae; 12.9 - 2 larvae; 14.9 - 3 larvae; 11.10 - 1 larva (all feeding on sticky groundsel) (TR); Dungeness Bird Observatory, 8.6; 13.6; 25.6 - 2; 2.7; 3.7; 10.7; 13.7; 20.7; 24.7; 31.7; 2.8 - 2; 3.8; 10.8 - 2; 20.8; 22.8 - 2; 27.8; 3.9; 5.9 (per SPC); Folkestone, 24.9 (GAC); Folkestone Warren, 10.9 - 2 larvae (one parasitized) (TR); Greatstone, 5.7; 6.7; 23.7; 27.7; 5.9 (BB per SPC); Littlestone, 3.8; 8.8 (KR per SPC); Lydd, 29.6; 14.7 (KR per SPC); New Romney, 1.6; 3.7; 10.7; 13.7; 24.7; 3.8; 4.8 (KR per SPC); Sholden, Deal, 30.6; 4.8; 8.8; 18.8; 22.8; 26.8; 27.8 (TB); Sandwich Bay Bird Observatory, 28.8; 12.9 (ACJ); WEST KENT (16): Tonbridge, 7.6 (Anon.); SURREY (17): Buckland, Betchworth, 2.7 - 3; 4.8; 7.8 (CH); Walworth, 17.10 (G. Martin); SOUTH ESSEX (18): Bradwell-on-Sea, 11.7; 4.8; 12.8; 25.8 (AJD); 3.8; 6.8 (SD); BERKSHIRE (22): Mortimer West End, Reading, 29.6; 3.7; 6.7 (GD); Purley-on-Thames, Reading, 7.9 (CMR, see also Raper (1995b)); OXFORDSHIRE (23): Henley-on-Thames, 5 - 1 female (Wedd 1995); Long Wittenham, Abingdon, 19.7; 5.8; 10.8; 26.8; 29.8; 30.8; 12.9; 22.9 (DO); BUCKINGHAMSHIRE (24): Chesham Bois, 26.8 (JEC & Ms J.M. Spence); Willen, Milton Keynes, 3.7; 5.8 (GEH); Turville Heath, undated (Harman 1995); EAST SUFFOLK (25): Dunwich Beach, 4.7 (BLS); EAST NORFOLK (27), Cley, 4.9 (MT per DB); HUNTINGDONSHIRE (31): Locality not given, 8.7; 9.7; 3.8 - 2 (Ms D. Hillier per B. Dickerson); WARWICKSHIRE (38): Charlecote, 1.6 (AG per DB); 10.9; 11.9 (DB); Coventry, 26.8 (A. Kolaj per DB); Hampton Magna, 14.9 (P. Robbins per DB); GLAMORGANSHIRE (41): Horton, 6.8 (IKM & P.M. Pavett); CARMARTHENSHIRE (44): Betws, 25.6 (BS<sup>2</sup> per IKM); NORTH LINCOLNSHIRE (54): Dalby, 11.6 (MED per RJ); Grebby, 26.8 to 28.8 (WGH per RJ); Hemswell, 4.8 (RJ & WJJ per RJ); North Coates, 4.7 (R. Lorand per RJ); SOUTH-EAST YORKSHIRE (61): Spurn Head, 6.7; 14.7; 17.7; 13.8; 25.8 (BS).  
Summary: (1): 3; (3): 5; (5): 2; (6): 4; (9): approx. 28; (10): 6; (11): 20; (12): 2; (13): 10 (+40 larvae); (14): 6; (15): 61 (29+ larvae); (16): 1; (17): 6; (18): 6; (22): 4; (23): 9; (24): 4; (25): 1(27); 1; (38): 5; (44): 1; (54): 5; (61): 5.

**Silver Barred *Deltote bankiana* (Fabricius) [I?/V?]**

EAST KENT (15): Dover, 13.7 (Harman 1995); Greatstone, 12.7 (BB per BFS); Sandwich Bay, 25.6 (GAC); Sandwich Bay Bird Observatory, 8.7 (ACJ); Whitstable, 14.7 (Bradford 1995a); EAST SUFFOLK (25): Dunwich Forest, 4.7 (BLS).

**Pale Shoulder *Acontia lucida* (Hufnagel) [I]**

DORSET (9): West Bexington, 5.8 (R. Eden per Owen (1995b)); EAST KENT (15): Dymchurch, 5.8 (JO per Owen (1995b)).

**Golden Twin-spot *Chrysodeixis chalcites* (Esper) [I]**

WEST SUSSEX (13): Walberton, 10.8; 22.8 (JTR per CRP); EAST KENT (15): Dungeness Bird Observatory, 29.9 - 1 female (per SPC); Kingsgate, 14.10 (Harman 1995).

**The Ni Moth *Trichoplusia ni* (Hübner) [I]**

DORSET (9): Portland Bird Observatory, 2.8 - 1 male (MC); ISLE OF WIGHT (10): Freshwater, 15.5; 25.11 (SAKJ, see also Knill-Jones (1994)); SOUTH HAMPSHIRE (11): Brockenhurst, 2.12 (JEC).

**Dewick's Plusia *Macdunnoughia confusa* (Stephens) [I]**

SOUTH ESSEX (18): Clacton, 8.8 (J. Young per BFS).

**Clifden Nonpareil *Catocala fraxini* (Linnaeus) [I]**

EAST KENT (15): Greatstone, 9 (RET per BFS).

**Waved Black *Parascotia fuliginaria* (Linnaeus) [I?/V?]**

EAST KENT (15): Sholden, Deal, 10.7 (TB).

**Bloxworth Snout *Hypena obsitalis* (Hübner) [I?/V?]**

NORTH HAMPSHIRE (12): Selborne, 12.11 - 1 female (AEA, see also Aston (1995)).

## ANNEX 2: SELECTED RECORDS OF "COMMONER" SPECIES

This annex gives a very brief summary of the abundance over the year as well as the earliest and latest date for the more frequent immigrant species which are not covered in Annex 1. Other significant records or observations for 1994 which have been received and were not covered in Annex 1, such as large numbers of an individual species or unusual records of resident species which may be the result migrant activity, are also given.

### YPONOMEUTIDAE

***Plutella xylostella* (Linnaeus)**

Reported by a comparatively few recorders. Records suggest that although occasionally frequent its numbers were possibly below average. Over the year, a total of 2,531 were recorded at Portland Bird Observatory, Dorset (9) (MC) and 203 were recorded at Peacehaven, East Sussex (14) (CRP).

Earliest date: NORTH HAMPSHIRE (12): Selborne, 28.4 (AEA).

Latest date: NORTH HAMPSHIRE (12): Selborne, 30.11 (AEA).

Other significant records: WEST CORNWALL (1): Cadgwith, 29.8 - 50; 31.8 - 240; 1.9 - 100 (JHC); DORSET (9): Portland Bird Observatory, 24.7 - 821 (MC); Portland, 4.8 - 391 (per PD); EAST KENT (15): Sandwich Bird Observatory, 31.7 - 91 (ACJ); SOUTH-EAST YORKSHIRE (61): Spurn Head, 21.7 - 58; 12.8 - 47 (BS).

### PYRALIDAE

***Udea ferrugalis* (Hübner)**

Records suggested a good year for the species, particular in the latter part of the year. It was occasionally seen in numbers and was widely reported. Over the year, a total of 481 were recorded at the Portland Bird Observatory, Dorset (9) (MC), 107 were recorded at Peacehaven, East Sussex (14) (CRP) and 251 were recorded at Bradwell-on-Sea, South Essex (18) (AJD & SD).

Earliest date: SOUTH DEVON (3): Abbotskerswell, 28.4 (BPH).

Latest date: ISLE OF WIGHT (10): Freshwater, 16.12 (SAKJ).

Other significant records: WEST CORNWALL (1): St. Agnes, Isles of Scilly, 21.7 - 25; 29.7 - 15; 6.8 - 40; 20.8 - 20; 1.9 - 11; 8.10 - 12; 12.10 - 15; 22.10 - 27; 2.11 - 20; 5.11 - 37; 21.11 - 20; 24.11 - 114; 27.11 - 56 (JH & MH); DORSET (9): Durlston Country Park.; 26.11 - 35 (RP); Portland Bird Observatory, 29.8 - 24; 4.11 - 30 (MC); Swanage, 10.10 - 12; 15.10 - 30; 5.11 - 70+ (DB); Woolgarston, Corfe Castle, 23.11 - 14 (DB<sup>2</sup>); ISLE OF WIGHT (10): Chale Green, 26.8 - 15 (SC per SAKJ); SOUTH ESSEX (18): Bradwell-on-Sea, 9.11 - 21 (AJD).

### *Nomophila noctuella* ([Denis & Schiffermüller])

A comparatively good year. Widely reported and occasionally seen in large numbers. Over the year, a total of 3,631 were recorded at the Portland Bird Observatory, Dorset (9) (MC), 543 were recorded at Peacehaven, East Sussex (14) (CRP) and 816 were recorded at Bradwell-on-Sea, South Essex (18) (AJD & SD).

Earliest date: SOUTH ESSEX (18): Bradwell-on-Sea, 29.4 (SD).

Latest date: WEST CORNWALL (1): Praze-an-Beeble, Camborne, 15.12 (AS).

Other significant records: WEST CORNWALL (1): Cadgwith, 29.8 - 100; 31.8 - 4,000; 1.9 - 200 (JHC); St. Agnes, Isles of Scilly 6.8 - 63; 13.8 - 131; 1.9 - 172; 8.10 - 83; 22.10 - c.2,000 (reported as 24.11 in Smith (1995)); 28.10 - 40; 5.11 - 52 (JH & MH); DORSET (9): Durlston Country Park, 12.8 - 50+; 6.9 - 28 (RP); Portland, 6.8 - 100 (per PD); Portland Bird Observatory, 29.8 - 312; 4.11 - 309 (MC); Swanage, 10.10 - 30; 15.10 - 20; 5.11 - 70+ (DB); Woolgarston, Corfe Castle, 11.8 - 21 (DB<sup>2</sup>); ISLE OF WIGHT (1): Chale Green, 11.8 - 102 (SC per SAKJ); Tennyson Down, 13.8 - "6 to 10 rising up out of the grass with every step" (CH); EAST SUSSEX (14): Peacehaven, 19.8 - 32; 9.9 - 109; 14.9 - 59; 4.11 - 15 (CRP); SOUTH ESSEX (18): Bradwell-on-Sea, 13.9 - 27; 14.9 - 45 (AJD); OXFORDSHIRE (23): Long Wittenham, Abingdon, 15.8 - 23; 20.8 - 36; 25.8 - 44; 30.8 - 31 (DO).

## PIERIDAE

### Large White *Pieris brassicae* (Linnaeus)

Possibly significant records only: SOUTH DEVON (3): "Exceptional nos. Built up very rapidly in many areas of S. Devon, especially in late summer" (VT); Soar area, late 7 - 1,000+ in 2 to 3 *Brassica* fields, some fields in early 8 (e.g. 6.8) had 10,000+ (VT); DORSET (9): Portland, 27.7 to 29.7 - a "substantial immigration....led to a build-up of many thousands on one weedy field adjacent to West Cliffs" (MC).

### Small White *Pieris rapae* (Linnaeus)

Possibly significant record only: SOUTH DEVON (3): Undated and exact locality not given, "present in many 1000's" (VT).

## NYMPHALIDAE

### Red Admiral *Vanessa atalanta* (Linnaeus)

A comparatively good year. Widely reported and occasionally seen in numbers.

Earliest date: DEVON: Exact locality not given, 2.3 (Bowles 1994a).

Latest date: WEST CORNWALL (1): St. Austell, 16.12 (RL); ISLE OF WIGHT (10): Puckpool, Ryde, 16.12 (Knill-Jones 1995a).

Other significant records: WEST CORNWALL (1): St. Austell, "successfully overwintered individual" 20.3 & 11.4; "First immigrant" not until 18.5; 6.8 - 25+; 10.8 - 20+; emigration of 30+ on 2.9; at least 4 individuals appeared to be attempting to overwinter (RL); SOUTH DEVON (3): Berry Head, Brixham, 12.11 - 15+ moving north (VT); Strete Gate, Slapton Sands, peaks of 40 on 5-9.8 (HLOH); DORSET (9): Exact locality not given, larvae discovered, 11.12, (Bowles 1995); Portland, emigration regularly observed between 11.10 and 16.11 (MC); EAST SUSSEX (14): Peacehaven, "Highest numbers ever recorded at Peacehaven (since arrival in 1969)" (CRP); SOUTH ESSEX (18): Bradwell-on-Sea, 30.6 - 20; 27.8 - 20 (AJD); CARMARTHENSHIRE (44):

Cefn Sidan, 23.9 - approx. 50 flying in from the sea in 4 hours (BS<sup>2</sup> per IKM); NOTTINGHAMSHIRE (56): Spalford Warren, 2.9 - 32 (R. Frost per SW); SOUTH-EAST YORKSHIRE (61): Spurn Head, 30.8 - 35 (BS); WESTMORLAND (69): Grange-over-Sands/Keswick, 31.8 - 200+, with 5-10 per Buddleia bush (A.R. Blears); SHETLAND ISLES (112): 4.7 - "massive influx - records from everywhere in large numbers" (per MGP); Baltasound, 7.9 - 1 larva (R. Mouatt per MGP); Brunt Hamersland, 7.9 - 20 larvae on *Urtica* (per MGP); Eswick, 17.8 - 100 larvae on *Urtica* (per MGP); Fladdabister, 6.9 - larvae on *Urtica* (per MGP); Girsta, 6.9 - 6 larvae on *Urtica* (per MGP); Nesting, 12.9 - a few larvae on nettle (per MGP); Oxna, 29.8 - 50 larvae on *Urtica* (per MGP); CO. DOWN (H38): Newcastle Harbour, 12.10 - 30 feeding on *Veronica* (Mrs A. McComb per IR).

### Painted Lady *V. cardui* (Linnaeus)

A comparatively good year, though not as frequent as *V. atalanta*. Widely reported and occasionally seen in some numbers.

Earliest date: ISLE OF WIGHT (10): Cranmore, 13.4 (SAKJ).

Latest date: WEST CORNWALL (1): Clodgy Point, 24.12 (per RL); Isles of Scilly, 24.12 (per RL, see also Smith (1995)).

Other significant records: WEST CORNWALL (1): St. Agnes, Isles of Scilly, 24.11 - circa 30 (Smith 1995); St. Mary's, 26.11 - 30/40 in one field of flowering narcissi on (J.W. & P.J. Hale per JH & MH); SOUTH DEVON (3): Strete Gate, Slapton Sands, peaks of 30 in many days in 8 (HLOH); DORSET (9): Portland, 15.8 - more than 70 (MC); EAST SUSSEX (14): "Highest numbers ever recorded at Peacehaven (since arrival in 1969)" (CRP); SOUTH ESSEX (18): Bradwell-on-Sea, 14.8 - 22 (AJD); SHETLAND ISLES (112): Baltasound, 30.8 to 1.9, larvae found (per MGP); Cunningsburgh, 6.9 - larva(e) (per MGP).

## NOCTUIDAE

### Dark Sword-grass *Agrotis ipsilon* (Hufnagel)

A comparatively good year. Widely reported and occasionally seen in numbers. Over the year, a total of 731 were recorded at Portland Bird Observatory, Dorset (9) (MC), 8 were recorded at Peacehaven, East Sussex (14) (CRP) and 651 were recorded at Bradwell-on-Sea, South Essex (18) (AJD & SD).

Earliest date: ISLE OF WIGHT (10): Freshwater, 8.3 (SAKJ).

Latest date: ISLE OF WIGHT (10): Freshwater, 12.12 (SAKJ).

Other significant records: WEST CORNWALL (1): Cadgwith, 1.9 - 30 (JHC); St. Agnes, Isles of Scilly, 26.8 - 14; 7.9 - 27; 29.9 - 13; 22.10 - 42; 5.11 - 25 (JH & MH); The Lizard, 21.9 - 15 (DB); DORSET (9): Durlston Country Park, 5.8 - 18 (RP); Portland Bird Observatory, 10.8 - 66 (MC); SOUTH ESSEX (18): Bradwell-on-Sea, 26.8 - 18; 2.9 - 21; 11.9 - 15; 13.9 - 29; 14.9 - 89; 14.10 - 10; 26.11 (AJD); 13.9 - 21 (SD); SOUTH-EAST YORKSHIRE (61): Spurn Head, 3.9 - 19 (PAC).

### Pearly Underwing *Peridroma saucia* (Hübner)

A fair year, though infrequently seen in any numbers. Over the year, a total of 215 were recorded at Portland Bird Observatory, Dorset (9) (MC); 7 were recorded at Peacehaven, East Sussex (14) (CRP); and 58 were recorded at Bradwell-on-Sea, South Essex (18) (AJD & SD).

Earliest date: ISLE OF WIGHT (10): Chale Green, 12.4 (SC per SAKJ).

Latest date: SOUTH ESSEX (18): Bradwell-on-Sea, 12.12 (SD).

Other significant records: WEST CORNWALL (1): Cadgwith, 1.9 - 10 (JHC); DORSET (9): Portland Bird Observatory, 27.9 - 14 (MC).

### Silver Y *Autographa gamma* (Linnaeus)

A comparatively good year. Widely reported and occasionally abundant. Over the year, a total of 3,882 were recorded at Portland Bird Observatory, Dorset (9) (MC), 1,610 were recorded at Peacehaven, East Sussex (14) (CRP) and 8,103 were recorded at Bradwell-on-Sea, South Essex (18) (AJD & SD).

Earliest date: SOUTH DEVON, Plymstock, 13.4 (JHC).

Latest date: SOUTH ESSEX (18): Bradwell-on-Sea, 18.12 (SD).

Other significant records: WEST CORNWALL (1): Cadgwith, 31.8 - 400; 1.9 - 100; 2.9 - 100 (JHC); The Lizard, 19.9 - 180 (DB); SOUTH DEVON (3): Strete Gate, Slapton Sands 10.8 - 500 approx. day-flying individuals "suddenly arrived", similar numbers on 11 to 14.8; 15.8 - 200 approx., similar numbers on 17 to 20.8 after which numbers dropped to single figures (HLOH, see also O'Heffernan (1995)); DORSET (9): Durlston Country Park, 12.8 - 2,000 (RP); Portland, 10.8 - many 10s of thousands were present in the afternoon and evening; 10.8 - 1,063 (MC); WEST SUSSEX (13): Pagham Harbour, 3.8 - 150 (DB); EAST SUSSEX (14): Cow Gap, 29.7 - 100 to 200 flying over flowers (MSP); Peacehaven, 10.8 - 158; ("Best season [for *gamma*] at Peacehaven since 1977"); (CRP); EAST KENT (15): Folkestone Warren, 12.8 - 500+ (TR); 22.8 - 500 (DB); SOUTH ESSEX (18): Bradwell-on-Sea, 29.6 - 265; 13.7 - 214; 3.8 - 322; 10.8 - 201; 15.8 - 502; 18.8 - 211 (AJD); OXFORDSHIRE (23): Long Wittenham, Abingdon, larvae found on *Urtica dioica*, *Cistus* sp., *Pelargonium*, *Nicotiana*, *Origanum* and Parsley (DO); WARWICKSHIRE (38): Alveley C.P., 2.9 - 100+ (W. & K. Wheatley); CARMARTHENSHIRE (44): Cefn Sidan, 23.9, estimated at 50/hour coming in off the sea (per IKM); saltmarsh at Penclacwydd, 2.9 - approx. 260 at flowers (BS<sup>2</sup> per IKM); coastal path at Pendine, 17.9 - 300+ (G.S. Motley & Ms J. Murphy per IKM); SOUTH-EAST YORKSHIRE (61): Easington, 14.8 - 750; Spurn Head, 20.8 - "tens of thousands" (BS); Kilnsea/Spurn, 3.7 - 153; 14.8 - 1,000+; 21.8 - 1,000+ (PAC); NORTH NORTHUMBERLAND (68): Farne Islands, 10.9, approx. 150 day-flying individuals (AW); SHETLAND ISLANDS (112): Fair Isle, 7.7, many 1,000s (N. Riddiford).

### Initials of recorders

The recorders initials are listed alphabetically so that records can be extracted with relative ease.

AEA	A.E. Aston	DM	D. Miller	MSP	M.S. Parsons
ACJ	A.C. Johnson	DO	D. Owen	MT	M. Tunmore
AG	A. Gardner	DT	D. Thelwell	NB	N. Bowles
AHD	A.H. Dobson	FHNS	Dr F.H.N. Smith	PAC	P. Crowther
AJD	A.J. Dewick	GAC	G.A. Collins	PD	P. Davey
APF	A.P. Foster	GD	G. Dennis	PMP	P.M. Potts
AS	A. Spalding	GDC	G.D. Craine	RAB	R.A. Bell
AW	Mrs A. Wilkinson	GEH	G.E. Higgs	RC	R. Cox
BB	B. Banson	HLOH	H.L. O'Heffernan	RET	R.E. Turley
BRB	B.R. Baker	IH	I. Hunter	RG	R. Gaunt
BC	B. Collins	IKM	I.K. Morgan	RJ	R. Johnson
BES	B.E. Slade	IR	I. Rippey	RJD	R.J. Dickson
BFS	B.F. Skinner	JB	J. Burge	RJH	R.J. Heckford
BG	B. Goater	JEC	J.E. Chainey	RL	R. Lane
BIJ	B. Ivon-Jones	JH	J. Hale	RM	R. Mearns
BJW	B.J. Warne	JH <sup>2</sup>	J. Halsey	RP	R. Plowman
BLS	B.L. Statham	JHC	Dr J.H. Clarke	RWP	R.W. Parfitt
BM	B. Mearns	JO	J. Owen	SAKJ	S.A. Knill-Jones
BPH	Dr B.P. Henwood	JR	J. Robbins	SC	S. Colenutt
BS	B. Spence	JTR	J.T. Radford	SC <sup>2</sup>	S. Curson
BS <sup>2</sup>	B. Stewart	JW	J. Woodland	SD	S. Dewick
CCS	C.C. Smith	JW <sup>2</sup>	J. Woodland	SPC	S.P. Clancy
CH	C. Hart	KB	K. Brown	SW	Dr S. Wright
CMR	C.M. Raper	KGMB	K.G.M. Bond	TB	T. Bagworth
CRP	C.R. Pratt	KR	K. Redshaw	TR	T. Rouse
DB	D. Brown	MB	Ms M. Brooks	VT	V. Tucker
DB <sup>2</sup>	D. Burt	MC	M. Cade	WGH	W.G. Hoff
DBW	D.B. Wooldridge	MED	Mrs M.E. Dawson	WJJ	Mrs W.J. Johnson
DD	D. Dey	MGP	M.G. Pennington		
DJF	D.J. Furnell	MH	M. Hicks		

### Other contributors

M.E. Anthony; Ms. N. Bacciu; T. Beynon; Dr N.L. Birkett; A.R. Blears; Mrs M. Bloomfield; D. Burrows; P. Butter; J.L. Campbell; J.M. Chalmers-Hunt; D. Chambers; T. Davis; R.C. Dening; B. Dickerson; M. Easterbrook; M.A. Enfield; R. Fairclough; P. Fleming; Mrs P. Froud; Ms J. Gifford; P. Gilbert; A.J. Halstead; M.J.R. Healy; S. Hind; M. Honey; J. Hopper; A. Knight; R.E. & C.G. Lane; R. Leverton; G. Martin; Mrs J. McCagney; R. McLaren; R. Partridge; R.D. Penhallurick; Mrs A.M. Pike; D. Rey; N. Riddiford; K.J. Rideout; B. Shreeve; S.L. Sutton; M. Townsend; Dr P. Waring; Ms L. Watkin; W. & K. Wheatley; A. Wight and C. Wild.

### Acknowledgements

We would like to take this opportunity to thank all of the above-mentioned contributors. It is possible that we have unwittingly failed to acknowledge some contributors, if this is the case we would like to take this opportunity to apologise for this oversight.

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***Hilara maura* (L.) (Dip.: Empididae) feeding on *Nematopogon swammerdamella* (L.) (Lep.: Incurvariidae)**

On 11 June 1995, in a “set-aside” field at Grenzhof, near Heielberg, Baden, Germany I watched at close quarters a male *Hilara maura* copulating with a female which was absorbed in feeding on a silk-wrapped male of *Nematopogon swammerdamella*, a fairly numerous species in the adjacent woodlands. The very long whitish antenna of the moth protruded from the silk - an altogether curious sight.– JOHN F. BURTON, In der Etzweise 2, D-69181 Leimen-St Ilgen, bei Heidelberg, Germany.

**Unusual mating of *Pyronia tithonus* L. with *Maniola jurtina* L.  
(Lep.: Nymphalidae)**

On 27 July 1997 whilst out walking with the dog at Daventry, Northamptonshire, I was somewhat surprised to encounter a female Gatekeeper *Pyronia tithonus* in copula with a male Meadow Brown *Maniola jurtina*. I was fortunate in being able to observe them for several minutes, even coaxing them, obligingly, to walk onto my finger for a closer inspection, so that there can be no possibility of confusion over the identity of the individuals involved. After a while, the pair flew away, still firmly "bonded". Typically, I had no camera with me!

In captivity, cross-pairings of Lepidoptera within the same family may often be obtained artificially, for example between the Eyed Hawk-moth *Smerithus ocellata* L. and the Poplar Hawk-moth *Laothoe populi* L. Such cross-pairings in the wild are far less common, though not unheard of. Our editor, Colin Plant, informs me that he has in his collection a male *M. jurtina* taken in copula with a female Small Tortoiseshell *Aglais urticae*, collected at the Mardyke, South Essex by the late Sydney Bowden on 1 July 1943. Though the pairing of a satyrid with a nymphalid seems unexpected, one is mindful of the current taxonomic thinking that our "browns" are merely a subfamily (Satyrinae) within the Nymphalidae and one can't help wondering if this is supporting evidence for that line of thought. The fact that each case involved a male *M. jurtina* should not be overlooked and it would be interesting to discover if this note prompts any other observations to be recorded in these pages.

The progeny of such cross-pairings within insects are generally referred to as "sports" and one wonders if any such sports may be found in the Daventry area next season!- K.F. WILLIAMS, "Craignester", 11 Gable Close, Daventry, Northamptonshire NN11 4EX.

EDITORIAL COMMENT: I will be pleased to receive further notes concerning observations on **naturally occurring** cross-pairings in British Lepidoptera, though if a large number are received I reserve the right to combine these into a single article with all contributors duly acknowledged.

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***Atolmis rubricollis* L.(Lep.:Arctiidae) in Main Argyll (VC 98)**

On 9 June 1997 while exploring the Dalavich Oakwood Forest Nature Reserve by Loch Awe (OS grid ref. NM 967135) I spotted a single example of this unmistakable moth at rest amongst low herbage. Although mainly a speciality of south-western Britain, it is known from a scatter of records along the west side of Scotland. Scottish records are nonetheless very scarce and this recent sighting merits publication.- KEITH N.A. ALEXANDER, 14 Partridge Way, Cirencester, Gloucestershire GL7 1BQ.

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**BUTTERFLY BEDFELLOWS**

A.M. EMMET

*Labrey Cottage, 14 Victoria Gardens, Saffron Walden, Essex CB11 3AF.*

I LIKE BUTTERFLIES and a non-scientist might suppose they like me, since nineteen nymphalines chose to overwinter in 1996-1997 in my cottage, seventeen of them in my small bedroom. Let me tell the whole story.

In the garden there is a summerhouse and immediately beside it my late wife planted a *Buddleia* so that we could enjoy watching the butterflies. In 1996 they were exceptionally plentiful with the addition of the Painted Ladies which were a feature of the year. On one occasion Painted Lady, Red Admiral, Peacock, Small Tortoiseshell, Comma and Small White were present together, and soon after the single Comma had left, it was replaced by a Brimstone. I used to stand close by watching and admiring them and they soon learned to ignore my presence. I regularly ate my lunch in the summerhouse with the doors open, and sometimes a Peacock, or a succession of Peacocks, used my body as a place to rest and sunbathe open-winged, an attention I enjoyed except on the occasion when one chose the grid of *The Times* crossword I was attempting to solve and so stopped play.

It is unlikely that any of this affected choice of overwintering quarters, but it may have influenced subsequent behaviour. Visitors to butterfly houses will know that the inmates come to accept humans as part of the environment and may even settle on their person.

The easiest way into the house would have been through the french window downstairs, open all day and looking straight at the summerhouse and *Buddleia*, but none chose that route, all using my bedroom window, also open all day. The bedroom door was also open, giving access to the rest of the house, but only two appear to have used it.

It was late October when I first noticed butterflies in my bedroom, and the number soon rose to five in conspicuous places and, then unbeknown to me, many others in concealment. The most conspicuous was a Small Tortoiseshell which chose the side of a box of papers on the floor between my bed and the window. It adopted the posture of all the visible overwintering butterflies, head-downwards on a vertical surface. It was on the side of the box that faced the head of my bed and was so close that I could have reached out and touched it as I lay. It was also in the full glare of my bedside lamp. It was possibly the most closely observed hibernating butterfly in the history of entomology. I saw it at least six times a day in my comings and goings over a period of over four months, and it was also a showpiece for visitors. Once during the winter it moved about half an inch to its right and it occasionally slightly altered its body angle. Supposing its head to be the point of a minute hand, it varied between five-and-twenty past and five-and-twenty to. These movements were very occasional and never took place while I was watching, but they seem to indicate that diapause is not unbroken. On this assumption, I often "talked" to it and, of course, always bade it goodnight. By contrast, I noticed no change of attitude in the Peacocks that were overwintering visibly.

Two Peacocks also chose the boxes of papers under the window, but they failed to enter diapause. They never adopted the head-down attitude, sometimes flashed their wings at me when I passed whilst making the bed and often changed their position, though never in my presence. Both spent a period on the floor, making me tread very delicately when making my bed or drawing the curtains. Both were dead before Christmas.

The butterflies made me change my habits. There is no central heating in my bedroom but I have a gas fire. My normal practice in winter is to rise early, light the fire, and go downstairs to the centrally-heated sitting room and work for an hour or two in my dressing-gown before returning to dress in a nicely warmed bedroom. Last winter I never once lit the gas fire and in cold spells carried my clothes downstairs to dress in the warmth below.

The first butterfly to flutter at the window for release, a Peacock, did so on 22 February. It was a foolish act, because it was a bitterly cold, sunless day with a biting wind. It would have been murder to put it out, so I left it where it was. The next day was no better. However, the 24th was a bright, sunny day and another Peacock came to the window and was released. The first, alas, was dead. The reason, I believe, is that prompt sustenance is necessary once diapause is broken and had I fed it with a sugar solution it would have survived. I shall return to this subject later.

On 4 March my beloved Tortoiseshell disappeared. It had been there when I dressed, but by midday it had gone and was not at the window. Nor did I see it the next day. On the 6th I raised the lid of the box on which it had overwintered and found it on the underside of the lid. It looked a better place for hibernation, out of sight and shielded from light, but on a horizontal rather than a vertical surface; the head-down posture may be obligatory. Later in the day it flew to the window and I released it in the garden. Why did it not die like the Peacock? It had walked only a small distance and then remained quiescent, whereas the Peacock had expended energy fluttering at the window.

In all, I liberated twelve Peacocks and four Tortoiseshells between the 24 February and the 6 April. I was surprised at the minimal resistance they offered to being handled. If they were fluttering, I carried them in cupped hands; if resting with folded wings, I held them between thumb and first finger. I then took them outside and sat on the garden seat where I either opened my hands or placed the butterfly in the palm of my other hand. Whichever method, the response was nearly always the same; the butterfly stayed open-winged on my palm for up to two minutes while it absorbed the sunshine. At take-off, behaviour varied. One spotted another Peacock about ten feet up and five yards away and flew straight at it to engage in a dogfight. Such behaviour is supposed to be in defence of territory; this Peacock's territory so far was restricted to the palm of my hand. Others slipped quietly away, sometimes to nearby vegetation. One went to the base of a bush at the edge of the lawn and I knelt on one knee beside it to observe at close range what it was doing. It was crawling over leaves and probing them with its haustellum. The dew had gone and I doubt whether it had much satisfaction. It then flew to a grape hyacinth where I hope it found some honey. Its action supports the opinion expressed above that food is an early requirement after the long winter fast.

Though the sample was too small to make a positive deduction, the two Peacocks that overwintered out of my company somewhere on the staircase were less amenable to handling. I completely failed to catch one of them in my hands and had to trap it in a plastic box.

After release, the butterflies stayed about two days in my garden before moving elsewhere, spending their time taking nectar and basking. They seemed rather tame, permitting close approach and sometimes coming even nearer of their own accord. One Peacock chose to bask briefly between my feet as I stood watching. Of more interest was the fact that I was "buzzed" on four occasions, too often, in my opinion, for coincidence.

The first was by a Tortoiseshell, about half-an-hour after I had liberated the one by my bedside, and I had seen no other. It flew straight at me and I had to duck to avoid being struck in the face. Later, two Peacocks acted in a similar manner and one of them either brushed my cheek with its wing or caused me to feel the air displaced by its wing-beat. The most interesting incident occurred while I was lurching in the summerhouse; a Peacock came in, flew two tight circles round me then left. Clearly I was the object of its interest.

I was much puzzled by this behaviour, but a friend gave a possible explanation. There may be a human scent that can be detected by insects and after the butterflies had spent four or five months in a room occupied by a man, this smell had become familiar or even attractive to them. It was this that drew them towards me. I shall be interested if a reader can offer an alternative explanation.

My butterflies gave me interest and pleasure over five long winter months and I missed them when they had all departed. My only regret is that there was no painted lady among my bedroom companions.

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### **An infestation of *Norellia spinipes* (Mg.) (Dip.: Scathophagidae) on daffodils in a suburban garden in Harrow, Middlesex (VC 21).**

Two males and one female *Norellia spinipes* were found flying in an unheated domestic greenhouse in Harrow on 12 June 1997. Tulip *Tulipa* sp. var. and daffodil *Narcissus pseudonarcissus* var. bulbs had been dug up from the garden on 10 June and placed temporarily in a bucket in the greenhouse. Subsequent to the discovery of the fly, the tulips (eight bulbs) and daffodils (approx. 50 bulbs) were separated and placed in a single layer in boxes, outside the greenhouse and at ambient temperature away from direct sunlight. These were inspected at least three times a day and further specimens of *N. spinipes* emerged exclusively from the daffodil bulbs. All but two were recorded in the morning between 06.00 and 08.00 hours, suggesting emergence overnight or in the early morning as is the norm in many species of Diptera. The emergence proceeded as follows :

12-13 June, 1 ♂, 1 ♀	20 June, 1 ♂
13-14 June, 1 ♀	20-21 June, 1 ♀
15-16 June, 1 ♂	23 June, 1 ♂
17-18 June, 1 ♂, 1 ♀	

Inspection was continued until 15 July but no further specimens emerged. In all seven males and five females were obtained from these bulbs, although these figures do not account for any that may have emerged before the bulbs were placed in the greenhouse.

I have one previous record of this species from Middlesex: Brent Reservoir, (OS grid reference TQ 2287), 21 April 1996. A female was swept from an isolated daffodil growing through ground cover of Ivy *Hedera helix* in dense shade in secondary woodland adjacent to Staples Corner.

*N. spinipes*, almost certainly an introduction, was added to the British list on the basis of specimens from Surrey and Buckinghamshire (Chandler, P.J. & Stubbs, A.E. 1969. A species of *Norellia* R.-D. (Dipt., Scathophagidae) new to Britain. *Proceedings and Transactions of the British Entomological and Natural History Society*. **2**: 120-124). Its presence in London is discussed by A. Godfrey (1989, *Norellia spinipes* R.-D. (Diptera: Scatophagidae) in London. *British Journal of Entomology and Natural History*. **2**: 63). The occurrence of this species in Middlesex is recorded by K.G.V. Smith & C.R. Vardy (1988, A further British record of *Norellia spinipes* (Meigen) (Scatophagidae), from daffodils in Middlesex. *Entomologist's Monthly Magazine*. **124**: 242) and more recently by K.G.V. Smith (1996. A further Middlesex locality for *Norellia spinipes* (Mg.) (Dipt., Scatophagidae). *Entomologist's Monthly Magazine*. **132** 54).

It is not possible to rule out a pre-existing infestation in the bulbs, a white-flowered, non-miniature daffodil var. which were purchased from a commercial nursery in 1995, and for which the original source is unknown. The emergence recorded here is most likely to have occurred as a result of *in situ* oviposition by a single female. This may indicate that *N. spinipes* is extending its range via suburban and domestic gardens where daffodils are a regular feature, although this species almost certainly has alternative host plants.— JOHN R. DOBSON, 46 Elmwood Avenue, Kenton, Harrow, Middlesex HA3 8AH.



### **Hazards of butterfly collecting – Trekking into Mkpote 1, Cross River, Nigeria – March 1995**

I doubt if you have ever heard of Mkpote 1. Very few people have. The name Mkpote, however, is well entrenched in African butterfly literature. The famous Colonel (Retd.), T.H.E. (Pinkie) Jackson stationed one of his best collectors, Boniface Watulege, there for many months, and he caught a most amazing raft of butterflies. It is 70 kilometres north of Calabar in eastern Nigeria.

But Mkpote 1 is not Mkpote. Some 60 years ago there was a spat at Mkpote, and some villagers decided to leave in a huff. Into the almost impenetrable forest they went, and carved out Mkpote 1. This little village, now prosperous and enlightened by local standards, lies in a clearing of three kilometres radius in the middle of what

was recently designated as the Oban Hills Division of the Cross River National Park, completely surrounded by the largest expanse of virgin primary forest in Nigeria. Its only access to the outside world are two narrow tracks, each of which is a 23 kilometre walk, respectively, south to a tarmac road and north to the Cross River, which has frequent boats up to the tarmac road at Ikom.



Fig. 1. On a local suspension bridge in the Oban Hills – perhaps my most dangerous journey ever.

So what better place to initiate a survey and analysis of the butterflies of the area than Mkpot 1 – smack in the middle of the forest, on a lovely river, with accommodation and food of sorts available? So, off I went. A hike of 23 kilometres – especially with a porter to carry your gear – may not sound like much. But when the temperature is 27° centigrade and you are collecting butterflies along the way, it adds up to a nine hour trek – a rough trek, with waist-deep rivers to be forded and hills to be climbed.

Just before reaching the village, my research assistant, Emmanuel Bebiem, caught up with me, having started the trek somewhat later than I. We sought out the traditional chief, as is necessary. Soon the village messenger was ringing the bell for a village assembly. Dishevelled, sweaty, and dog-tired we put our mission to the assembled chiefs, elders, and villagers. The two – indispensable – bottles of schnapps were offered – libation as poured, ceremonial toasts were drunk. There was also animated discussion sparked by the question, “How come the whiteman came all the

way here to look at butterflies?! . . . .". We find beds, in the chief's palace, and someone to cook. We find the river for a moonlit bath. Dinner. Then blissful sleep.

After six days, the number of species collected at Mkpot 1 stood at 280. With the results of the first five days collecting in two other localities, this took the total for ten days in the Oban Hills to 350 – more than I have ever done before in a fortnight. There were clearly more than 800 species in the area, since my predecessors had caught many that I had not yet seen (the actual total seems to be more than 950).

On arrival back in the village, it was necessary to pack the butterflies and to make the field notes in the manuscript of my book, *Butterflies of West Africa – origins, natural history, diversity and conservation*. Twenty or thirty villagers usually joined me at this point, once the worst of the sun had worn off. Many still consider butterflies irrelevant, but when I used them to demonstrate that the Oban Hills probably have a higher level of biodiversity than anywhere else in Africa, they were duly impressed. On being shown a good example of mimicry, or one of the marvellous hairstreaks with false heads, they are just as impressed as anyone else. I think I was winning small victories for basic science, entomology, and butterflies.

The night before we left, the moon was full. After a lovely swim in the river, which is clean enough to drink from, we sat on the terrace of "the palace" with a drink, contemplating next day's trek. Just before switching on the radio for the BBC News at 21.00, all hell broke loose. Trumpets made of antelope horns, drums, and primitive string instruments burst out in a cacophony of music in the normally tranquil village. Suddenly six tall figures on stilts, clad in white, invaded the village square. It was full moon, the night of the "long men", a rare event. They were very good at it. The tallest – well over three metres – managed to swing one leg onto the palace terrace, while I forked out my princely contribution of 50 pence to their good works. Around us children squealed and adults laughed and applauded. Most popular was "one-leg-up-one-leg-down", a clown with a stilt on only one leg, crabbing around energetically, pursued by all the children of the village. I never learnt the exact background to the ceremony, nor where my 50 pence would end up. But it was an evocative ceremony. And I met no-one else who had ever witnessed it.

We left with regret. Mkpot 1 is a hospitable and well-organised place. Most of the houses had corrugated iron roofs and cement steps; there were real beds, chairs, and tables in most houses. All of it headloaded in. The villagers were well-informed, coaxing the BBC World Service out of the crowded airwaves. On learning that I had lived in Botswana, the pros and cons of Nelson Mandela having sacked his wife from government was the subject of much discussion. As was the jailing of Eric Cantona!

In a few years Mkpot 1, as I knew it, will have disappeared. It is not possible to have a village in the central core area of a national park, so the village is being relocated. A fine new site has been found, closer to transport facilities; there are financial incentives. It was a voluntary, democratic decision. I hope to see the new Mkpot 1 in a few years time, but it will not be the same.– TORBEN B. LARSEN, 358 Coldharbour Lane, London SW9 8PL.

**PREDATION OF LADYBIRDS (COCCINELLIDAE) BY OTHER BEETLES**

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IT IS GENERALLY assumed that the bright colouration of ladybirds is adaptive, serving to act as a memorable warning to potential enemies that ladybirds are chemically defended (e.g. Frazer and Rothschild, 1960; Tursch *et al.*, 1971; Pasteels *et al.*, 1973; Holloway *et al.*, 1991; Majerus, 1994). There is considerable evidence to suggest that many coccinellids are usually unpalatable to vertebrate predators (Pocock, 1911; Morton Jones, 1932; Marples *et al.*, 1989; Majerus and Majerus, 1997). However, a growing body of observations of coccinellids suggests that a range of predatory or parasitic arthropods may attack, kill and often consume ladybirds (Iperti, 1964; Majerus, 1989, 1994, 1997; Kutnetsov, 1993; Disney *et al.*, 1994; Hurst *et al.*, 1995; Hodek and Honek, 1996; Geoghegan *et al.*, *in prep.*). I here record a group of observations of predatory beetles, other than coccinellids, preying upon ladybirds. Reports of ladybird cannibalism, or of predation of one coccinellid species by another, both of which are of common occurrence, are omitted from this paper.

**Observations**

Observations of larval, pupal or adult coccinellids being attacked and consumed by predatory beetles were made by myself or recorders for the Cambridge Ladybird Survey, mainly on an encounter basis, between October 1984 and May 1996. Basic details of these observations are given in Table 1. All records are from England, Scotland or Wales. All predators observed were adult beetles.

In the case of attacks on adult ladybirds, the beetles consumed most of the abdomen, usually attacking from the back or sides. The elytra, thorax and head were rarely consumed.

**Discussion**

Given this series of observations, it seems plausible that some larger predatory beetles may impose significant losses on ladybird populations. About two-thirds of the observations were made in reasonable light around dawn or shortly before dusk. Very few were made during the day with the exception of those involving the diurnal *Cantharis* species. Most of the other predatory beetles observed are nocturnal species which forage, in the main, under cover of darkness. Thus, it is probable that these observations represent only a very small proportion of attacks. Some observations were made as a result of occasional specific searches, under-taken at night with a torch. On all of the few nights in question, at least one observation was recorded.

The number of observed instances of predation on the different species of coccinellid reflects the relative commonness of the species. None of the abundant species of British ladybird is absent from the listing. It thus seems probable that no British species of coccinellid is immune to predation by predatory beetles.

**Table 1. Details of observations of Coleoptera (other than coccinellids) preying upon ladybirds (1984-1996). (Ladybirds eaten were adults unless otherwise stated.)**

Predator species	Prey species and stage	Date and notes
<i>Cicindela campestris</i>	<i>Chilocorus 2-pustulatus</i>	Aug. 1987
<i>Carabus violaceus</i>	<i>Coccinella 7-punctata</i>	Jul. 1989
	<i>C. 7-punctata</i>	Jun. 1993
	<i>Adalia 2-punctata</i>	Jun. 1988
<i>Carabus glabratus</i>	<i>C. 7-punctata</i>	Jul. 1992
<i>Carabus nemoralis</i>	<i>C. 7-punctata</i>	Aug. 1985
	<i>C. 7-punctata</i>	Aug. 1986
	<i>C. 7-punctata</i>	Jul. 1991
	<i>C. 7-punctata</i>	Aug. 1991
	<i>C. 7-punctata</i>	Jul. 1991
<i>Nebria brevicollis</i>	<i>C. 7-punctata</i>	Jun. 1988
	<i>C. 7-punctata</i>	Jun. 1988
	<i>A. 2-punctata</i>	Jun. 1992
	<i>A. 2-punctata</i>	Jul. 1992
	<i>Adalia 10-punctata</i>	Aug. 1989
	<i>A. 10-punctata</i> pupa	Jun. 1990, on lime bark
	<i>C. 7-punctata</i> larva	Jun. 1991, under nettles
	<i>C. 7-punctata</i> larva	Jun. 1991, under nettles
	<i>C. 7-punctata</i> larva	Jul. 1993, on stone path
	<i>Halyzia 16-guttata</i> larva	Jul. 1990, under sycamore
<i>Nebria salia</i>	<i>Coccinella 11-punctata</i>	May 1986
<i>Nebria glynnhali</i>	<i>Anisosticta 19-punctata</i>	Jul. 1987
<i>Broscus cephalotes</i>	<i>C. 11-punctata</i>	Jun. 1988
<i>Bembidion femoratum</i>	<i>Thea 22-punctata</i> larva	Aug. 1988, on hogweed
<i>Bembidion nitidulum</i>	<i>A. 19-punctata</i> larva & pupa	Jul. 1987, on reed-mace
<i>Harpalus tardus</i>	<i>A. 2-punctata</i>	May 1986
	<i>A. 2-punctata</i> pupa	Jun. 1991, under nettles
	<i>Adonia variegata</i>	Sept. 1989
<i>Dicheiotrachus gustavi</i>	<i>Calvia 14-guttata</i>	Jul. 1988
<i>Stomis pumicatus</i>	<i>C. 7-punctata</i>	Aug. 1987
<i>Abax parallelopipedus</i>	<i>C. 7-punctata</i>	Aug. 1989
	<i>C. 7-punctata</i> pupa	Aug. 1985, on ground
	<i>C. 7-punctata</i> pupa	Aug. 1986, low vegetation
	<i>C. 7-punctata</i> pupa	Aug. 1990, on wall
	<i>C. 7-punctata</i> pupa	Jul. 1992, on ground
	<i>C. 7-punctata</i> pupa	Jul. 1993, on wall
	<i>C. 7-punctata</i> pupa	Aug. 1993, on wall
	<i>C. 7-punctata</i> pupa	Aug. 1993, on ground
	<i>C. 7-punctata</i> larva	Jul. 1988, on thistle
	<i>C. 7-punctata</i> larva	Jul. 1988, on ground
	<i>C. 7-punctata</i> larva	Jul. 1988, on ground
	<i>Amara ovata</i>	<i>Subcoccinella 24-punctata</i>
<i>Patrobus atrorufus</i>	<i>H. 16-guttata</i>	Jun. 1989

<i>Pterostichus nigrita</i>	<i>Propylea 14-punctata</i>	Jul. 1990
<i>Creophilus maxillosus</i>	<i>A. 2-punctata</i>	May 1987
<i>Staphylinus olens</i>	<i>C. 7-punctata</i>	Jul. 1990
	<i>C. 7-punctata</i>	Aug. 1993
	<i>C. 7-punctata</i>	Aug. 1993
	<i>C. 11-punctata</i>	Jul. 1988
<i>Dorcus parallelipedus</i>	<i>C. 7-punctata</i>	Aug. 1991
	<i>P. 14-punctata</i>	Aug. 1993
<i>Cantharis rustica</i>	<i>C. 7-punctata</i>	Jul. 1984
<i>Cantharis livida</i>	<i>C. 7-punctata</i>	Jul. 1986
	<i>C. 7-punctata</i>	Jul. 1987
	<i>C. 7-punctata</i>	Jul. 1987
	<i>A. 2-punctata</i>	Jul. 1986
	<i>A. 2-punctata</i>	Jul. 1989
	<i>A. 2-punctata</i>	Jul. 1990
	<i>A. 2-punctata</i>	Jul. 1990
	<i>A. 2-punctata</i>	Jul. 1992
	<i>C. 7-punctata</i> larva	Jul. 1989, on thistle
	<i>C. 7-punctata</i> larva	Jul. 1993, on nettle
	<i>C. 7-punctata</i> larva	Jul. 1993, on thistle
<i>Rhagonycha fulva</i>	<i>A. 2-punctata</i>	Aug. 1987
	<i>A. 2-punctata</i>	Jul. 1991
	<i>A. 2-punctata</i>	Jul. 1993
	<i>A. 2-punctata</i>	Jul. 1993
	<i>Exochomus 4-pustulatus</i>	Jul. 1988
	<i>E. 4-pustulatus</i> larva	Jun. 1988, on thistle
	<i>E. 4-pustulatus</i> larva	Jul. 1988, on pine

In most cases, beetles were already eating ladybirds when first seen. The initial attacks were only seen on two occasions. It is not clear from these observations whether encounters between predatory beetles and coccinellids ever result in the beetle being repulsed by the coccinellid's chemical defence. Specific laboratory experiments will be needed to clarify this point.

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### A second Scottish record of *Ypsolopha sequella* (Clerck) (Lep.: Yponomeutidae)

The distribution of *Ypsolopha sequella* extends throughout England and Wales as far as the Scottish border (Agassiz, 1996. in Emmet (Ed.) *The moths and butterflies of Great Britain and Ireland*. **3**:97). A single record by Andrew Buckham from Denholm, Roxburghshire (VC 80) on 26 August 1975 was, until now, the only known incursion of this species across the border. On 16 September 1997 a second Scottish specimen of *Y. sequella* was found at rest on the trunk of a sycamore *Acer pseudoplatanus* tree near the Eastern General Hospital in Leith, Midlothian (VC 83; OS grid ref. NT 2875). It will be interesting to see if further expansion of its range occurs.— K.P. BLAND, 35 Charterhall Road, Edinburgh EH9 3HS and D.M. ROBERTSON, 3 Claremont Park, Leith, Edinburgh EH6 7PH.

**LEPIDOPTERA ATTRACTED TO A YOUNG PLANTATION  
IN WESTER ROSS**

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IN NOVEMBER 1983, my youngest son Nevis moved into a former croft house, on the bleak moorland peninsula north of Gairloch in Ross-shire. His land was an unfenced area of bracken *Pteridium aquilinum* and grazed grass, sloping seaward and overlooking the Minch, with uninterrupted views of the Outer Hebrides, Skye and the Shiant Islands. This exposed west-facing property at Allt Grisean\* was fenced and gated in 1985 to keep out sheep and my son commenced planting native trees, including alder *Alnus*, birch *Betula*, larch *Larix*, oak *Quercus*, rowan *Sorbus aucuparia*, willow *Salix* and Scots pine *Pinus sylvestris*. After years of struggle against frequent salt-laden gales, he now has a dense patch of vegetation growing to a height of two to three metres. In the last few years this oasis has attracted many species of Lepidoptera, including eleven moths that I have not encountered in thirty-two years at Muir of Ord, 85 kilometres to the east-south-east, near the opposite coast of the same county.

The details of these eleven species recorded in the 10 km square NG78, in vice-county 105, are as follows:

*Nomophila noctuella* D.&S. Rush Veneer. Single specimens on 7 and 14 August 1996.

*Trichiura crataegi* L. Pale Eggar. One ssp. *ariae* Hb. on 6 September 1996.

*Philudoria potatoaria* L. Drinker. A male on windowsill of house and a female in nearby bracken on 18 July 1996. Larvae seen on 10 September 1995, 8 September 1996 and, amazingly, a young caterpillar – out of hibernation – sunning itself on a wooden fence on the mild Christmas Eve of 1996. My son, his wife and daughter were sitting out-of-doors with the temperature at 6°C, while the weather in Easter Ross was below freezing and foggy. Incidentally, an active young larva of *Arctia caja* L. Garden Tiger was also seen in their garden on this day.

*Coenocalpe lapidata* Hb. Slender-striped Rufous. One emerged in early September 1991.

*Crocallis elinguaris* L. Scalloped Oak. A female laid eggs in a plastic box on 29 July 1995.

*Furcula furcula* Cl. Sallow Kitten. One on 18 June 1989.

*Notodonta dromedarius* L. Iron Prominent. Two imagines recorded in 1996: the first on 14 July at rest on a willow trunk and the second on 8 August.

*Eligmodonta ziczac* L. Pebble Prominent. A larva on aspen, 8 September 1996.

\* The name of this crofting township appears on Ordnance Survey maps as Aultgrishan but recent research by Gaelic scholars has corrected this spelling.

*Aporophyla lutulenta* D.&S. ssp. *lueneburgensis* Freyer. Northern Deep Brown Dart. One on 22 July 1996.

*Phlogophora meticulosa* L. Angle Shades. One in house porch on 31 October 1993 and common in the open around the date of 24 October 1994.

*Rivula sericealis* Scop. Straw Dot. One taken and photographed on 21 July 1996.

Three Tortricoidea have been recorded:

*Syndemis musculana* Hb. ssp. *musculana* Hb. A pair *in copula* on birch on 4 June 1995 and an imago on 2 June 1996.

*Olethreutes lacunana* D.&S. One taken on 18 July 1996.

*Epinotia immundana* F.v.R. A dark male (with costal fold) similar to plate 29, figure 14 in Bradley *et al.* (1979).

Other Lepidoptera recorded:

*Lasiocampa quercus* L. ssp. *callunae* Palm. Northern Eggar. Common in the district but only one record for the garden: a larva on 31 July 1984.

*Xanthorhoe montanata* D.&S. ssp. *montanata* D.&S. Silver-ground Carpet. The first example was seen on 30 July 1995 and was followed by five imagines between 24 June and 18 July in 1996.

*Epirrhoe alternata* Müll. Common Carpet. Again the first was seen on 30 July 1995 and one ssp. *obscurata* South was photographed on 18 July 1996.

*Camptogramma bilineata* L. Yellow Shell. One seen in the "early days" (i.e. before the planting programme) on 18 August 1986.

*Entephria caesiata* D.&S. Grey Mountain Carpet. Commonly disturbed from outcrops in the Highlands, even down to sea level, but only a single imago noted in the garden, this specimen on 11 August 1996.

*Lampropteryx suffumata* D.&S. Water Carpet. A single example on 21 July 1996.

*Cosmorhoe ocellata* L. Purple Bar. One rescued from a spider's web on 30 July 1995 and singles photographed on 19 July and 12 August 1996.

[*Chloroclysta concinnata* Steph. Arran Carpet. Two specimens checked carefully though genitalia not examined: the first photographed on 31 August 1994 nearest to plate 69 figure 12 in South (1961) and the second on 18 July 1996 as figure 9.]

*Colostygia pectinataria* Knoch. Green Carpet. A dead specimen found in July 1995.

*Hydriomena furcata* Thunb. July Highflyer. A very pale grey example, with prominent dark angled band at one third, on 29 August 1993 and another specimen seen on 8 August 1996.

*Perizoma didymata* L. ssp. *didymata* L. Twin-spot Carpet. A single imago of this abundant Highland moth on 31 August 1994.

*Abraxas grossulariata* L. Magpie. As mentioned in my note in *Ent. Rec.* **103**: 188 this is a common moth in north-west Scotland and noted in the garden on 16 July 1985, 5 July 1986 and in abundance July to 4 August 1994.

*Ematurga atomaria* L. ssp. *minuta* Heyd. Common Heath. An abundant species on moorland in the district though only one spotted within the garden, a female on 23 June 1996.

*Laothoe populi* L. Poplar Hawk. An imago noted on 5 June 1994 and eleven larvae seen feeding on aspen and willow between 8 and 21 September 1996.

*Phalera bucephala* L. Buff-tip. A single imago seen on 2 July 1995 and three larvae feeding on alder on 21 September 1996.

*Arctia caja* L. Garden Tiger. Larvae fairly common especially in September and recorded also on 24 May 1992, in early June of 1995 and 1996 (see also under *Philudoria potatoaria* L.). The only imagines encountered were on 23 July 1995 (a dead specimen) and 18 July 1996.

*Spilosoma lubricipeda* L. White Ermine. Two specimens recorded: on 29 June 1995 and 21 June 1996.

*Noctua pronuba* L. Large Yellow Underwing. Surprisingly just a single example of this abundant moth – on 12 August 1996.

*N. comes* Hb. Lesser Yellow Underwing. One on 28 August 1995 and an ab. *nigrescens* Tutt photographed on 12 August 1996.

*Lacanobia oleracea* L. Bright-line Brown-eye. One at rest on bracken and two dead specimens found in July 1996.

*Cerapteryx graminis* L. Antler. Common in the Highlands though only single specimens noted: on 19 August 1995 and 11 August 1996.

*Antitype chi* L. Grey Chi. One on 20 August 1996.

*Acronicta megacephala* D.&S. Poplar Grey. Singles recorded on 26 May, 2 June and 19 July 1996.

*A. psi* L. Grey Dagger. A larva feeding on rowan on 21 August 1994.

*Apamea monoglypha* Hufn. Dark Arches. Imagines in August 1991 and on 17 July 1995 and 15 June 1996.

*A. crenata* Hufn. Clouded-bordered Brindle. A dead specimen found in July 1996.

*Autographa gamma* L. Silver Y. A single imago visited the garden on 13 September 1994.

*A. pulchrina* Haw. Beautiful Golden Y. One photographed on 12 July 1996.

*Hypena proboscidalis* L. Snout. A single specimen on 4 August 1994.

By far the commonest of the seven butterflies noted to date is *Pieris napi* L. Green-veined White. The other six are *Polyommatus icarus* Rott. Common Blue; *Vanessa atalanta* L. Red Admiral; *Cynthia cardui* L. Painted Lady; *Aglais urticae* L.

Small Tortoiseshell; *Maniola jurtina* L. ssp. *splendida* White Meadow Brown and *Coenonympha pamphilus* L. Small Heath. The Painted Lady was not seen until 1996 when up to three were seen together between 19 June and 21 September.

Most of the trees suffered serious blasting of their tender foliage in a severe salt-laden westerly gale on 31 May 1996 but, despite this set-back, have recovered remarkably well. It is intended to continue recording lepidoptera as the small plantation develops. A few evenings operating a powerful blended light should attract additional species.

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#### The sawfly *Blasticotoma filiceti* Klug, 1834 (Hym: Blasticotomidae) new to Wales – only the fifth British record

On 15 June 1997 I found a single female specimen of the sawfly *Blasticotoma filiceti* Klug, 1834 by general sweeping of bog vegetation in sunny weather on Cors Graianog, Carnarfonshire (grid reference SH 494453). The species was searched for specifically, but without success, on a subsequent visit in poor weather on 26 June.

It appears to be very rare in Britain, especially in natural habitats, having only been recorded from four others. It was first recorded from the Royal Horticultural Society's ornamental gardens at Wisley in Surrey in 1905 and on a number of occasions up to 1928 (Benson, 1951. Hymenoptera Symphyta Section (a). *Handbooks for the Identification of British insects*. VI (2a)). It was subsequently found at Goldsitch Moss, Staffordshire on 13 June and 26 July 1953, the Royal Botanic Gardens, Kew on 5 August 1953 (Benson 1953. *Entomologists' mon. Mag.* 89- 304) and Sizergh Castle, Westmorland in 1980 by Keith Alexander (Quinlan & Gauld, 1981. Symphyta (except Tenthredinidae) Hymenoptera. *Handbooks for the Identification of British insects*. VI (2a) (2nd edition)). All sites other than Goldsitch Moss have been ornamental fern gardens and it had initially been postulated that the species was an accidental introduction to Britain (Benson, 1934. *Entomologists' mon. Mag.* 70: 201-204).

*Blasticotoma filiceti* is known to be a stem borer in the rachis of ferns, having been found in Lady Fern *Athyrium felix-femina*, ferns of the genus *Dryopteris* and Ostrich Fern *Matteuccia struthiopteris* (Benson, 1934, 1953 *op. cit.*). Midtgaard (*op. cit.*) also lists Bracken *Pteridium aquilinum*, Male Fern *Dryopteris felix-mas* and ferns of the genus *Polystichum* (Shield Ferns) as food plants. The bog vegetation at Cors Graianog comprises a floating mat of *Sphagnum*, with abundant Cotton-grass *Eriophorum vaginatum*, Moor Grass *Mollinia caerulea*, Cross Leaved Heath *Erica tetralix*, Marsh Cinquefoil *Potentilla palustris*, Bog Asphodel *Narthecium ossifragum* and Bog-bean *Menyanthes trifoliata* and includes four species of fern,

Hard Fern *Blechnum spicant*, Royal Fern *Osmunda regalis*, Lady Fern *Athyrium felix-femina* and Bracken *Pteridium aquilinum*. The only fern actually in the immediate area where the specimen was swept was *Osmunda*, but it was uncertain from what species of vegetation the specimen was swept. All species of fern were searched without success for exit holes or characteristic foam balls on 26 June.

I am grateful to Dave Sheppard for confirming my identification and providing further information on the species.— ROGER S. KEY, English Nature, Northminster House, Peterborough PE1 1UA.

### ***Pandemis cinnamomeana* (Tr.) (Lep.: Tortricidae) in Scotland**

*Pandemis cinnamomeana* was first recorded from Scotland from a single specimen found resting on a leaf at Newcastleton, Roxburghshire on 19 July 1978 (Emmet, 1979. *Ent. Rec.* **91**: 124). It is now recorded from two further vice-counties in southern Scotland as follows:

**VC 72** – Specimens from Dumfriesshire are present in the Arthur B. Duncan collection at the Royal Museum of Scotland in Edinburgh. They are two females and one male taken at light in Castlehill (OS grid reference NX 9784) on 4 July 1976 and August 1977 respectively and a single male taken at Newlands (OS grid ref NX 9685) on 8 July 1976 (information courtesy of Keith Bland, National Museums of Scotland).

**VC 73** – A single male was taken in an m.v. light trap at Carsfad, St John's Town of Dalry, Kircudbrightshire (OS grid ref NX 6085) on 24 July 1988 by the author.

These records firmly extend the range of this species into the Borders and south-west of Scotland.— JESIE MACKAY, Carsfad, Dalry, Castle Douglas, Kircudbrightshire DG7 3ST.

### **Larvae of *Trachycera suavella* (Zincken, 1818) (Lep.: Pyralidae) found feeding gregariously**

The larvae of *Trachycera suavella* are not described as gregarious in the literature. In a lecture to the South London Entomological & Natural History Society, Edwards (1944. *Proc. Trans. S. Lond. ent. nat. Hist. Soc.* **1944-45**: 60-63) stated that the only pyrales to his knowledge with this habit were *Nephoptyx* [now *Pempelia*] *genistella* (Duponchel) and *Acrobasis consociella* (Hübner). Neither Palm (1986. *Nordeuropas Pyralider*. Apollo Books) nor Goater (1986. *British pyralid moths*. Harley Books) ascribes social behaviour to *T. suavella*. When I reared this species on a previous occasion, it was from a larva found feeding singly.

On 21 May 1997 Dr John Langmaid and I visited Red Lodge, Freckenham, Suffolk to search for larvae of *Scythris potentillella* Zeller, since the species was first taken in Britain at that locality. There I noticed a stunted hawthorn *Crataegus monogyna* completely enveloped in silk webbing. We both correctly surmised that the feeding was that of *T. suavella*. I cut from it a single twig, 23 cms long but not all

spun and with an average diameter of 6 cm. Foliage from adjacent twigs was incorporated and trimming was necessary to free the spray. From it I reared 20 adults between 22 June and 18 July. The spray constituted a very small portion of the total spinning and the whole bush must have harboured several hundred larvae. I reared no parasites.

Has any other reader encountered this species feeding gregariously? It is possible that a crippled female laid all her eggs on this single bush, but the extent of the infestation indicated that it had been used by more than one female. The species favours stunted and isolated bushes and this may have been the only one of that character available in the vicinity.

Blackthorn *Prunus spinosa* is the usual foodplant and hawthorn is not mentioned by Goater (*op. cit.*), but is given as an alternative by Palm (*op. cit.*) and Emmet (1988. *A field guide to the smaller British Lepidoptera*. BENHS; 1991. Chart showing the life history and habits of the British Lepidoptera. in *The moths and butterflies of Great Britain and Ireland* 7(2). Harley Books).— A.M. EMMET, Labrey Cottage, 14 Victoria Gardens, Saffron Walden, Essex CB11 3AF.

## Migrants in 1996

I doubt if anyone needs reminding that 1996 was a remarkable year for many migrants, Clouded Yellows *Colias croceus* Geoffroy and Painted Ladies *Cynthia cardui* L. being amongst the most notable. Even amongst these species, however, there is scope for a few interesting observations.

Although there were a few early reports of migrants, the main migration commenced around the Whitsun holiday. As usual, I was with my family at my mother's, in South Somerset. *Nomophila noctuella* D.&S. was present in low numbers on the coast on 29 May and six came to light in my mother's back garden on the 30th, although it was the dominant species a few miles nearer the coast at Powerstock. Here, small numbers of *Autographa gamma* L. and *Agrotis ipsilon* Hufn. also appeared at a sheet unit. Earlier in the day, my first *C. cardui* was also sighted at Branscombe. We returned to Cambridgeshire on 31 May.

On the 6 June I travelled to Whitby for a fishing trip with colleagues from work and took the opportunity to run a light on the North Yorkshire Moors that night. The night was clear and cool and only seven species visited a 15 watt actinic run over a sheet. There was no evidence of migrants but I was pleased to see *Papestra biren* Goeze in good numbers. The following day, in warm sunshine, I returned to the moors and found *C. cardui* virtually everywhere. I returned home that evening and over the following two to three weeks, *C. cardui* and *Vanessa atalanta* L. were encountered regularly.

On the 8 June, the first "good" migrant came to light in my back garden – a male *Heliothis peltigera* D.&S. *A. gamma* was also present but not in any numbers. Things then went quiet until the next generation of vanessids started to appear in early July and by the time we returned to Somerset on 26 July, *V. atalanta* and *C. cardui* were in abundance. Now the light in my mother's back garden at Crewkerne

was producing an estimated 1000 *Nomophila noctuella* per night and a walk through the coastal fields sent specimens scattering with almost every step. This was in sharp contrast to home, where the species had not yet appeared in numbers sufficient to note. At this point I had still not encountered my first *C. croceus*.

An impending operation forced us to cancel our planned holiday in France and, at short notice, we arranged to visit the Isle of Wight. Constraints on my ability to carry heavy objects far and my lack of knowledge of the island rather restricted my use of light in entomological activities. Despite this, I was able to run an actinic trap alongside a wood near our camp site at Ninham and on the night of 14 August I was rewarded with a male *Peribatodes manuelaria* H.-S. Returning to the same sight on 18 August, I took a second, this time a female, but regrettably the moth survived only a few days and produced no eggs.

*C. cardui* was the most abundant butterfly encountered on the island and at last I recorded *C. croceus* although as the holiday progressed, I noted with interest that hardly any Clouded Yellows were seen more than half a mile from the coast. By contrast, *A. gamma*, *N. noctuella* and *C. cardui* were everywhere. The very first Clouded Yellow encountered caused a few moments of great excitement, as it fluttered across Bembridge Down with an alternate flickering of white and deep yellow. Surely it couldn't be a var. *helice* gynandromorph? Forgetting all medical constraints I ran back to the car for a net and eventually the specimen was boxed. From the underside it was obvious that the excitement was misplaced but when the upper surface was eventually viewed, there was some consolation in the discovery that the forewings were very lightly scaled, to give a pale yellow colour, almost entirely lacking any black margin. The hindwings were normal.

On 20 August we stopped for a picnic lunch on Ventnor Down, where we found *A. gamma* in the most amazing numbers. The heather blossom was almost shimmering with a carpet of feeding insects. Amongst these dark bodies, a single pale yellow moth stood out like a sore thumb. As it rested to feed, I could see it was *Heliothis peltigera*. Stimulated by this, I conducted a wider search of the heather on the top of the Down and a further five specimens resulted. As I returned to the car, the most exciting migrant of the holiday made its presence known – not a moth but a bird. The rich bubbling call of a Bee-eater is unmistakable but in the UK I could hardly believe my ears. I headed in the appropriate direction, armed with binoculars, but was rewarded with just the most fleeting of glimpses before the bird flew away down the coastal side of the Down. We returned to the same site the next day but saw no sign of either of the previous day's prizes. By the 23 August, the very hot dry weather of the earlier part of the holiday had given way to warm but showery conditions with quite a fresh south-westerly breeze. I had been running the actinic trap locally when possible but without any further species of note, so as the weather broke, I decided to give it a rest. The nights were not cold and so each morning, as I headed for the camp-site facilities, I would inspect lights that had been on all night, for example by the wash rooms and steps along the paths. On the morning of the 24th my efforts were richly rewarded. Amongst the usual scattering of common species (*Luperina testacea* was dominant) there was a small dark noctuid which,

with its hint of green, was almost invisible on a slightly algae-covered stone wall. Although a little worm, it was clearly *Cryphia algae* Fabr. – a strong competitor to the bee-eater as “migrant of the year”. I was glad of the specimen box that I always keep in my wash-kit bag when I am camping. We noted the unusually late occurrence of a White Admiral *Ladoga camilla* L. near Fort Victoria on the 25 August. Although I discovered many sites worth trapping during the second half of the holiday, I was unable to do anything about them but by the time we returned home on 30 August we had recorded our second good migrant bird, with a group of Little Egrets on one of the marshes to the north of the island.

In view of the abundance of some migrants, I was a little surprised not to see a single Hummingbird Hawk-moth *Macroglossum stellatarum* L. during our stay on the Isle of Wight. This surprise was increased on our return home, by the regular presence of up to five individuals on a large *Buddleia* bush in our garden. They stayed around for most of the first two weeks of September.

Trapping in my garden resumed on 30 August and at work (Great Chesterford, Essex) on 2 September. The trap at work immediately provided interest in the form of a Golden Rod Brindle *Lithomoia solidaginis* Hb. This must have been a migrant from somewhere and appears to be only the fourth Essex specimen on record, (Emmet and Pyman, *The Larger Moths and Butterflies of Essex* 1985). On the same night, my garden trap produced a *Heliothis* that was so dark brown that it was quite some time before I finally admitted that it must be a female *H. armigera* Hb. I wonder if this darkness indicates that the specimen had been raised in cooler climates, as it does in, for example, *Mythimna vitellina* Hb.

*Nomophila noctuella* finally reached its peak in early September with up to 50 per night in my back garden and up to 100 at work. It remained present in slowly decreasing numbers right through to early November.— JIM REID, 7 Flambards Close, Meldreth, Royston, Hertfordshire SG8 6JX.

### **Lepidoptera of Hong Kong still worthy of conservation**

I was most interested to read Brian Baker's reminiscences of his time in Hong Kong fifty years ago (*Ent. Rec.* **109**: 189-192). However, I would like to add that it is still possible to find Swallowtail butterflies commonly flying in the streets among the skyscrapers of Hong Kong Central and that there are still many sites and much wildlife of interest in the territory. Readers may be interested in two papers recently published in the *British Journal of Entomology and Natural History* (**7**: 181-191 & **10**: 77-100 & Plates) which report the results of an expedition in April 1993 in which I explored the Lepidoptera of the area, including the mangrove swamps of Mai Po and the woodlands at Tai Po Kau. Most of Hong Kong is not built up, due to the steep rocky terrain, and the native vegetation on the open hillsides now may be more productive of Lepidoptera than it was fifty years ago, for reasons explained in the above papers. I share Brian's concern for the future of the wildlife. I hope that the new administration will maintain the national parks and other conservation measures now in place and will supplement these where necessary.— PAUL WARING, 1366 Lincoln Road, Werrington, Peterborough PE4 6LS.

## NOTABLE MICROLEPIDOPTERA FROM EAST SUTHERLAND IN 1996

<sup>1</sup>M.R. YOUNG AND <sup>2</sup>P.F. ENTWISTLE<sup>1</sup> Culterty Field Station, Aberdeen University, Newburgh, Aberdeenshire AB51 6AA.<sup>2</sup> Rhivra, Spinningdale, by Ardgay, Sutherland IV24 3AE

THERE IS A striking series of interesting habitats along the south- and east-facing shores of the Dornich Firth in East Sutherland (VC107). There are mixed woodlands at Migdale; oakwood and bog at Spinningdale; base-rich dunes at Dornoch and Embo; and alder and pine woods around Loch Fleet. The climate here is both drier and warmer than even a few miles inland, favouring Lepidoptera and mercifully reducing the numbers of Scottish midges to tolerable levels.

Amongst the many species of microlepidoptera collected in this area in 1996 by PFE, and identified by MRY, three are of particular note. On 25 March 1996 an adult *Caryocolum junctella* (Douglas) was beaten from pine foliage at Migdale Wood, near Bonar Bridge. Apparently the only recent Scottish record for *C. junctella* is one for Perthshire (VC88), passed to A.M. Emmet for collation in his accumulated set of vice-county records. Other records listed in the *Scottish Insect Record Index* (SIRI) (Shaw, 1987), or held by Emmet, include VC95 (Moray) from 1891; VC96 (Easternness) probably from 1919 (Whittle Collection, BM(NH)); and VC97 (Westernness) (undated, Adkin Collection (BM(NH))). The record for "Moray" attributed to Salvage and Huemer (1988) could refer to that from VC95, as could the note "Scotland", in Huemer (1993), which may also refer to all the above. This species feeds as a larva on *Cerastium* spp., usually in damp meadows and marshes, which are common near Migdale.

On 26 May 1996 PFE bred a male *Stigmella spinosissimae* (Waters) from leaves of *Rosa pimpinellifolia* L. from Coul Links, Embo collected in autumn 1995. Its identity was confirmed following dissection of the genitalia. Previous Scottish records are first of larvae in mines on *R. pimpinellifolia* at Papadil on the Inner Hebridean island of Rum (VC104) in 1969. These larvae were identified by E.C. Pelham-Clinton and the record appears in several collations of Rum insects, including Wormell (1983). Next K.P. Bland bred specimens from the coast of East Lothian (VC82) in 1978 (Bland, 1978), also confirmed by E.C. Pelham-Clinton. Finally, Emmet recorded mines from the coast of Wigtown (VC74) in 1994 (Emmet, 1995). In September 1996 many more mined leaves of *R. pimpinellifolia* were collected by PFE and Jonathon Hughes (Scottish Wildlife Trust warden for Loch Fleet) at Coul Links and some of these mines have the characteristics of *S. spinosissimae*, although others appear more similar to *S. anomalella*. Adults reared from both types were all *S. spinosissimae*.

These base-rich dunes, with abundant burnet rose and juniper, are also the place where R.J.B. Hoare recorded the first British specimens of *Caryocolum blandelloides* Karsholt in 1994 (Hoare, 1995). Two further adults were found there by MRY in August 1996.

Finally an adult *Olethreutes bifasciana* was found at Spinningdale Woods, near Dornoch in July 1996. There are previous records of this species from VC80

(Roxburghshire), VC83 (Midlothian), VC95 (Moray), and VC96 (Easternness), (records of Tortricidae collated by E. Hancock). The most recent of these are from Melrose (VC80) in 1980, collected by Andrew Buckham and from MacAlpine's survey of the Cairngorm National Nature Reserve from 1976-79 (MacAlpine, 1979); he recorded the species from Loch an Eilean, Rothiemurchus. Coincidentally, R. Leverton also brought one to MRY for identification that he had caught at Cornhill, Banff (VC94) in July 1996.

### Acknowledgements

We are most grateful for kind help from Keith Bland, Maitland Emmet, Ted Hancock, Jonathon Hughes and Roy Leverton.

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### First record of the Rannoch Looper moth *Semiothisa brunneata* Thunb. (Lep.: Geometridae) for the Isle of Wight

On the night of 18/19 June 1997 an individual of the Rannoch Looper moth *S. brunneata* was captured in a Robinson trap I was operating near the village of Shalfleet on the Isle of Wight. The Isle of Wight moth recorders Peter Cramp and Sam Knill-Jones have confirmed that this is the first time the species has been recorded on the Isle of Wight. The moth is an occasional migrant in England and I know of two specimens which reached Norfolk a week previously, on 11 June, one at Holkham, the other at Docking (M. Tunmore, *pers. comm.*). The moth has reached the neighbouring vice-counties of North and South Hampshire previously. Barry Goater's county list and supplement for Hampshire and the Isle of Wight (1974, 1988) reports a singleton at light at St Ives, near Ringwood on 31 July 1988, which was the first record for the vice-county of South Hampshire, and one was previously recorded in North Hampshire at Whitehill on 26 June 1960.– PAUL WARING, 1366 Lincoln Road, Werrington, Peterborough PE4 6LS.

**LEPIDOPTERA OF ABERDEENSHIRE, KINCARDINESHIRE  
AND BANFFSHIRE - 8th APPENDIX**R.M. PALMER<sup>1</sup>, M.R. YOUNG<sup>2</sup> AND R. LEVERTON<sup>3</sup><sup>1</sup>*Greenburn Cottage, Bucksburn, Aberdeen AB21 9UA*<sup>2</sup>*Culterty Field Station, Department of Zoology, University of Aberdeen, Newburgh, Aberdeenshire AB41 6AA*<sup>3</sup>*Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS.*

THREE YEARS SINCE the publication of the last appendix to the list of Lepidoptera of Aberdeenshire and Kincardineshire (Palmer and Young, 1994), comes this 8th appendix.

The inclusion of Banffshire at this late stage in the publication is prompted by the observation of the Banffshire-based lepidopterist (RL) that we should attempt to bring together the lists of the four Watsonian vice-counties generally regarded as constituting north-east Scotland. Alone amongst these, the published list of Banffshire includes only the macrolepidoptera (Barbour, 1976; updated by Leverton, 1993).

This Appendix has several aims. The first is to update the Aberdeenshire/Kincardineshire list; twelve species are added, two of which are adventitious species. Secondly, microlepidoptera which are new to the combined region of north-east Scotland are listed. To produce a full list of Banffshire micros seems a waste of space since, of the 230 species recorded there, only eight have not been recorded in vice-counties 91-93. Furthermore, the VC 94 list is far from complete; there are for example, no records of the genus *Parornix* from VC 94 and only 13 Nepticulidae compared with 39 in VC 92. Therefore, we include here only a list of the microlepidoptera found in VC 94 but not, as yet in VCs 91-93. (Any reader who wishes a full list of the microlepidoptera of Banffshire is most welcome to write to RMP). Thirdly, we mention additional records of rare species or species which appear to be extending their range, for example those being recorded in inland sites for the first time. Finally, there is a list of new records for vice counties 91-93 and a correction to the previous *Appendix*.

**1. New species to north-east Scotland (VCs 91-94)****Gracillariidae**

*Parornix devoniella* Stt. VC 92: near Monymusk; larvae on *Corylus*, 1994 (J.R. Langmaid). VC 93: Gight woods, larvae on *Corylus*.

**Oecophoridae**

*Agonopteryx liturosa* Haw. VC 91: St. Cyrus NNR bred from larvae on *Hypericum*, 1996 (JRL).

**Tortricidae**

*Cydia pomonella* L. VC 92: Aberdeen one (Trail, 1878); VC 93: Peterhead, one 23 July 1996 (M. Innes).

**Pyralidae**

*Margaritia sticticalis* L. V.C. 92: Braemar, one (Trail, 1878); VC 93: one at Oldmeldrum, 1995; VC 94: four recorded at Ordiquhill, 1995 (one), 1996 (three), all at mv and one netted at Whitehills in 1995.

*Udea prunalis* D.& S. VC 92: Inverurie (Reid; 1893); Monymusk, several at the Rothamsted trap run by J. and M. Bailey 1994-1996.

**Pterophoridae**

*Capperia britanniodactyla* Gregs. VC 92: Rinabaich near Ballater, 1994 and 1995.

**Papilionidae**

*Iphiclides podalirius* Scop. VC 92: a single worn specimen of this species was taken in a greenhouse in Dyce by Mr and Mrs R. Clark. The specimen is believed to have been imported with a consignment of cut flowers.

**Geometridae**

*Epirrita christyi* Allen VC 91: Glen Saugh Rothamsted trap, several in 1995 (A. Riley).

**Arctiidae**

*Hypercompe scribonia* Stoll. VC 92: a specimen at Aberdeen docks, 1994. An adventitious species from the USA (Young, 1995; Honey & Young, *Ent. Rec.* **109**: 25-27).

**Noctuidae**

*Apamea ophiogramma* Esp. VC 93: Oldmeldrum, two; Loch of Strathbeg, one, all at mv in 1996. Whether these are migrants or represent a recent colonisation is at present uncertain.

*Oligia versicolor* Borkh. VC 92: Monymusk Rothamsted trap; one, 1996. The occurrence of one *O. latruncula* D.& S. in Bucksburn the following night is also of note, this is only the second record of this species in north-east Scotland.

*Spodoptera exigua* Hb. VC 93: Oldmeldrum, one at mv 1996.

**2. Species recorded in Banffshire but not in Aberdeenshire or Kincardineshire****Heliozelidae**

*Heliozela sericiella* Haw. A.M. Emmet 20.vii.1975.

**Coleophoridae**

*Coleophora violacea* Strom. Near Tomintoul, larvae on birch, viii.1993 (R. Knill-Jones).

**Elachistidae**

*Elachista triatomea* Haw. Near Tomintoul and Banffshire coast viii.1993 (R. K.-J.).

**Gelechiidae**

*Caryocolum viscariella* Stt. Cullykhan, bred from (fp) 11.vi.1987.

**Tortricidae**

*Pandemis corylana* F. Ordiquhill, one at m.v., 1995. This species is given as common in VCs 91-93 (Reid, 1893) but there are no recent records.

*Olethreutes bifasciana* Haw. Ordiquhill, one at m.v., 1996.

*Apotomis semifasciana* Haw. Ordiquhill, one at sugar, one at m.v. on the same night, 7.vii.96.

*Cydia splendana* Hb. Ordiquhill, one at mv, 1996

### 3. Additional records of note

The Rothamsted trap at Glen Saugh produced many remarkable records in its first two years of operation (1995-6). *Crambus perlella* Scop., *Catoptria falsella* D.&S. *Phycitodes saxicola* Vaughn., *Semiothisa clathrata* L., *Eilema lurideola* Zinck. and *Omphaloscelis lunosa* Haw. are usually strictly coastal in north-east Scotland; Glen Saugh is the only inland site known in north-east Scotland for all these species with the exception of *O. lunosa*, which appears to be extending its range and is also recorded inland in VC 93 (Oldmeldrum, 1995) and VC 92 (Bucksburn, one in 1995 and 1996).

#### Pyralidae

*Catoptria permutatella* H.-S. is a notable species, confined to north and east Scotland. It is widely distributed in Aberdeenshire, mostly in the river valleys. On Deeside it is found from the highland village of Braemar right down to the suburbs of the City of Aberdeen itself. In Banffshire it is recorded occasionally at Ordiquhill and singly in other localities.

*Eurrhpara hortulata* L. A single specimen taken at the Rothamsted trap at Monymusk VC 92, is only the second record from north-east Scotland.

#### Geometridae

*Eulithis mellinata* Fabr. is now very scarce nationally. It is worth recording single specimens in VC 93 at Oldmeldrum and VC 94 at Ordiquhill in 1996.

#### Noctuidae

*Enargia paleacea* Esp. In addition to the resident form of this species, which has now been recorded from VC 91 (Banchory, 1994), the migratory form was taken at the Sands of Forvie NNR in 1995.

### 4. New vice-county records

**New to VC 91:** *Stigmella assimilella* Zell.; *Phyllonorycter froelichiella* Zell.; *Synanthedon culiciformis* L. There is also an old record to add to VC 91; JRL has informed us of a specimen of *Agonopteryx yeatiana* Fabr., in the British Museum labelled 'Adkin coll. J.E. Gardner Stonehaven; 20.viii.1913'.

**New to VC 92:** *Caloptilia stigmatella* Fabr.; *Argyresthia spinosella* Stt..

**New to VC 93:** *Ocnerostoma friesei* Svens.; *Biselachista albidella* Nyl.; *Hysterophora maculosana* Haw.

**Species now recorded from VCs 91-93:** *Stigmella myrtillella* Stt.; *S. luteella* Stt.; *S. alnetella* Stt.; *Incurvaria oehlmanniella* Hb.; *Lampronia rubiella* Bjerk.; *Nematopogon swammerdamella* L.; *Yponomeuta padella* L.; *Coleophora discordella* Zell.; *Borkhausenia fuscescens* Haw.; *Semioscopis avellanella* Hb.; *Teleiopsis diffinis* Haw.; *Bryotropha galbanella* Zell.; *Blastobasis lignea* Wals.; *Aethes smeathmanniana* F.; *Aphelia viburnana* D.& S.; *Philedone gerningana* D.& S.; *Hedya atropunctana* Zett.; *Aphomia sociella* L.

### Correction

*Epiblema tetragonana* Steph. A record of this species from Elfhill VC 91 is an error; the correct identification of this moth is at present uncertain.

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### Correction to list of Greek butterflies

On 25 July 1992, a male Lycaenid butterfly was caught at 1650 metres on the Xérocamos Plateau of Mount Chelmos (Wakeham-Dawson, 1997. Some notable butterfly records from Greece in 1992 and 1995. *Ent. Rec.* **109**: 199-203). As it is very similar to specimens of *Polyommatus eros* Ochsenheimer that fly in the Central Pyrenees, it was tentatively classified as *P. eros menelaos* Brown (the subspecies of *eros* that flies in Greece). However, *menelaos* is a bright sky blue butterfly that is only known from the Taygetos mountains. Many authors consider it to be sufficiently different from *eros* to justify giving it specific status (eg. Carbonell, 1994. Contribution à la connaissance du genre *Polyommatus* Latreille, 1804: le complex ultraspécific de *Polyommatus eros-eroides* au Moyen-Orient et en Transcaucasie (Lepidoptera: Lycaenidae) (2ème partie: diagnose et discussion). *Linn. Belg.* **14**: 439-454).

Examination of the genitalia (Fig. 1) of the specimen from Mount Chelmos suggests that it is most probably a dwarf example of *Lysandra coridon graeca* Rühl-Heyne, with a much reduced black submarginal border that makes the wings appear more blue than usual in this species, and worn underside markings that superficially appear more similar to genus *Polyommatus* than to genus *Lysandra*. Therefore the record of *eros* from Mount Chelmos is incorrect.

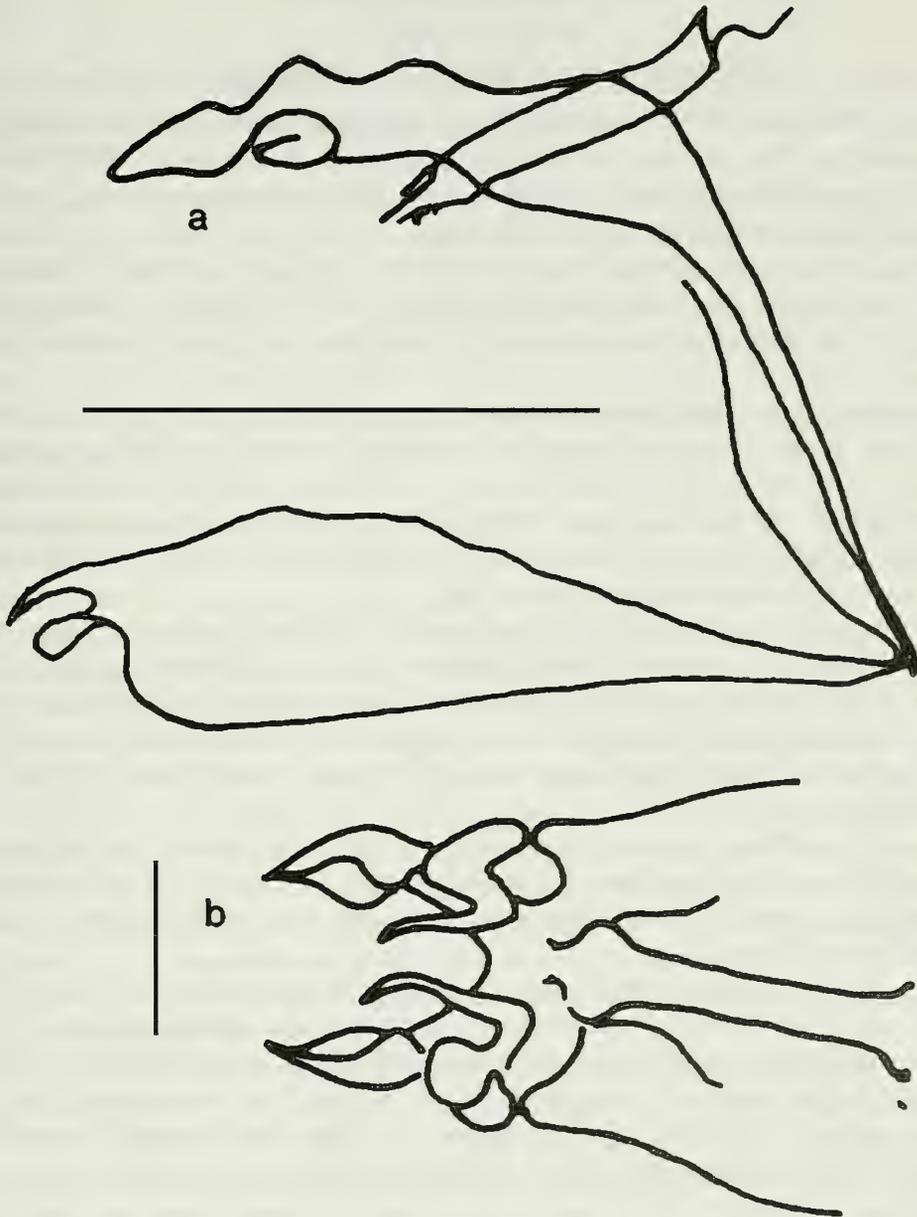


Fig. 1. Genitalia of probable male *Lysandra coridon graeca* from Mount Chelmos, southern Greece:

- (a) Lateral view of valve, dorsal process and aedeagus (scale bar represents 1mm);  
 (b) posterior-anterior view of labides, falces and aedeagus (scale bar represents 0.5mm).

I thank Horst Arheilger and Jos Dils for helpful discussion about *eros* in Greece and possible identification of the specimen from Mount Chelmos.— ANDREW WAKEHAM-DAWSON, Mill Laine Farm, Offham, Lewes, East Sussex BN7 3QB.

## FOUR MOTH SPECIES NEW TO GLAMORGAN

MARTIN J. WHITE

8 St. Nicholas Square, Maritime Quarter, Swansea SA1 1UG.

DURING 1996 and 1997, a number of moth species apparently new to Glamorgan have turned up. They are the Fen Wainscot *Arenostola phragmitidis* (Hb.), Crescent Striped *Apamea oblonga* (Haw.), Dwarf Pug *Eupithecia tantillaria* (Boisd.), and the Tortricid *Ptycholomoides aeriferanus* (H.-S.).

A specimen of *A. phragmitidis* was captured on 19 July 1997, during a Glamorgan Moth Recording Group field meeting in Pant-y-Sais Fen (between Swansea and Neath). My identification was subsequently confirmed by County Recorder Barry Stewart.

According to Heath and Emmet (1983), *A. phragmitidis* was not previously known from South Wales. However, Pant-y-Sais is part of Crymlyn Bog NNR, the largest lowland fen in the region. Other Wainscots present include Obscure *Mythimna obsoleta* (Hb.), Silky *Chilodes maritimus* (Tausch.), Webb's *Archanara sparganii* (Esp.) and Twin-spotted *A. geminipuncta* (Haw.). Within days of the first capture, *A. phragmitidis* was also found at Crymlyn Bog.

A well-marked singleton of *A. oblonga* came to light at Crymlyn Bog on 4 July 1996. I had recorded another at nearby Earlswood, Crymlyn Burrows, as long ago as August 1979, but that record was unpublished, and it seems that *A. oblonga* had never been added to the Glamorgan list. Crymlyn Burrows has all the features (Salt marshes, tidal riverbanks, brackish ditches and fenlands) which Skinner (1984) lists as suitable habitat.

*E. tantillaria* (Boisd.) came to light on 12 May 1997 in an area of Birch re-growth overlooked by conifer plantation in Rheola Forest, in the Neath Valley. Presumably this species is spreading along with plantations containing its foodplants, such as Norway Spruce *Picea abies*.

A single *P. aeriferanus* (H.-S.) was captured in Crymlyn Bog on 9 July 1997. Bradley and Tremewan (1973) describe the northward and westward spread of this species since it was first recorded in Kent in 1951. Has this process continued to date? No further specimens appeared, so was it a migrant, a wanderer from an existing colony, or the first sign of colonisers arriving from the east? I would be interested to hear the view of more knowledgeable readers on this point.

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## BOOK REVIEWS

**The colour identification guide to caterpillars of the British Isles** by **Jim Porter**. 276 pages, 49 colour-plates. 246x197 mm. Hardbound ISBN 0 670 87509 0. Viking, 1997. £40.00.

Here, at last, is the long-awaited companion volume to Bernard Skinner's immensely popular book *Colour identification guide to moths of the British Isles* (also published by Viking). For a few years now "The larva book" has been anxiously awaited by lepidopterists – they will not be disappointed and author Jim Porter can be justly proud of this excellent volume which, as the publisher's blurb states, is the first definitive guide to the caterpillars of Britain in more than one hundred years. Although the price is at first sight a bit steep, it is difficult to believe that this number of colour plates could have been produced more cheaply and the book is excellent value for money.

The book is laid out in the same way as (and is the same size as), Skinner's book, which makes it easy to use, both on its own and in conjunction with this. The text contains a brief description of each species and gives the approximate size when fully fed, noting distinguishing features which are important to confirm identification. Food plants are listed with the preferred choice first, followed by any other plants that are reported. Comments on distribution, habits, status, time of year and number of broods per year are also given. I expect, however, that most people will do exactly as I did and turn straight to the colour plates, where over 850 species of butterfly and larger moth caterpillars are illustrated in natural surroundings. The vast majority of these are photographed from British examples, though in a few cases it has been necessary to use European examples where British ones were not available. There is little that one can say other than that the plates are produced to an extremely high standard and are of the utmost value in the study of British Lepidoptera. Only nine resident species are absent from the plates, along with 33 immigrants; these are listed on page xi.

It is unfortunate that too many lepidopterists apparently confine their activities to adult moths; perhaps I too am guilty of this. Unless one had the time and space to rear larvae through in captivity, larval studies were hampered by the lack of an adequate identification guide. How many of us have found a larva on a particular food plant and then ignored it, knowing that unless we breed it through we have no chance of identifying it? So much valuable ecological information wasted! Now, at last, we can put names to most, if not all, of the larvae we encounter and so be able to add considerably to our knowledge of the insects we choose to study.

This book is an essential work of reference for all people interested in the British Lepidoptera fauna, at all levels of experience and knowledge, and will be equally invaluable for anyone else interested in invertebrate ecology in Britain. None of us can possibly afford to be without it.

**Provisional atlas of the aculeate Hymenoptera of Britain and Ireland. Part 1** edited by **Robin Edwards**. 140 pages, 56 distribution maps. A5, paper covers, perfect bound. ISBN 1 870393 39 2. Biological Records Centre, Institute of Terrestrial Ecology, Monks Wood, 1997. Available by post from ITE Publications Sales, Merlewood Research Station, Grange-over-Sands, LA11 6JU. £6.00 (inclusive of postage).

Bees, wasps and ants, the aculeate Hymenoptera, are a group of invertebrates that is becoming increasingly popular amongst entomologists – especially as it is rumoured that the long awaited “bee key” is near to publication. The group is also of particular ecological interest, principally because it contains a large proportion of thermophilic species, many of which are evidently becoming more frequently encountered in the southern part of Britain at least and which may be useful indicators of potential global warming. It is therefore pleasing to see that distribution maps for some of the species have at last been produced. The maps cover all time up to the end of 1995.

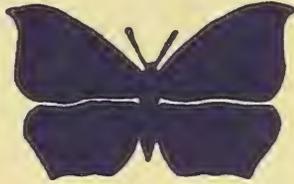
However, those who expected all the species in a particular group to be included will be disappointed. For a variety of reasons, the basis of which is not properly discussed in this review, the Bees, Wasps and Ants Recording Society (BWARS) decided some while ago to select “target species” for recording, and members of the society have been repeatedly presented with lists of target species and asked to submit records. It is a selection of these target species which are covered in this booklet.

I personally find this approach rather disappointing and unhelpful and would have preferred to see, perhaps, all the ground-nesting species, or all the aerial-nesters, or even all the Red Data Book/Nationally Notable species rather than this hotch-potch. Some of the included species are common and widespread and others are rare and restricted. Unless I have a photographic memory, which I do not, I have no real chance of recalling if species X is covered in this booklet without opening its pages. Worse still, if in the future we see further parts published to cover the remaining species, the result will be a random arrangement of species – neither taxonomic nor alphabetical and with no idea which species is in which volume; as a work of daily reference it is at best, therefore, hard to use.

Equally disappointing is the absence of some of my own records of included target species which were submitted to the scheme in time for inclusion, such as my East Suffolk record of *Cerceris quinquefasciatus* – it makes me wonder what others may have been missed.

However, on the positive side, for the species which are included the data provided is very useful, and the maps present a good summary of their present spread. Facing each map page, the species account covers Distribution in Britain and Ireland, Status (in Britain only), Habitat, Flight period, Prey and other food collected, Nesting biology and Flowers visited. It is a useful summary of knowledge for the species covered and, in spite of my criticisms, is recommended reading.

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# THE ENTOMOLOGIST'S RECORD

## AND JOURNAL OF VARIATION

(Founded by J.W. TUTT on 15th April 1890)

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JOURNAL OF VARIATION

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*Assistant Editors*  
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*March/April 1998*

ISSN 0013-8916

F.M.F.  
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**FURTHER UNUSUAL RECORDS OF LEPIDOPTERA FROM THE ROTHAMPSTED INSECT SURVEY NATIONAL LIGHT-TRAP NETWORK**

ADRIAN M. RILEY

*Farmland Ecology Group, Department of Entomology and Nematology, IACR Rothamsted, Harpenden, Hertfordshire AL5 2JQ.*

CONTINUING THE SERIES of papers detailing unusual or significant records of Lepidoptera from the Rothamsted Insect Survey (RIS) national light-trap network (Riley, 1993; 1995), the following are considered to be of particular interest. In the case of phenological records, the usual flight period is taken from Skinner (1984) and is entered in brackets. For ease of reading, details of the localities of the traps are tabulated at the end of the paper. The species nomenclature follows that of Emmet & Heath (1991). All identifications were made by the author unless otherwise stated.

**Phenological records**

*Xanthorhoe montanata* ([Denis & Schiffermüller]) Silver-ground Carpet. One late individual at Drayton on 31.viii.1994 (May to mid-July).

*Cidaria fulvata* (Forster) Barred Yellow. One late individual at Starcross on 11-14.x.1996 (June/July) (Identified by A.H. Dobson).

*Eupithecia abbreviata* Stephens Brindled Pug. One probable second emergence individual at Yarner Wood on 6.x.1995. (April/May).

*Apeira syringaria* (Linn.) Lilac Beauty. One late individual at Rothamsted (Apiary) on 26.ix.1994 (June/July). This is unlikely to represent a second emergence as the larvae of this species do not usually pupate until the spring of the following year.

*Selenia dentaria* (Fabricius) Early Thorn. Very early records at Fota on 7.i.1995 and Lanhydrock on 21 and 23.ii.1995 (April/May; August/September).

*Peribatodes rhomboidaria* ([Denis & Schiffermüller]) Willow Beauty. One second emergence individual at Stoughton on 12.x.1995. Although an occasional second emergence is known to occur during September in southern England, this record from the midlands is of interest.

*Campaea margaritata* (Linn.) Light Emerald. Second generation individuals at Longton on 26.x.1995, Rowardennan on 8.x.1995 and Beinn Eighe II on 2.x.1994. A second generation is frequent during late August and September in southern England but such northerly records are unusual.

*Peridea anceps* ([Goeze]) Great Prominent. One second emergence individual at Rhandirmwyn on 12.x.1994 (April-June).

*Euproctis similis* (Fuessly) Yellow-tail. Late records at Preston Montford on 12.x.1995 and Sparsholt on 23-25.ix.1994. (July/August). These are unlikely to represent a second emergence as the larvae of this species usually over-winter and pupate during the May of the following year.

*Agrotis ipsilon* (Hufnagel) Dark Sword-grass. One very early record at Preston Montford on 9.ii.1994. This species is usually found between March and November.

Skinner (1984) states there is to date no evidence of over-wintering by adults in Britain but suggests this might possibly occur. The very early date of the present record and the absence of other migratory species in RIS light-traps at the time of capture supports this view.

*Diarsia rubi* (Vieweg) Small Square-spot. One late individual at North Wyke on 22.x.1995 (May/June and August/September).

*Xestia xanthographa* ([Denis & Schiffermüller]) Square-spot Rustic. One late individual at Westonbirt on 28.xi.1994 (late July-September).

*Cerastis rubricosa* ([Denis & Schiffermüller]) Red Chestnut. An individual at Rhandirmwyn on 6.xii.1994 (March/April) represents a very premature emergence.

*Orthosia cerasi* (Fabricius) Common Quaker. Records of two individuals at Castle Eden Dene II on 19.viii.1995 and one at Hamstreet on 6.xii.1994 (March/April) represent very early emergence.

### Distributional records

*Pammene splendidulana* (Guenée). Three at Castle Eden Dene II on 8/9.vii.1995 (identified by T.C. Dunn). Last recorded in Co. Durham in 1904 (Dunn & Parrack, 1992).

*Margaritia sticticalis* (Linn.) One at Cockayne Hatley on 31.viii.1995 (Identified by I.P. Woiwod). Not previously recorded in Bedfordshire. (Arnold, Baker, Manning & Woiwod, 1997).

*Ostrinia nubilalis* (Hübner) European Corn-borer. One at Cockayne Hatley on 1/2.viii.1995 (Identified by I.P. Woiwod). Only the fourth record for Bedfordshire. (Woiwod & Manning, 1996).

*Epirrita christyi* (Allen) Pale November Moth. Regular at Glensaugh since the trap was installed in 1994. Not previously recorded in N.E. Scotland (vice-counties 91-94) (R.M. Palmer, *pers. comm.*).

*Eupithecia inturbata* (Hübner) Maple Pug. One at Kielder on 9.viii.1992. Not previously recorded in Northumberland (Dunn & Parrack, 1986).

*Gymnoscelis rufifasciata* (Haworth) Double-striped Pug. Single records at Kielder on 18.viii.1985 and 6.ix.1988. Not previously recorded in Northumberland (T.C. Dunn, *pers. comm.*).

*Cepphis advenaria* (Hübner) Little Thorn. One at Fota on 12.vi.1994. Not previously recorded in Co. Cork (Skinner, 1984).

*Eilema lurideola* (Zincken) Common Footman. Recorded at Glensaugh since the trap was installed in 1994. These are the only inland records for Kincardineshire. It was previously believed only to occur at a few localities on the coast (R.M. Palmer, *pers. comm.*).

*Lacanobia contigua* ([Denis & Schiffermüller]) Beautiful Brocade. One at Kielder on 10.vii.1987. Not recorded in north-east England since 1910 (Dunn & Parrack, 1986).

*Mythimna albipuncta* ([Denis & Schiffermüller]) White-point. One at Cockayne Hatley on 3.viii.1995. Not previously recorded in Bedfordshire (Woiwod & Manning, 1996).

*Omphaloscelis lunosa* (Haworth) Lunar Underwing. Recorded at Glensaugh since installation of the trap in 1994. Only inland records for Kincardineshire. The species was believed previously to occur only on the coast (R.M. Palmer, *pers. comm.*).

*Oligia versicolor* (Borkhausen) Rufous Minor. Recorded at Moneymusk in 1996 (identified by R.M. Palmer). Not previously known to occur in N.E. Scotland (vice-counties 91-94) (R.M. Palmer, *pers. comm.*).

#### Locality of trap sites

Site	RIS Site No.	County	OS Grid reference
Beinn Eighe II	527	Ross-shire	NH 025 627
Castle Eden Dene II	484	Durham	NZ 427 393
Cockayne Hatley	336	Bedfordshire	TL 253 494
Drayton	535	Warwickshire	SP 164 549
Glencoe	558	Argyll	NN 119 567
Glensaugh	567	Kincardineshire	NO 671 782
Hamstreet	472	Kent	TR 004 334
Kielder	296	Northumberland	NY 632 936
Kielder Village	557	Northumberland	NY 632 932
Lanhydrock	550	Cornwall	SX 099 636
Longton	552	Lancashire	SD 477 247
Ludlow	488	Shropshire	SO 514 743
Moneymusk	551	Aberdeenshire	NJ 669 192
North Wyke	543	Devonshire	SX 662 984
Ongar	493	Essex	TL 562 047
Preston Montford	382	Shropshire	SJ 433 143
Rhandirmwyn	346	Dyfed	SN 782 441
Rowardennan	97	Stirlingshire	NS 378 958
Rothamsted (Apiary)	612	Hertfordshire	TL 121 129
Rothamsted (Pastures)	615	Hertfordshire	TL 121 133
Starcross	149	Devonshire	SX 972 821
Stoughton	561	Leicestershire	SK 638 027
Warehorne	478	Kent	TQ 988 346
Westonbirt	292	Gloucestershire	ST 847 898
Yarner Wood	266	Devonshire	SX 786 788

Two further traps are cited that are not on the Ordnance Survey Grid:

Fota (Site 546) : Fota Wildlife Park, Carigtwohill, Co. Cork, Ireland.

Jersey (Site 547): Howard Davis Farm, Trinity, Jersey, Channel Islands.

*Laspeyria flexula* ([Denis & Schiffermüller]) Beautiful Hook-tip. One at Kielder on 27.vi.1991. Dunn & Parrack (1986) reject a record from 1889 in Co. Durham. It has not otherwise been recorded previously north of Yorkshire (T. Dunn, *pers. comm.*).

*Parascotia fuliginaria* (Linn.) Waved Black. One at Starcross, 14-17.vii.1995 (identified by A.H. Dobson). Not previously recorded in Devonshire (A.H. Dobson, *pers. comm.*).

D.V. Manning has completed his identifications of the microlepidoptera caught at Cockayne Hatley during 1994 and records the following species as new to Bedfordshire (Manning, 1995). The dates of capture are given in brackets.

*Monopis crocicapitella* (Clemens) (24-30.ix.); *Leucoptera wailesella* (Stainton) (16-22.vii.); *Phyllonorycter dubitella* (Herrich-Schäffer) (July); *Elachista biatomella* (Stainton) (13-19.viii.); *Cosmiotes consortella* (Stainton) (September); *Caryocolum proximum* (Haworth) (16-22.vii.); *Pediasia contaminella* (Hübner) (16-22.vii.); *Scoparia ancipitella* (La Harpe) (2-8.vii.).

### Scarce immigrant records

Regular papers detailing all immigrant species recorded in RIS traps from 1993 onwards are presently being planned. However, the following species are recorded so infrequently that it is considered desirable to include them here.

*Palpita unionalis* (Hübner). One at Hamstreet on 25.x.1995.

*Coscinia cribraria arenaria* (Lempke) Speckled Footman. One at Ongar on 6.viii.1996. Only the sixteenth record this century (B. Skinner, *pers. comm.*).

*Mythimna loreyi* (Duponchel) The Cosmopolitan. One at Rothamsted (Pastures) on 31.viii.1992.

*Conistra erythrocephala* ([Denis & Schiffermüller]) Red-headed Chestnut. One at Jersey, 12-14.iv.1996. This is only the fifth record for the 1990's and only the second time the species has been recorded during the spring after hibernation (B. Skinner, *pers. comm.*).

*Heliothis armigera* (Hübner) Scarce Bordered Straw. One at Jersey, 20-22.x.1995, and two on 22.viii.1996; one at Yarner Wood on 2.ix.1996.

### Other significant records

*Scopula nigropunctata* (Hufnagel) Sub-angled Wave. One at Warehorne on 16.vii.1995. In the British Isles this species is restricted to certain areas of the Hamstreet Forest complex in Kent. Although the trap at Warehorne is within this locality, records are so infrequent that it is considered worth noting this capture.

*Dryobota labecula* (Esper) Oak Rustic. Three individuals at Jersey, 25.x.1995, 27-29.x.1995 and 30-31.x.1996. This species was first recorded in Jersey in 1991 (Burrow, 1996). The present records suggest the species is increasing in abundance in the island. It has not previously been recorded in the RIS trap that has operated there since 1970.

*Senta flammea* (Curtis) Flame Wainscot. One at Warehorne on 29.v.1995. This individual may be an immigrant though Skinner (1984) states that it is resident at Wye, approximately 15 km from Warehorne. No other migrant species were caught at the site at this time.

### Acknowledgements

Thanks are extended to the trap operators at all the sites listed above, without who's, often voluntary, participation the light-trap network could not function. The Drayton and Glensaugh sites are part of the National Environmental Change Network. The author is particularly grateful to Tony Dobson, the late Tom Dunn, David Manning, Bob Palmer, Bernard Skinner and Ian Woiwod for their valued help and expertise.

This work is partly funded by the Biotechnology and Biological Sciences Research Council of Great Britain.

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### *Phyllonorycter leucographella* (Zeller)(Lep.: Gracillariidae) in Buckinghamshire

On 4 April 1997 I found eight mines of this moth on a bush of firethorn *Pyracantha* sp. at Medmenham, near Marlow, Buckinghamshire. The bush is growing in the grounds of WRC at the entrance to the canteen. The moth is a recent arrival here; I have been checking the bush, and others in the area, on and off for several years and this is my first sighting. Three adults emerged, together with two Braconid parasites, from 9 to 12 May 1997.– I. SIMS, 2 The Delph, Lower Earley, Reading, Berkshire RG6 3AN.

### Early emergences of moths – continued

I have written of the early emergence of moths in Selborne (*Ent. Rec.* **106**: 116 (1994); **107**: 4 (1995) and **107**: 191 (1995)). This penultimate list charts how the early tendency persisted during the 1992-94 seasons: The final column indicates the dates given for adult moths in *Moths & Butterflies of Great Britain & Ireland*, vol. 7(2).

	1994	1993	1992	MBGBI
<i>Euplexia lucipara</i>	7 Jun	6 Jun	23 Jun	Jun, Jul
<i>Idaea trigeminata</i>	7 Jun	7 Jun	12 Jun	Jun, Jul
<i>Eupithecia haworthiata</i>	9 Jun	10 Jun	24 Jun	Jun, Jul
<i>Cidaria fulvata</i>	9 Jun	10 Jun	26 Jun	Jun, Jul
<i>Apamea anceps</i>	9 Jun	8 Jun	26 Jun	Jun, Jul
<i>Rusina ferruginea</i>	10 Jun	8 Jun	24 Jun	Jun, Jul
<i>Apamea monoglypha</i>	12 Jun	23 May	23 Jun	Jun-Aug
<i>Perizoma alchemillata</i>	13 Jun	1 Jul	18 Jul	Jun, Jul
<i>Phalera bucephala</i>	14 Jun	22 May	23 Jun	Jun, Jul
<i>Diarsia mendica mendica</i>	14 Jun	26 May	23 Jun	Jun-Aug
<i>Herminia grisealis</i>	14 Jun	1 Jul	2 Jul	Jun-Aug
<i>Myelois circumvoluta</i>	15 Jun	4 Jun	16 Jun	Jun-Aug
<i>Idaea seriata</i>	20 Jun	16 Jun	26 May	Jul-Oct
<i>Melanchra persicariae</i>	20 Jun	23 Jun	23 Jun	Jun-Aug
<i>Eulithis prunata</i>	23 Jun	10 Jun	18 Jun	Jul, Aug
<i>Hecatera bicolorata</i>	23 Jun	27 Jun	none	Jun-Sept
<i>Pandemis heparana</i>	23 Jun	25 Jun	6 Jul	Jun-Aug
<i>Campaea margaritata</i>	24 Jun	26 Jun	26 Jun	Jul, Aug
<i>Eilema lurideola</i>	24 Jun	1 Jul	26 Jun	Jul, Aug
<i>Philudoria potatoria</i>	28 Jun	29 Jun	30 Jun	Jul, Aug
<i>Epiblema foenella</i>	28 Jun	4 Jul	none	Jul, Aug
<i>Scopula imitaria</i>	28 Jun	none	5 Jul	Jul, Aug
<i>Mythimna ferrago</i>	30 Jun	1 Jul	23 Jun	Jul, Aug
<i>Cryphia domestica</i>	30 Jun	4 Jul	15 Jul	Jul, Aug
<i>Euzophera pinguis</i>	3 Jul	18 Jun	26 Jun	Jul-Sept
<i>Euproctis similis</i>	6 Jul	6 Jul	27 Jul	Jul, Aug
<i>Noctua comes</i>	7 Jul	21 Jul	29 Jul	Jul-Sept
<i>Eilema complana</i>	7 Jul	1 Jul	26 Jul	Jul, Aug
<i>Cosmia trapezina</i>	8 Jul	15 Jul	9 Aug	Jul-Sept
<i>Crocallis elinguarua</i>	11 Jul	15 Jul	28 Jul	Jul, Aug
<i>Acleris variegana</i>	17 Jul	24 Jul	16 Aug	Jul-Nov
<i>Ennomos quercinaria</i>	20 Jul	19 Jul	none	Jul-Sept
<i>Blastobasis lignea</i>	25 Jul	20 Jul	none	Aug

The dates refer to the first observed specimen of each species: the m.v. light was run at home on most nights of the years covered in the survey.—ALASDAIR ASTON, Wake's Cottage, Selborne, Hampshire GU34 3JH.

## SWEDISH LAPPLAND, JUNE-JULY 1996

B. GOATER

*"The Ridge", 27 Hiltingbury Road, Chandlers Ford, Hampshire, SO53 5SR*

MY WIFE AND I decided to make our first visit to the Arctic in the summer of 1996, to another part of Europe very different from our own. I know of no other Briton who has worked the region for moths, and it is hoped that some remarks about the species encountered and the techniques for catching them will be of interest to readers of the *Record*. The first thing to be aware of is that in arctic Sweden and western Finland the majority of species fly in the even years; in eastern Finland, however, it is the odd years that are the productive ones. So 1996 was right for Swedish Lappland.

The long, thin country of Sweden extends between latitudes of around 56°N, close to that of Edinburgh, to nearly 68°N. In high summer in the south, the nights are short, but it is possible and profitable to operate lamps for three or four hours. In mid-Sweden at the same date, moths will come to light in the darkest parts of dark spruce forests, but in the far north, in the Land of Midnight Sun, the generator rests unused.

We sailed from Harwich in the afternoon of 23 June and reached Göteborg 23 hours later. This gave us time to drive to the locality in Västmanland where, in early August 1995, we had been astonished to see quantities of *Eugraphe subrosea* (Steph.) and *Xestia alpicola* (Zett.) together on the sheet. When we arrived, *Chrysoteuchia culmella*\*, a few *Crambus alienellus*, *Macrothylacia rubi*, *Chlorissa viridata*, *Scopula ternata* and *Ematurga atomaria* were flying over the bog, and *Iodis putata*, *Lampropteryx suffumata* and *Hypena crassalis* in the pinewood, the floor of which was strewn with bilberry and an abundance of lichens and mosses. Two lamps, operated within the wood for the three brief hours of semi-darkness, produced little of interest, the best being one of the dark race of *Acronicta auricoma*.

Next day we drove on to Uppsala to stay with Dr Nils Ryrholm and his family. On seeing my net (standard British kite), Nils said, "That will be useless in Lappland – here, borrow my long-handled net". This had a telescopic handle extending to 5m, and proved invaluable. He also provided me with a selection of pheromones to use in the Arctic, about which more later. We examined the contents of a moth trap in a friend's garden on the outskirts of Uppsala which contained a lot of common English woodland species, but including a grey form of *Aetheria bicolorata* and several *Phlyctaenia perlucidalis*. Field work in sunny weather took us to some attractive country in the vicinity without yielding anything unusual.

In the evening we parted company and Jane and I drove northwards to Skutskar, east of Gävle. A narrow pathway beneath a line of pylons passes through alternate stretches of boggy carr and dry hilly land, and this I patrolled through much of the night. It is a locality for the geometer, *Hypoxystis pluviana* (Linn.) and the nolid, *Nola karelica* (Tengst.), but I think we were too late for the former and early for the latter, neither being forthcoming. However, males of *Athetis pallustris* were quite common flying over the drier ground and it was good to see so many geometers on the wing.

\* The authors of the scientific names of recorded species are given in Appendix 1

An excellent arterial road (E4) runs northward from Stockholm to Haparanda and on into Finland, with a junction at Töre (E10) which takes one up into Swedish Lappland and has fairly recently been extended to reach Narvik in Norway. This also is wide, fast and by our standards devoid of traffic. We could have reached our ultimate destination with a single overnight stop from Uppsala, but we wanted to visit Bjuröklubb, a small peninsula jutting north into the Baltic between Umea and Skelleftea. This is a well-known locality for *Athetis lepigone*, a species we wanted to see. The foodplant is sea pea *Lathyrus maritimus*, and we soon found some on the west side of the peninsula. At this latitude, in June, the sun sets but there is no darkness. I walked the area until about 0300 hours and netted ten more *pallustris*, but of *lepigone* there was no sign – something must be wrong.

It had been our intention to get on up into the Arctic next day, but failure to find our immediate quarry was disturbing and instead we decided to conduct a careful search of other areas of the peninsula. Soon we found what was clearly the locality depicted in Peder Skou's book on Scandinavian Noctuidae (Skou, 1991) – a long shingly strand projecting out to the east, at the landward end of which was an abundance of the foodplant. After a day's birdwatching which produced among other things Nutcrackers, Pine Grosbeak and an obliging Black Woodpecker which landed on a telegraph pole beside the van, we returned to this spot and soon afterwards, around 2100 hours, *lepigone* began to fly, more briskly than *pallustris* which was also present. Within two hours I had seen some 40 specimens, all males. My notes record that the flight of *lepigone* was faster and more erratic than that of *pallustris*, and that the moth had a habit of turning in a tight circle and diving into the ground when attacked. I also recorded that I did my setting at midnight by natural light!

Next day, 29 June, we did indeed reach our destination in Lappland, that "Hamstreet of the North", Jukkasjärvi. We had been given directions by Nils, who told us to drive along the track until we saw other entomologists' cars! During the next days, we met a number of Swedish lepidopterists, all very helpful and friendly. Soon to arrive was a group who had spent previous days up in the mountains collecting cocoons of the almost fabulous arctiid, *Acerbia alpina* (Quens.), and I was shown freshly emerged specimens. A virgin female, taken down into the local moorland, assembled eleven males of the unrelated arctiid, *Grammia quenseli* (Payk.)!

Following a beautiful sunny day, the evening degenerated into hail showers which brought the temperature down. No noctuids were seen that night, and little was forthcoming save the ubiquitous *Elophos vittaria* from about 2030 hours. However, I was pleased to have my first encounters with *Eudonia alpina*, *Udea inquinatalis*, a dark form of *U. decrepitalis*, *Xanthorhoe annotinata*, *Eupithecia virgaureata altenaria* and the only specimen seen here of *Colostygia turbata*, all flying along the track.

The higher ground in the undulating countryside around Jukkasjärvi is occupied by scots pine and spiky spruce forest, the short-branched spruces evidently very old but no more than 10m or so tall. Under them grow bilberry in abundance, lichens and mosses. Downhill, the forest grades into moorland and bog, the spruces

becoming shorter still and more sparse. Along the drier edges of the forest are quantities of birch *Betula pubescens*, and the low-lying ground supports a bewildering lot of *Salix* species and their hybrids, and dwarf birch *Betula nana*. The common birds are Bramblings in the birches, Bluethroats along the boggy forest-edges and Grey-headed Wagtails out on the more open bogland. In the forest, Siberian Jays were often seen or heard. There was a dearth of rodents, and a disappointment for us was the absence of owls which depend on them.

Daytimes were spent exploring a variety of localities in the area and south of the iron-mining town of Kiruna. Kiruna itself is not very beautiful, and the surrounding mountains are deeply scarred by iron-workings. The railway track is littered with small balls of iron which have fallen from the trucks and which look like Maltesers! However, one does not have far to go to reach unspoilt and beautiful country. Near Kiruna airport there is an area of boggy ground with groves of *Salix* where we were told to go for *Colostygia turbata*; a visit in the morning of 2 July produced none, but when we returned in late afternoon the moth was swarming. Going west, spruce and pine give way to extensive birch forest, with bogs and large lakes, and in the distance, to be explored later, are the mountains along the Norwegian border. *Sympistis heliophila* excited us at first, for it is an extremely attractive, day-flying, *Anarta*-like moth, but it proved to be very common. The commonest pyralid was *U. inquinatalis*, with *U. decrepitalis* in the damper areas. There were lots of butterflies, too, but I had neither time nor inclination to collect them.

Back at Jukkasjärvi on 30th, we saw the surrounding hills in bright sunshine at midnight. In the forest, I netted several *Eupithecia conterminata*, somewhat past their best, amongst the spruce, and one *E. gelidata* over its foodplant, *Ledum palustre*, but it was not until 1 July that the first noctuid was seen, *Lasionycta skraelingia* at rest on a pine trunk. Thereafter, new noctuids appeared daily, and life became really exciting, and the long-handled net came into play. At around 20.30, *skraelingia* starts to fly at high speed around the tops of the spruces in the bogs, joined shortly afterwards by *Anartomima bohemani* and an occasional leisurely *Xestia borealis*. We were seeing between fifty and a hundred *skraelingia* each night, but were lucky to catch half-a-dozen; *borealis* would drift away just a little faster than one could run over the treacherous boggy ground, so every capture was well-earned. We found a spot where the spruces were a bit shorter, and the moths flew lower, and here we were most successful. This flight lasted for a couple of hours, then it was time to move into the spruce forest along the main track. Realistic photographs are given in Skou (*op. cit.*). Here we found another Arctic speciality, *Xestia gelida*, in some numbers and flying lower, at around 2 m., and low and fast over the spongy moorland, *X. tecta*. It was not until 7 July, however, that *X. laetabilis* first appeared, later to become common. This is the smallest and most slender of the lowland *Xestia*, and flies gently among the trees. It has a sibling, *X. distensa*, which tends to emerge a few days later and needs to be differentiated by dissection. All those brought home by me turned out to be *laetabilis*. Jukkasjärvi is one of the localities where both species occur together.

A different technique is needed to find *Polia lamuta*. This prefers the drier pine forest and is said to fly at great speed in the early evening, near the ground, later to rest on pine trunks, often *in copula*. I found the first pair on 13 July. Next day, in rain, by dint of a long, long search of pine trunks, I discovered two more females. Also on the trees were several of the large scopariine, *Gesneria centuriella*, darker than those from the Alps. At about the same date, the striking geometrid, *Thera serraria*, started to emerge. Again, the long-handled net was needed to intercept this species as it flew high around the spruces.

Days were spent on other entomological forays and we snatched a little sleep when we could. Out on the boggy moors, we found several of the arctiid, *Pararctia lapponica* flying in the afternoon sunshine, as well as *Eudonia alpina*, *Pyla fusca*, *Glacies coracina* and several species of small fritillary, and a single *Cynthia cardui*. *Autographa gamma*, though present in large numbers around Uppsala, had not penetrated so far north.

Nils Ryrholm's pheromones had been tried from time to time without success until 9 July, when a selection was put out in a boggy birch forest with *Betula pubescens* and *B. nana* near Pirttivuopio, SW of Kiruna. During the afternoon between 15.45 and 16.10 hours there were twelve visits from *Syngrapha parilis*, usually considered difficult to obtain, to one of a choice of pheromones for that species, and several *Synanthedon culiciformis* came to a bait for *S. polaris*. The *parilis* were skittish and I only landed eight, but the clearwings were very docile. A day or two previously, we had the pleasure of meeting Stig Torstenius, who has been a member of the Brit. Ent. Soc. since 1948, and his son. It will be recalled that Stig has presented a comprehensive collection of Swedish Lepidoptera to that Society. On 13 July, we all went back to the *parilis* locality, but we saw only four, one at 11.50 hours, the others between 15.40 and 16.10, but several *culiciformis*. Evidently it was a bad year for plusiines, and pheromones for *Autographa macrogamma* (Evers.), *Syngrapha diasema* (Boisd.) and *S. microgamma* (Hübner) were unproductive. We were probably a little too early for *polaris*.

The season was running some two weeks late, and the dreaded mosquitos were no more than a nuisance: I think they were probably one generation behind. The forest species of moth were emerging while we were there, but when we moved on to the mountains around Abisko most of the local specialities had yet to appear. Three evenings hunting for *Xestia kongsvoldensis* yielded just two, but this was because of cold, windy conditions. It flies fast and low over grassy, flower-rich hillsides on which *Dryas octopetala* is dominant. *Xanthorhoe abrasaria* was well out at low level around Abisko, *Zygaena exulans* swarmed everywhere and the phycitine, *Polopeustis altensis* was locally common, but of four possible *Entephria* species, only *E. caesiata* was out in any quantity and we saw a single *E. polata*, usually common, on the last day. Apparently the technique for the truly montane species is to go up there and camp, and wait for favourable weather conditions. Either one can walk with all the paraphernalia on one's back, or take a helicopter from Abisko. This alternative, though costly, gets oneself and one's things up to the top in approximately four minutes, and avoids an uphill drag of 8-10 km.

It was interesting to observe that the “nocturnal” species of Lepidoptera were perfectly aware of the time of day, even though the sun continued to shine. The proper time for flight for them was between 20.30 hours and 03.30, some species flying earlier or later during that period. Perhaps their daily rhythm evolved during the Ice Ages when they lived further south where there was darkness during those hours.

We left Lappland with regret on 18 July, but with one more objective in mind. We had asked Stig Torstenius’ advice on finding *Xestia rhaetica*, which is more common in central Sweden than in the north. He suggested a locality near Boda in Dalarna which we had tried in 1994 for *X. sincera* and the rare and local *Poliobrya umovii*, but he said we would probably be too early for *rhaetica* and too late for *sincera*, and that we would need an awful lot of luck to see *umovii*. Thus encouraged, we arrived in the evening of 19 July. So far south, we had a couple of hours of moderate darkness within the forest, so set up two lights and were rewarded with three *sincera* and two *umovii*! Next night, in the same location we got three very fresh *rhaetica* and a further three *sincera*.

For our final day, we visited our friend of previous years, Claes Eliasson, in Lindesberg, and managed some field work in that area. We failed to attract *Paranthene tabaniformis* (Rott.) with pheromone, but found two small larvae of *Cucullia lactucae* on *Lactuca muralis*, which subsequently fed up very quickly on *Hypochaeris radicata*. A night op. in a local sand pit was unproductive in rather cold conditions.

Looking back, we considered our first visit to the Arctic both interesting and successful. Not only did we experience 24 hours of daylight and observe the behaviour of insects and birds in this situation, but found many plants that were new to us and met many kindred spirits, all in beautiful, unspoilt and unpolluted country. We were fortunate. Sometimes the weather in Lappland can be atrocious, and we were told of one entomologist whose windscreen wipers were in action all day every day during his expedition, from which he returned empty-handed. It is a long way to go to risk failure on this scale!

## Appendix 1:

### Lepidoptera Heterocera recorded in Sweden, 24 June - 21 July, 1996

In the following list, Swedish provinces are abbreviated thus:

DA: Dalarna	ME: Medelpad	NB: Norrbotten
TO: Torne Lappmark	UP: Uppland	VB: Västerbotten
VS: Västmanland		

The sequence of species is based on Karsholt & Razowski (1996).

#### Hepialidae

*Korscholtellus lupulina* (Linn.) UP: garden NW of Uppsala, 25.vi., c. at light.

*Pharmacis fusconebulosa* (de Geer) ME: W of Kvissleby on birch moorland, 18.vii., f.c. flying in evening; DA: Styggforsen, W of Boda, 19-20.vii., sev. at light.

**Zygaenidae**

*Zygaena exulans* (Hoch.) TO: Krokvik, 12km NW of Kiruna, 3.vii., many cocoons but no moths, first of which em. 7.vii. Thereafter, abundant in many localities from Jukkasjärvi village westwards to Abisko.

**Sesiidae**

*Synanthedon culiciformis* (Linn.) TO: Pirttivuopio, between Kiruna and Nikkaluokta, three attracted to pheromone for *S. polaris* (Stdgr) during afternoon, and five more on 13.vii.; E of Abisko, 10.vii., six visits to same pheromone; Abisko, 12.vii., seven attracted between 1345 and 1530 hours.

**Tortricidae**

*Eulia ministrana* (Linn.) TO: Jukkasjärvi, 29.vi.- 14.vii., few at night.

*Lozotaenia forsterana* (Fabr.) TO: Jukkasjärvi, 29.vi.- 14.vii., few at night.

*Phiaris metallicana* (Hüb.) DA: W of Boda, 19-20.vii., sev. by day in bogs.

*P. schulziana* (Fabr.) TO: Jukkasjärvi, 29.vi.- 14.vii., few; DA: Styggforsen, W of Boda, 20.vii., one at light.

*P. micana* ([D. & S.]) (= *olivana* Treits.) DA: W of Boda, 19-20.vii., sev. by day in bogs.

*P. bipunctana* (Fabr.) TO: Abisko, c. by day on boggy moorland.

*Epiblema grandaevana* (Lien. & Zell.) VS: Lindsberg, 21.vii., one at light in sand pit.

Some other tortricids await identification.

**Pyralidae**

*Pyla fusca* (Haw.) TO: Jukkasjärvi, 1.vii., one netted by day; Krokvik, 12km NW of Kiruna, 3.vii., sev. by day; Kalixfors, S of Kiruna, 2.vii., two by day.

*Polopeustis altensis* (Wocke) TO: Abisko, 10.vii. and subsequently, c. by day, visiting flowers of *Astragalus* and settling on bare, stony ground.

*Pempelia palumbella* ([D. & S.]) VS: Lindsberg, 21.vii., two at light in sand pit.

*Dioryctria abietella* ([D. & S.]) VS: Lindsberg, 21.vii., one at light in sand pit.

*Anerastia lotella* (Hüb.) VS: Lindsberg, 21.vii., two at light in sand pit.

*Gesneria centuriella* ([D. & S.]) TO: Jukkasjärvi, 13.vii., two resting on pine trunks in evening, and another on 14.vii.

*Eudonia alpina* (Curt.) TO: Jukkasjärvi, 29.vi.- 14.vii., few; Krokvik, 12km NW of Kiruna, 3.vii., sev. by day.

*Chrysoteuchia culmella* (Linn.) VS: Svartsjännmossen, 24.vi, c.; UP: Rödmossen, 35km NW of Uppsala, 26.vi., v.c.

*Crambus alienellus* (Germ. & Kaulfuss) VS: Svartsjännmossen, 24.vi, few; UP: Rödmossen, 35km NW of Uppsala, 26.vi., one in afternoon.

*C. pratella* (Linn.) ME: W of Kvissleby on birch moorland, 18.vii., sev. in evening; DA: W of Boda, 20.vii., sev. by day.

*C. lathoniellus* (Zinck.) VB: Bjuröklubb, E side, 28.vi., c. by day.

*C. perllella* (Scop.) ME: W of Kvissleby on birch moorland, 19.vii., few flying in early morning sunshine.

*Agriphila straminella* ([D. & S.]) DA: W of Boda, 20.vii., c. by day; Styggforsen, W of Boda, 20.vii., one at light.

*Catoptria permutatellus* (H.-S.) ME: W of Kvissleby on birch moorland, 18.vii., one.

*Udea inquinatalis* (Lien. & Zell.) VS: Svartsjärnmossen, 24.vi, one at light; TO: Jukkasjärvi, 29.vi.- 14.vii., c., and in many places between there and Abisko, day and night.

*U. decrepitalis* ([D.& S.]) TO: Jukkasjärvi, 29.vi.- 14.vii., few; near Kiruna airport, 2.vii., fairly common in boggy ground with *Salix* spp.; Abisko, f.c.

*Opsibotys fuscalis* ([D.& S.]) VB: Bjuröklubb, E side, 28.vi., sev. by day.

*Phlyctaenia perlucidalis* (Hübner.) UP: garden NW of Uppsala, 25.vi., sev. at light.

*Anania funebris* (Ström) DA: W of Boda, 20.vii., one by day.

*Nomophila noctuella* ([D.& S.]) VB: Bjuröklubb, E side, 28.vi., one on shingle.

### Lasiocampidae

*Macrothylacia rubi* (Linn.) VS: Svartsjärnmossen, 24.vi, males c.; UP: Skutskar, E of Gävle, 26.vi., males c.

### Sphingidae

*Hyloicus pinastri* (Linn.) DA: Styggforsen, W of Boda, 19.vii., four at light; VS: Lindesberg, 21.vii., one at sugar ropes in sand pit.

*Smerinthus ocellatus* (Linn.) VS: Svartsjärnmossen, 24.vi, one at light.

*Laothoe populi* (Linn.) UP: garden NW of Uppsala, 25.vi., one at light; DA: Styggforsen, W of Boda, 19.vii., two at light.

### Thyatiridae

*Thyatira batis* (Linn.) DA: Styggforsen, W of Boda, 19.vii., two at light, one at sugar ropes.

*Ochropacha duplaris* (Linn.) DA: Styggforsen, W of Boda, 19.vii., c. at light, sev. at sugar ropes.

### Drepanidae

*Falcaria lacertinaria* (Linn.) TO: Jukkasjärvi, 1.vii., one, 8.vii., one, netted in afternoon.

*Drepana falcataria* (Linn.) ME: W of Kvissleby on birch moorland, 18.vii., one.

### Geometridae

*Lomaspidis marginata* (Linn.) UP: Skutskar, E of Gävle, 26.vi., one; VB: Savär, 27.vi., one by day; DA: Styggforsen, W of Boda, 19.vii., one at light.

*Macaria notata* (Linn.) DA: Styggforsen, W of Boda, 20.vii., one at light.

*M. liturata* (Clerck) VB: Savär, 27.vi., one by day; DA: Styggforsen, W of Boda, 19.vii., one at light.

*M. carbonaria* (Clerck) TO: Kalixfors, S of Kiruna, 2.vii., two by day.

*Chiasmia clathrata* (Linn.) UP: SW of Uppsala, 25.vi., sev. by day; garden NW of Uppsala, 25.vi., one at light; Skutskar, E of Gävle, 26.vi., c.; ME: W of Kvissleby on birch moorland, 19.vii., few flying in early morning sunshine; DA: W of Boda, 20.vii., abdt by day.

*Itame brunneata* (Thunb.) DA: Assjöbo, 19.vii., c. by day amongst *Vaccinium* at edge of a bog; Styggforsen, W of Boda, 19-20.vii., few at light.

*Petrophora chlorosata* (Scop.) UP: Skutskar, E of Gävle, 26.vi., sev.

*Plagodis pulveraria* (Linn.) VS: Svartsjärnmossen, 24.vi, three at light; UP: garden NW of Uppsala, 25.vi., one at light.

*Opisthograptis luteolata* (Linn.) UP: garden NW of Uppsala, 25.vi., one at light; DA: Styggforsen, W of Boda, 19.vii., one at light.

*Selenia dentaria* (Fabr.) TO: Jukkasjärvi, 29.vi., one at night in spruce forest; DA: Styggforsen, W of Boda, 20.vii., one at light.

*S. tetralunaria* (Hufn.) UP: garden NW of Uppsala, 25.vi., two at light.

- Odontopera bidentata* (Clerck) VS: Svartsjämnossen, 24.vi, one at light; UP: garden NW of Uppsala, 25.vi., two at light; DA: Styggforsen, W of Boda, 20.vii., one at light.
- Alcis repandata* (Linn.) DA: Styggforsen, W of Boda, 19-20.vii., sev. at light.
- A. jubata* (Thunb.) DA: Styggforsen, W of Boda, 20.vii., one at light.
- Ematurga atomaria* (Linn.) VS: Svartsjämnossen, 24.vi, c; UP: Rödmossen, 35km NW of Uppsala, 26.vi., v.c. by day; Skutskar, E of Gävle, 26.vi., c.; DA: W of Boda, 20.vii., c. by day.
- Bupalus piniaria* (Linn.) VS: Svartsjämnossen, 24.vi, three males at light.
- Cabera pusaria* (Linn.) VB: Savär, 27.vi., one by day; Bjuröklubb, W side, 27.vi., few; ME: W of Kvissleby on birch moorland, 18.vii., c.; DA: Styggforsen, W of Boda, 19.vii., one at light; VS: Lindesberg, 21.vii., one at light in sand pit, one at sugar ropes.
- C. exanthemata* (Scop.) UP: Skutskar, E of Gävle, 26.vi., sev. at night.
- Lomographa temerata* ([D.& S.]) UP: garden NW of Uppsala, 25.vi., sev. at light.
- Hylaea fasciaria* (Linn.) DA: Styggforsen, W of Boda, 20.vii., one at light; VS: Lindesberg, 21.vii., two at light in sand pit.
- Elophos vittaria* (Thunb.) TO: Jukkasjärvi, 29.vi.- 14.vii., c. all through the night, 2100 - 0330 hours, but rarely seen by day; Abisko, 10.vii. and subsequently, c.; DA: Styggforsen, W of Boda, 19-20.vii., sev. at light.
- Glacies coracina* (Esp.) TO: Krokvik, 12km NW of Kiruna, 3.vii., two males by day; 4.vii., male and female.
- Siona lineata* (Scop.) UP: SW of Uppsala, 25.vi., sev. by day.
- Perconia strigillaria* (Hüb.) UP: Rödmossen, 35km NW of Uppsala, 26.vi., two in afternoon.
- Geometra papilionaria* (Linn.) VS: Lindesberg, 21.vii., one at light in sand pit.
- Chlorissa viridata* (Linn.) VS: Svartsjämnossen, 24.vi, three
- Jodis putata* (Linn.) VS: Svartsjämnossen, 24.vi, c.; DA: Styggforsen, W of Boda, 19-20.vii., f.c. in ancient spruce forest.
- Cyclophora albipunctata* (Hufn.) UP: Skutskar, E of Gävle, 26.vi., one.
- Scopula ternata* (Schränk) VS: Svartsjämnossen, 24.vi, c.; DA: W of Boda, 19.vii., sev. along track during afternoon; Styggforsen, W of Boda, 19-20.vii., f.c.
- S. floslactata* (Haw.) UP: Skutskar, E of Gävle, 26.vi., sev.
- Idea serpentina* (Hufn.) DA: W of Boda, 19-20.vii., few along track by day.
- I. sylvestraria* (Hüb.) VS: Lindesberg, 21.vii., one at light in sand pit.
- I. pallidata* ([D.& S.]) UP: garden NW of Uppsala, 25.vi., sev. at light; Skutskar, E of Gävle, 26.vi., one.
- Xanthorhoe abrasaria* (H.-S.) TO: Abisko, 10.vii. and subsequently, f.c., easily disturbed by day; Pirrtivuopio, 13.vii., two during afternoon.
- X. decoloraria* (Esper) (= *munitata* Hüb.) TO: Abisko, 10.vii. and subsequently, f.c. flying in early evening, around 2000 hours; Björkliden, 16.vii., several flying during afternoon.
- X. spadicearia* ([D.& S.]) VB: Savär, 27.vi., sev. by day; TO: Jukkasjärvi village, 8.vii., one by day.
- X. montanata* ([D.& S.]) UP: garden NW of Uppsala, 25.vi., sev. at light; TO: Björkliden, 16.vii., several flying during afternoon; NB: Tvärön, 18km N of Overkalix, 18.vii., sev. flying in morning sunshine; DA: Styggforsen, W of Boda, 19-20.vii., sev. at light.
- X. fluctuata* (Linn.) UP: garden NW of Uppsala, 25.vi., one at light.

- X. annotinata* (Zett.) TO: Jukkasjärvi, 29.vi.- 14.vii., f.c. at all times of day, and in many other localities between there and Abisko.
- Epirrhoe tristata* (Linn.) DA: W of Boda, 19.vii., few along track during afternoon.
- E. alternata* (Müll.) DA: Styggforsen, W of Boda, 19.vii., one at light.
- Entephria polata* (Dup.) TO: Abisko, 17.vii., one very fresh specimen netted on boggy moorland during afternoon.
- E. caesiata* ([D.& S.]) TO: Jukkasjärvi, 13.vii., one resting on a pine trunk in evening; Abisko, 17.vii., several specimens netted on boggy moorland during afternoon; DA: Styggforsen, W of Boda, 20.vii., two at light.
- Mesoleuca albicillata* (Linn.) UP: Skutskar, E of Gävle, 26.vi., two in flight at night.
- Lampropteryx suffumata* ([D.& S.]) VS: Svartsjämnossen, 24.vi., one.
- Cosmorhoe ocellata* (Linn.) UP: garden NW of Uppsala, 25.vi., one at light; DA: Styggforsen, W of Boda, 19.vii., one at light; VS: Lindesberg, 21.vii., one at light in sand pit.
- Ecliptopera silaceata* ([D.& S.]) DA: Styggforsen, W of Boda, 20.vii., two at light.
- Chloroclysta infuscata* (Tengst.) DA: Styggforsen, W of Boda, 19.vii., one at light.
- C. latefasciata* (Stdgr) DA: Styggforsen, W of Boda, 19.vii., three at light.
- Thera serraria* (Lien. & Zell.) TO: Jukkasjärvi, 13.vii., strong emergence, males netted during early night as they flew high around spruces.
- Electrophaes corylata* (Thunb.) VS: Svartsjämnossen, 24.vi., one at light.
- Colostygia aptata* (Hübner) VS: Svartsjämnossen, 24.vi., one at light.
- C. turbata* (Hübner) TO: Jukkasjärvi, 29.vi., one flying in lane at midnight; near Kiruna airport, 2.vii., very common flying in warm afternoon sunshine around *Salix* in bog, though none seen earlier in the day..
- Hydriomena impluviata* ([D.& S.]) DA: Styggforsen, W of Boda, 19-20.vii., c. at light.
- H. ruberata* (Frey.) TO: Jukkasjärvi, 29-30.vi., sev. flying in lane from 2200hrs.
- Spargania luctuata* ([D.& S.]) DA: W of Boda, 19.vii., one along track by day; Styggforsen, W of Boda, 20.vii., two at light.
- Rheumaptera hastata* (Linn.) DA: W of Boda, 19-20.vii., few along track in morning sunshine.
- R. subhastata* (Nolck.) DA: W of Boda, 20.vii., c. by day.
- Euphyia unangulata* (Haw.) UP: Skutskar, E of Gävle, 26.vi., one.
- Perizoma taeniata* (Steph.) ME: W of Kvissleby on birch moorland, 18.vii., one; DA: Styggforsen, W of Boda, 19-20.vii., few at light.
- P. affinitata* (Steph.) DA: Styggforsen, W of Boda, 19.vii., one at light.
- P. alchemillata* (Linn.) DA: Styggforsen, W of Boda, 20.vii., one at light.
- P. minorata* (Treits.) TO: Abisko, 11.vii., one netted in afternoon.
- P. blandiata* ([D.& S.]) TO: Jukkasjärvi, 7.vii., one; Jukkasjärvi village, 8.vii., two by day.
- P. albulata* ([D.& S.]) TO: Jukkasjärvi village, 6.vii., two by day, flying in drizzle, and a few more on 8.vii.; Abisko, 10.vii., few in evening on moor; Björkliden, 16.vii., flying commonly during afternoon.
- Eupithecia satyrata* (Hübner) UP: garden NW of Uppsala, 25.vi., sev. at light; UP: Skutskar, E of Gävle, 26.vi., sev. flying at night.
- E. absinthiata* (Clerck) VS: Lindesberg, 21.vii., one at light in sand pit.
- E. subfuscata* (Haw.) UP: garden NW of Uppsala, 25.vi., sev. at light; UP: Skutskar, E of Gävle, 26.vi., sev. flying at night.

- E. succenturiata* (Linn.) VS: Lindesberg, 21.vii., one at light in sand pit.  
*E. gelidata* (Möschler) TO: Jukkasjärvi, 30.vi., one over *Ledum palustre* in evening.  
*E. nanata* (Hübner) VS: Lindesberg, 21.vii., one at light in sand pit.  
*E. virgaureata altenaria* Stdgr TO: Jukkasjärvi, 29.vi.- 14.vii., few  
*E. tantillaria* Boisd. VB: Bjuröklubb, W side, 27.vi., one.  
*E. conterminata* (Lien. & Zell.) TO: Jukkasjärvi, 30.vi., four flying in spruce wood between 2200 - 2300 hours, and a few more later in the week.  
*Gymnoscelis ruffasciata* (Haw.) UP: garden NW of Uppsala, 25.vi., sev. at light.  
*Venusia cambrica* Curt. DA: Styggforsen, W of Boda, 19-20.vii., f.c. at light  
*Asthena albulata* (Hufn.) UP: Skutskar, E of Gävle, 26.vi., one.

### Notodontidae

- Clostera curtula* (Linn.) DA: Styggforsen, W of Boda, 19.vii., three at light.  
*C. pigra* (Hufn.) VS: Svartsjännmossen, 24.vi., one at light; UP: Skutskar, E of Gävle, 26.vi., one resting on vegetation at night.  
*Cerura vinula* (Linn.) VS: Lindesberg, 21.vii., two at light in sand pit.  
*Notodonta dromedarius* (Linn.) VS: Lindesberg, 21.vii., one at light in sand pit.  
*N. torva* (Hübner) DA: Styggforsen, W of Boda, 19.vii., one at light.  
*N. ziczac* (Linn.) VS: Lindesberg, 21.vii., one at light in sand pit.  
*Pheosia gnoma* (Fabr.) DA: Styggforsen, W of Boda, 19.vii., one at light.  
*Pterostoma palpina* (Clerck) DA: Styggforsen, W of Boda, 19.vii., one at light.  
*Ptilodon capucina* (Linn.) DA: Styggforsen, W of Boda, 19.vii., two at light.  
*Phalera bucephala* (Linn.) VS: Lindesberg, 21.vii., one at light in sand pit.

### Noctuidae

- Acronicta psi* (Linn.) UP: garden NW of Uppsala, 25.vi., one at light; DA: Styggforsen, W of Boda, 19.vii., singles at light and sugar ropes.  
*A. menyanthidis* (View.) VS: Svartsjännmossen, 24.vi., 4 at light.  
*A. auricoma* ([D. & S.]) VS: Svartsjännmossen, 24.vi., one at light; DA: Styggforsen, W of Boda, 20.vii., one at light.  
*Poliobrya umovii* (Evers.) DA: Styggforsen, W of Boda, 19.vii., two at light.  
*Polypogon tentacularia* (Linn.) UP: Skutskar, E of Gävle, 26.vi., c.; TO: Abisko, 10.vii. and subsequently, f.c. by day; DA: W of Boda, 19.vii., c. along track during afternoon.  
*Lygephila pastinum* (Treits.) VS: Lindesberg, 21.vii., one at light in sand pit.  
*Euclidia glyphica* (Linn.) UP: SW of Uppsala, 25.vi., sev. by day.  
*Hypena crassalis* (Fabr.) VS: Svartsjännmossen, 24.vi., two; DA: Styggforsen, W of Boda, 20.vii., two at light.  
*Diachrysis chrysitis* (Linn.) DA: Styggforsen, W of Boda, 19.vii., one at light; VS: Lindesberg, 21.vii., one at light in sand pit.  
*Autographa gamma* (Linn.) UP: SW of Uppsala, 25.vi., sev. by day; VB: Bjuröklubb, W side, 27.vi., few at night.  
*A. pulchrina* (Haw.) UP: garden NW of Uppsala, 25.vi., one at light; DA: Styggforsen, W of Boda, 19.vii., one at light; VS: Lindesberg, 21.vii., one at light in sand pit.

- Syngrapha interrogationis* (Linn.) VS: Lindesberg, 21.vii., one at sugar ropes in sand pit.
- S. parilis* (Hüb.) TO: Pirrtivuopio, between Kiruna and Nikkaluokta, twelve males attracted to pheromone between 1530 and 1610 hours, of which eight were netted, and a further four on 13.vii., one at 1150 hours, the rest between 1540 and 1610.
- Deltote uncula* (Clerck) UP: Skutskar, E of Gävle, 26.vi., two.
- Cucullia lactucae* ([D.& S.]) VS: N. of Lindesberg, 21.vii., two small larvae on *Mycelis muralis* in a quarry.
- Sympistis heliophila* (Payk.) Common by day on dry moorland and in open woodland in many localities in TO between Jukkasjärvi and Abisko, seen first on 30.vi.
- Caradrina morpheus* (Hufn.) VS: Lindesberg, 21.vii., two at light in sand pit.
- Hoplodrina octogenaria* (Goeze) VS: Lindesberg, 21.vii., one at light in sand pit.
- H. blanda* ([D.& S.]) VS: Lindesberg, 21.vii., one at light in sand pit.
- Athetis pallustris* (Hüb.) UP: Skutskar, E of Gävle, 26.vi., c.12 males between 2100 and 2200 hours; VB: Bjuröklubb, W side, 27.vi., c.10 males between 2100 hours and midnight; E side, 28.vi., few.
- A. lepigone* (Möschler) VB: Bjuröklubb, E side, 28.vi., males c. between 2100 hours and midnight.
- Rusina ferruginea* (Esp.) VS: Svartsjämnossen, 24.vi, one at light; Lindesberg, 21.vii., three at light in sand pit; UP: garden NW of Uppsala, 25.vi., sev. at light; DA: Styggforsen, W of Boda, 19-20.vii., sev. at light.
- Hyppa rectilinea* (Esp.) DA: Styggforsen, W of Boda, 19-20.vii., few at light.
- Mniotype adusta* (Esp.) VS: Lindesberg, 21.vii., two at sugar ropes in sand pit.
- Apamea crenata* (Hufn.) UP: garden NW of Uppsala, 25.vi., sev. at light; DA: Styggforsen, W of Boda, 19.vii., one at light.
- A. lateritia* (Hufn.) VS: Lindesberg, 21.vii., one at light in sand pit.
- A. rubirena* (Treits.) DA: Styggforsen, W of Boda, 20.vii., one at light.
- Oligia strigilis* (Linn.) UP: garden NW of Uppsala, 25.vi., sev. at light.
- Photedes minima* (Haw.) ME: W of Kvissleby on birch moorland, 18.vii., one flying in evening; VS: Lindesberg, 21.vii., one at light in sand pit.
- Anarta cordigera* (Thunb.) UP: Röd mossen, 35km NW of Uppsala, 26.vi., two in afternoon; TO: S of Kiruna, 30.vi., one found freshly emerged.
- Lacanobia thalassina* (Hufn.) UP: garden NW of Uppsala, 25.vi., sev. at light; DA: Styggforsen, W of Boda, 19-20.vii., c. at light.
- L. contigua* ([D.& S.]) DA: Styggforsen, W of Boda, 20.vii., one at light.
- L. suasa* ([D.& S.]) UP: garden NW of Uppsala, 25.vi., sev. at light.
- Hada nana* (Hufn.) VB: Bjuröklubb, W side, 27.vi., few visiting flowers at night; DA: Styggforsen, W of Boda, 20.vii., one at light.
- Aetheria bicolorata* (Hufn.) UP: garden NW of Uppsala, 25.vi., one at light; VS: N. of Lindesberg, 21.vii., sev. larvae on *Hieracium* sp.
- Hadena bicruris* (Hufn.) UP: garden NW of Uppsala, 25.vi., one at light.
- Heliophobus reticulata* (Goeze) UP: garden NW of Uppsala, 25.vi., four at light; VS: Lindesberg, 21.vii., one at light in sand pit.
- Polia bombycina* (Hufn.) VS: Lindesberg, 21.vii., six at light in sand pit, three at sugar ropes.

*P. lamuta* (Herz) TO: Jukkasjärvi, 13.vii., pair *in copula* on a pine trunk in evening at 2010 hours; 14.vii., two females found on pine trunks during a long search in fine drizzle. According to Stig Torstenius, the females emerge in late afternoon and call during the flight period of the males, in early evening; pairing occurs on the tree trunks.

*Mythimna conigera* ([D.& S.]) VS: Lindesberg, 21.vii., two at sugar ropes in sand pit.

*M. impura* (Hübner) VS: Lindesberg, 21.vii., two at sugar ropes in sand pit.

*M. comma* (Linn.) VS: Lindesberg, 21.vii., one at sugar ropes in sand pit.

*Anartomima bohemani* (Stdgr) TO: Jukkasjärvi, first seen on 3.vii., flying high round spruces with the next species, but starting about an hour later, not common; Abisko, 11.vii., female netted in afternoon, flying low over moorland.

*Lasionycta skraelingia* (H.-S.) TO: Jukkasjärvi, first seen on 1.vii. at rest on a spruce trunk. From 2.vii., onwards, species became common flying round tops of spruces in open, boggy forest; flight began around 2030 hours and continued for about two hours, with sporadic appearances thereafter.

*Axylia putris* (Linn.) UP: garden NW of Uppsala, 25.vi., sev. at light.

*Ochropleura plecta* (Linn.) UP: garden NW of Uppsala, 25.vi., sev. at light; VS: Lindesberg, 21.vii., one at sugar ropes in sand pit.

*Diarsia mendica* (Fabr.) VS: Svartsjämmossen, 24.vi., one at light; UP: garden NW of Uppsala, 25.vi., sev. at light; TO: Jukkasjärvi, 7.vii., one in spruce forest at night; DA: Styggforsen, W of Boda, 19-20.vii., c. at light and sugar ropes.

*Lycophotia porphyrea* ([D.& S.]) VS: Svartsjämmossen, 24.vi., one at light; DA: Styggforsen, W of Boda, 20.vii., one at light.

*Eurois occulta* (Linn.) DA: Styggforsen, W of Boda, 19-20.vii., sev. at light.

*Xestia speciosa* (Hübner) TO: Jukkasjärvi, first seen on night on 6.vii., subsequently a few each night in open areas of dry spruce forest; Abisko, 10.vii., one alighted on windscreen of van during afternoon; DA: Styggforsen, W of Boda, 20.vii., two at light. Arctic specimens tend to be smaller and darker than more southern ones.

*X. rhaetica* (Stdgr) DA: Styggforsen, W of Boda, 20.vii., three at light.

*X. borealis* (Nordström) TO: Jukkasjärvi, few seen each night from 1.vii., from around 2200 hours, flying slowly but at considerable height (c. 5-10m)

*X. sincera* (H.-S.) DA: Styggforsen, W of Boda, 19 & 20.vii., three at light each night.

*X. laetabilis* (Zett.) TO: Jukkasjärvi, first seen on 7.vii., thereafter common in open spruce forest, flying gently about 1-2 m above ground. All specimens captured and later dissected were males of this species and not *X. distensa* (Evers.).

*X. gelida* (Sparre-Schneider) TO: Jukkasjärvi, first seen on 3.vii., thereafter increasingly common in open spruce forest, flying low but fairly rapidly; females found occasionally resting on the trunks, at night. Flight started around 2300 hours, continuing until c. 0300.

*X. alpicola* (Zett.) TO: Jukkasjärvi, single specimens netted at night on 5. & 9.vii., flying low in spruce forest.

*X. kongsvoldensis* (Grönlein) TO: Björkliden, 15-17.vii., sought on the foothills of the mountain Njulla each evening from 1900 hours, but the only ones seen were two on 18th: weather cold and windy.

*X. tecta* (Hübner) TO: Jukkasjärvi, first seen on 5.vii., thereafter males common flying low over spongy moorland, less frequently in open, mossy spruce forest, from around midnight to 0330 hours; Abisko, 11.vii., f.c. on moorland at night. The only female seen was at Pirttivuopio, buzzing among vegetation, on 13.vii.

*Agrotis exclamationis* (Linn.) UP: garden NW of Uppsala, 25.vi., one at light; VS: Lindesberg, 21.vii., one at light in sand pit.

*A. clavis* (Hufn.) VS: Lindesberg, 21.vii., one at light in sand pit, one at sugar ropes.

*A. vestigialis* (Hufn.) VS: Lindesberg, 21.vii., four at light in sand pit, two at sugar ropes.

### Pantheidae

*Colocasia coryli* (Linn.) DA: Styggforsen, W of Boda, 20.vii., two at light.

### Lymantriidae

*Dicallomera fascelina* (Linn.) DA: Styggforsen, W of Boda, 20.vii., one at light.

*Leucoma salicis* (Linn.) VS: Lindesberg, 21.vii., one at light in sand pit.

### Arctiidae

*Cybosia mesomella* (Linn.) ME: W of Kvissleby on birch moorland, 18.vii., a few flying in evening; VS: Lindesberg, 21.vii., one at light in sand pit.

*Eilema lurideola* (Zinck.) VS: Lindesberg, 21.vii., two at light in sand pit.

*E. complana* (Linn.) VS: Lindesberg, 21.vii., four at light in sand pit.

*Setina irrorella* (Linn.) UP: Skutskar, E of Gävle, 26.vi., one.

*Coscinia cribraria* (Linn.) VS: Lindesberg, 21.vii., two at light in sand pit.

*Phragmatobia fuliginosa* Linn.) VS: Svartsjämnossen, 24.vi., one at light; UP: garden NW of Uppsala, 25.vi., one at light; TO: Rakkurijärvi. S of Kiruna, one flying by day.

*Parasemia plantaginis* (Linn.) NB: Tväron, 18km N of Overkalix, 18.vii., female netted by day;; DA: W of Boda, 19.vii., three males along track during afternoon, including one f. *hospita* [D.& S.].

*Diacrisia sannio* (Linn.); DA: W of Boda, 19.vii., sev. along track during afternoon, including one female; Styggforsen, W of Boda, 19.vii., four males at light.

*Pararctia lapponica* (Thunb.) TO: Krokvik, 12km NW of Kiruna, 3.vii., 2 males flying in sunshine during afternoon. Three more, including a female, on 4.vii., resting on the ground.

*Arctia caja* (Linn.) VS: Lindesberg, 21.vii., three at light in sand pit.

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### Information wanted: insects in poetry

As part of a research project into insects in poetry, I would like to hear from anyone who knows of poems by any poet, classical or contemporary, published or unpublished in which an insect or insects of any order are featured specifically or generally. All correspondence will be acknowledged. JOHN TENNENT, 1 Middlewood Close, Fylingthorpe, Whitby, North Yorkshire YO22 4UD.

## Hazards of butterfly collecting – Trekking out of Mkpot 1, Cross River, Nigeria – March 1995

The last thing I did in Mkpot 1, a small village in the middle of the Oban Division of the Cross River National Park, north of Calabar was to finalise a survey of the farmland butterflies. The village is surrounded by a 1.5 to 2.0 km radius of cassava, yam, and other crops that are grown in open fields, with few or no shade trees. The butterfly fauna of the cleared area comes to about 35 species, mostly common species of the savannahs and agricultural lands (*Papilio demodocus* Esper, *Catopsilia florella* Fabricius, *Colotis euippe* Linnaeus, *Eurema brigitta* Stoll, *Danaus chrysippus* Linnaeus, *Hypolimnas misippis* Linnaeus, *Junonia oenone* Linnaeus, *Precis octavia* Cramer, *Hypolycaena philippus* Cramer and *Leptotes pirithous* Linnaeus, to mention just a few). None of these is ever met with in the forest that solidly surrounds the settlement.

Even more impressively, the hundreds of true forest butterflies are wholly missing from the clearing. In the surrounding forest, just two or three kilometres away, we found more than 80 species of the large forest Nymphalids of the genera *Euphaedra* Hübner, *Bebearia* Hemming, and *Euriphene* Boisduval. Only two or three of these were ever seen in the clearing, and they seemed distinctly unhappy. They simply cannot tolerate the surface heat in the cleared area which is 5° more above that of the constant temperature of the forest understory.

Both categories of butterflies will be used to monitor the regrowth of the forest once the village of Mkpot 1 is transferred to a new site. It is not practicable to have a village in the core centre of a national park, and the village is being relocated with the full voluntary consent of the villagers.

But we had to leave the hospitable people of Mkpot 1. Our friends came to see us off as dawn rose., Their tee-shirts remain a favourite memory. How does a shirt saying “I (heart – love) Karlovy Vari” reach Mkpot 1? The guy was very surprised when I told him I had actually been in Karlovy Vari! A small world map even allowed me to show him where it was. “If it swells, sit on it”, said another . . . I did not go into details on that one!

So off we went, Emmanuel and I, sending the porters ahead on the 23km trek. Collecting along the way to Itaka was not as good as the initial trek into Mkpot 1 from the south. Less rain had fallen. Our best collecting was actually in forest remnants just north of the park. We reached Itaka at 15,30 hours, a village on the banks of the Cross River. The chief was out, so we would have the session in the evening. Itaka is a rather substantial place. Beer was available, not cold, but my first for a week. Doing the field notes for the day, I was surprised to find that we had noted more than 130 species on the trek, 60 of which new to the trip.

We had a swim in the fast-flowing river, tidied up, bought the necessary bottles of schnapps for the chiefs (best quality Henke's), and went to the meeting. It turned out to be both an animated and a good-humoured one. After the formalities, more schnapps was procured (lower quality stuff at £0.80 a bottle did not really break budgets). “How can the whiteman walk all the way from Mkpot?” came a question. “Because it is the only way to get from Mkpot to Itaka”, I answered gravely. This

turned out to be a very popular answer, so I followed it up, “Well, actually it *was* a tough walk. I did not tell mother I was going to do it”. This brought the house down.

On a more serious note, it was encouraging to see how much popular support there was for conserving the national park to maintain rainfall and drainage patterns so that erosion and flash-floods were avoided. The concept of biodiversity, and its intrinsic importance, was well received. Prohibition of hunting and the use of other minor forest produce is more problematic. On the one hand people understand that the current hunting of chimpanzee, drill, and suikers is unsustainable, on the other the communities surrounding the park want assurances that in the long run there is something in it for them. It will take protracted and difficult negotiations to reach solutions acceptable to all. But the basis for such solutions is there.

My initial research indicates that the Oban Hills area contains 950 or more species of butterflies, by far the highest number anywhere in Africa (the total Afrotropical fauna is about 3600). In a rough and ready way, butterflies can be viewed as an indicator group for all arthropods, of which they are only just over one per cent of all named species. The majority of arthropods were never graced with a scientific name, so there are probably at least 500,000 arthropods in the park (give or take 100,000). The Oban Hills constitute one of Africa’s most important conservation hot-spots on all counts— biodiversity, endemism, rarity indices, biogeography and natural beauty.

We did not get to sleep until late that night at Itaka. There was the question of dinners. One was provided by the chiefs, another by the park rangers, and the final one by our host. There was the question of reciprocating with more schnapps. And latecomers were always in need of updating.

So, at 06.00 the next morning it was a bleary-eyed expedition that made its way to the river and clambered about the narrow dugout canoe that functioned as a ferry. Two hours later we slid onto the beach at Ikom, where a taxi could be procured for the three-hour ride back to Calabar.

It was the best week of my life in terms of butterfly collecting, but much enhanced by the friendliness of the hundreds of villagers with whom we talked. Their basic good humour, decency, hospitality, interest, and commonsense in what is – with some right – considered one of the most difficult and disorganised countries in the world, never failed to impress.— TORBEN B. LARSEN, 368 Coldharbour Lane, London SW9 8PL.

#### **Correction:**

#### **Hazards of butterfly collecting -Trekking into Mkpot 1, Cross River, Nigeria, March 1995**

The suspension bridge illustrated in Torben Larsen’s last “Hazard” (*antea*: 23) is actually an illustration for another “Hazard”. The bridge illustrated was made personally by Colonel Blashford-Snell as part of Operation Raleigh, and is very safe. This error is entirely the fault of the Editor who offers his profuse apologies to Colonel Blashford-Snell and Operation Raleigh!

***Platynota rostrana* (Walker) (Lep.: Tortricidae) and *Pyroderces ? rileyi* (Walsingham) (Lep.: Cosmopterygidae) discovered in a garden centre in Britain in 1987/88**

Following David Agassiz's discovery some years ago of several species of China Mark moths breeding under artificial conditions in aquatic plant nurseries, a friend, Steve MacWilliam, and I have been in the habit of periodically checking garden centres and nurseries on our travels in the hope of emulating his success. This note (delayed because the events described coincided with the shifting of my interest from the Lepidoptera to settling nowadays on the Diptera) very belatedly publishes our discovery in the winter of 1987/88 of two species new to the British list.

***Platynota rostrana* (Walker)**

In late December 1987 SM visited Stapeley Water Gardens, Cheshire where he spotted an unfamiliar moth flying in the Palm House and collected a pupa from which a further specimen shortly emerged. He was fairly sure it was an exotic, but being at that time relatively unfamiliar with the microlepidoptera and because of the prominent snout-like palpi, he thought it probably belonged to the Pyralidae. I inspected the specimen and concluded it was the male of a tortricid new to Britain. We returned to the garden centre in early January 1988, and with the permission of the manager collected as many larvae as we could cope with. The staff were more than happy for us to do this as they had a severe infestation which was proving difficult to manage without the risk of insecticidal spray damage to other wildlife in the environment.

Discussion with the manager revealed that the Palm House had been stocked with plants from Maryland in Florida, thus providing a strong clue to the likely provenance of the new tortricid. The larvae turned out to be a mixture of two species, the new tortrix and *Cacoecimorpha pronubana* Hübner, which from our collective investigations appears to be widespread and common in garden centres throughout the country nowadays. These two species seemed to occur in roughly equal numbers, although, unlike *pronubana* which also occurred freely in the temperate glass houses, the new tortrix was restricted to the higher temperature and more humid climate of the Palm House. It was found in all stages breeding there in profusion, with ova and larvae on an extremely wide range of plants from *Pelargonium* species and other soft-leaved herbaceous plants from many families through to very tough-leaved palms. Given the time of year, I was concerned by the limited range of foodplants I could readily provide. I need not have worried however as the larvae fed readily on almost every pabulum offered to them from various cultivated house-plants to anything still green from the garden or hedgerows – even including nibbling at a Christmas Cactus, though shunning *Rhododendron*.

The species is superficially somewhat variable both in hue and the strength of the pattern and strongly sexually dimorphic, so much so that we originally thought two species were involved, until I noticed that all the males were of a similar basic pattern, and likewise the females were all of a rather plainer design and generally

somewhat smaller. The growing suspicion that it was a single sexually dimorphic species was eventually confirmed when pairs were noticed *in copula*.

Our attempts at identification were hampered by lack of knowledge of appropriate literature. However the genus was eventually tentatively established by SM as *Platynota* on a chance dip into a popular book on American moths in Foyles' bookshop. We could however get no further, lacking any relevant keys or access to comparative material. I dissected the genitalia of both sexes and some months later arranged to take sample specimens to Mr Kevin Tuck at the Natural History Museum for his opinion. He immediately confirmed the genus and after comparison with the Museum's collection we concluded that the species was most likely either *Platynota rostrana* (Walker) or possibly *P. flavedana* Clemens – though some of my specimens were noticeably larger than any in the Museum collection, obviously they had thrived on their unaccustomed diet! Because of the complexity of this genus Mr Tuck kindly contacted Dr J.F. Gates Clarke of the National Museum of Natural History, Smithsonian Institution, Washington DC for his specialist opinion.

Dr Clarke replied on 19 July 1989; I quote his letter in full. He affirmed that “The *Platynota* sp. that you sent for identification appears to be *Platynota rostrana* (Walker). I have examined a large number of slides of both sexes. The female is identical to those we have of *rostrana*. Since the males of *rostrana* and *flavedana* Clemens are so similar, and both vary, I base my determination on the consistency of the females. The variation in the male genitalia occurs mostly in the transtilla. We have a long series of our North American species, but they give us considerable trouble because of the variability. The usually easily identified *idaeusalis* (Walker) has a sister species from Arkansas (undescribed), the males of which are superficially indistinguishable from *idaeusalis*.”

Specimens of *P. rostrana* have been deposited at the Natural History Museum and at Liverpool Museum. Further specimens have also been donated to Mr E.F. Hancock for its conclusion in the forthcoming Tortricidae volume of the *Moths and Butterflies of Great Britain and Ireland*.

A long series was reared through successive generations from the early stages collected at Stapeley, but unfortunately when we returned in late 1989 to try to obtain some larvae for the Natural History Museum collection (our breeding stock having eventually died out while we were on holiday), we found that a new regime of insecticide and severe pruning had apparently eradicated the “pest” completely, and alas we had lacked the foresight to retain any preserved specimens of the original larvae.

### ***Pyroderces ? rileyi* (Walsingham)**

A second species new to Britain was discovered at the same time. The larvae of *rostrana* often varied in colour somewhat according to what they had been eating – those found feeding on strongly blue flowers were particularly affected. However amongst them I noticed a single, very different strongly pink larva feeding in a brown and decaying leaf. This eventually emerged as a rather pretty cosmopterygid with black, white and silvery markings on pale brown wings. This specimen was

exhibited live at a meeting of the Lancashire and Cheshire Entomological Society, as also were specimens of *P. rostrana*, though at the time the identity of both was unknown. SM also subsequently reared two specimens from larvae which had gone unnoticed presumably enfolded in some moribund leaves. On the basis of presumed correlation with the origin of the exotic plants from Florida, I determined this second species on superficial characters to be *Pyroderces rileyi* (Walsingham) using the key in the appropriate fascicle of *The Moths of America North of Mexico*.

The specimen was left at the Natural History Museum for the subsequent attention of Dr Miriam Pitkin who later returned it agreeing that it "may be that species, or more probably *P. hemizopha* Meyr. (from East Africa and India)." However, this statement was most probably made in ignorance of the provenance of the botanical specimens on which it was feeding which is not consistent with the range of the latter species, and Dr Pitkin's diagnosis, like mine, was based on superficial characters only. I am therefore inclined to stand by my original tentative determination, though stress that this is on the basis of the description of the larva and the key to superficial characters of the adults in the above publication and on the assumption from the circumstantial evidence that it is indeed an American species. Having no key to world species of this genus, I have not examined the genitalia and am unable to confirm the determination by these means.— L.W. HARDWICK, 4 Caister Way, Over, Winsford, Cheshire CW7 1LT.

### **Length of pupal stage in *Xanthia citrago* Linn. (Lep.: Noctuidae)**

In Heath and Emmet (eds.) 1983, *MBGBI* vol. 10, the Orange Sallow *Xanthia citrago* is stated to spend only about two weeks as a pupa. This seems an unrealistically short time for such a moth, so when breeding the species *ab ovis* in 1997 from a locally caught female, I made a point of checking the length of the pupal stage.

The larvae spun cocoons on or just below the surface of peat. Like others in the group, they lie dormant for six to eight weeks before pupating. Towards the end of this period, three of the cocoons were picked up every few days, and shaken gently. It was obvious from the rattle when the larva had pupated. The cocoon was then opened to confirm this.

Kept at normal room temperature, the pupae developed slowly and gradually. Moths emerged after minima of 42, 43 and 44 days respectively – six weeks rather than two.

Incidentally, when rearing this species from overwintered eggs, it is vital to prevent these hatching too early. The small larvae need young lime *Tilia* leaves from naturally bursting buds, and seem unable to survive for more than a few days on the leaf scales exposed when buds are peeled open by hand, even if they can be persuaded to eat them all.— ROY LEVERTON, Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS.

## BUTTERFLY OBSERVATIONS ON THE CHAGOS ARCHIPELAGO: A REVIEW AND UPDATE

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### Introduction

DURING FEBRUARY and March 1996, the authors surveyed 24 of the 58 islands of the Chagos Archipelago for insects, as members of the 1996 "Friends of the Chagos" international scientific expedition. Details of insects on these islands are few and the survey was carried out partly to provide information for a conservation management plan.

The Chagos Archipelago, British Indian Ocean Territory, is the largest and most isolated coral atoll complex in the world. It contains five island atolls centred at six degrees south, 72 degrees east, in the middle of the Indian Ocean (Edis, 1993). For a detailed description of the archipelago see Foreign and Commonwealth Office (1993).

Five butterfly species have previously been recorded from the Chagos. Three of these were recorded during 1996, including two endemic subspecies, along with another two species that were new to the Chagos. All butterfly species including the specimens in the private collection of Mont Hirons (collected in 1975) were determined by the authors. This account also contains previously unpublished records from Commander J.M.W. Topp, Royal Navy, made during his posting as the British Representative for the British Indian Ocean Territory from March 1984 to March 1986.

### Lycanidae

#### *Euchryops cnejus* Fabricius

During the 1996 expedition the Gram Blue *E. cnejus*, a species new to the archipelago, was encountered in fairly high numbers on seven of the eight islands visited on the Salomon Atoll: Ile Boddam 9 and 10.ii.1996; Ile du Sel 11.ii.1996; Ile Anglaise 13.ii.1996; Ile Takamaka 14 and 15.ii.1996 and 8 and 9.iii.1996; Ile de la Passe 17.ii.1996 (19 specimens counted on transect) and 10.iii.1996; Ile Jacobin 9.iii.1996; Ile Sepulture 9.iii.1996; in fairly high numbers on five of the seven islands visited on the Peros Banhos Atoll (with an extra record coming from one island not visited by the authors): Ile Diamante 19.ii.1996; Ile Pierre 20.ii.1996; Moresby Islands 22.ii.1996; Ile du Coin 22.ii.1996; Ile Yeye 24.ii.1996; Petite Ile Coquillage 24.ii.1996 (*pers. comm.* Peter Symens); on one of the five islands visited on the Great Chagos Bank Atoll: South Brother 13.iii.1996; and at one site on Diego Garcia (with an extra record coming from a site that was not visited by the authors): incinerator and landfill site 27.ii.1996 and 2.iii.1996; south end of airfield 1996 (*pers. comm.* John Topp).

*E. cnejus* was observed to lay eggs on *Vigna marina* on Ile Takamaka on 14 and 15.ii.1996. This foodplant was abundant on all of the islands visited where *E. cnejus*

was encountered, except for Diego Garcia. *V. marina* had been introduced to Diego Garcia in 1985 (Topp, 1988) but was not at all common during 1996. *E. cnejus* was observed to lay eggs on *Macroptilium lathryoides* on Diego Garcia. According to Cdr. Topp *M. lathryoides* arrived in Diego Garcia after 1985, it being noted for the first time in February 1993. It was probably brought in with sand and aggregate from Malaysia via Singapore in 1992 (*pers. comm.*). This foodplant was found by the authors to be locally common only at the site where *E. cnejus* was encountered. Cdr. Topp reported both foodplants present at the south end of the runway along with *E. cnejus* during 1996 (*pers. com.*).

Nectaring plants included *Scaevola sericea*, *Stachytarpheta jamaicensis*, *Turnera ulmifolia* (Ile Boddam), and *Tridax procumbens* (Ile Diamante and Diego Garcia). Natural predators included the large dragonfly *Anax guttatus* which was observed "hawking" for specimens of *E. cnejus* on Ile Yeye.

It is stated by Common and Waterhouse (1982) that *E. cnejus* larvae are attended by various ants including species of *Camponotus*. Ants of this genus were found on several of the islands inhabited by *E. cnejus* (Barnett and Emms, 1996).

A number of "small blue butterflies" were recorded by Cdr. Topp on several islands (Iles Boddam and Anglaise – Salomon Atoll. Iles du Coin, Mapou, Fouquet and Yeye, and Petite Ile de Bois and Moresby Islands – Peros Banhos Atoll) during the period of August 1984 to December 1985 (*pers. comm.* Cdr. Topp). In the authors opinion it is likely that these butterflies were *E. cnejus*.

### ***Petreleae dana de Niceville***

Hutson (1981) recorded the Dana Blue *P. dana* in 1971 on Diego Garcia. During the 1996 expedition this species was encountered along the stretch of road from Minni-minni to the Plantation, on Diego Garcia, on 5.iii.1996. Two specimens of *P. dana* were observed, both flying in the semi-shade of a track during the heat of midday. One specimen was observed to "mud-puddle".

Hutson (1981) records adults of this species associated with *Terminalia* and *Morinda*. *Terminalia* species are regarded as foodplants of *P. dana* (*pers. comm.* Chris Samson). Topp (1988) records *T. catappa* as occasional and widespread on Diego Garcia, more frequent in former habitation areas and grown also for ornament in town. *M. citrifolia* is common and widespread on all terrains inland (*pers. comm.* Cdr. Topp).

## **Nymphalidae**

### ***Cynthia cardui* Linnaeus**

During the 1996 expedition a single individual of this highly migratory species was encountered on Ile Lubine, Egmont Atoll on 16.iii.1996. This constitutes the first record of the Painted Lady for the Chagos Archipelago. None of the long list of foodplants that are associated with this species were found on the islands. It thus appears likely that this was a wandering individual and that there is little chance of *C. cardui* becoming established as a breeding species on the Chagos.

*Junonia villida* Fabricius ssp. *chagoensis* Watkins

Fletcher (1910) records that during the Percy Sladon Expedition in 1905 the Meadow Argus *J. villida* was “common throughout the whole Chagos group and generally noted as abundant. There are no specimens from Egmont Atoll but it is reported to occur there, although not commonly”. It was noted by Fletcher as particularly abundant on Ile de la Passe on 27.v.1905 and 22.vi.1905, and the Percy Sladon collection contains 40 specimens. The previously unpublished collection of Mont Hirons contains four specimens collected from the Great Chagos Bank Atoll: Middle Brother 27.i.1975 (two specimens) and Sea Cow 21.ii.1975 (two specimens).

During the period of May 1984 to March 1986 *J. villida* was encountered on several islands (*pers. comm.* Cdr. Topp). These islands were as follows: Ile Boddam – Salomon Atoll; Petite Ile de Bois, Petite Ile Coquillage, Grand Ile Coquillage and Ile Fouquet – Peros Banhos Atoll; Middle Brother, Danger, Nelson and Sea Cow – Great Chagos Bank Atoll. During the 1996 expedition *J. villida* was encountered in high numbers on two of the eight islands visited on the Salomon Atoll: Ile Takamaka 14 and 15.ii.1996 and 8 and 9.iii.1996; Ile de la Passe 17.ii.1996 (174 specimens counted on transect) and 10.iii.1996; of the seven islands visited by the authors on the Peros Banhos Atoll, only one specimen was encountered on one island: Moresby Islands 22.ii.1996; very high numbers were encountered on all of the islands visited by the authors on the Great Chagos Bank Atoll: Nelson Island 12.iii.1996; South Brother 13.iii.1996; Middle Brother 13 and 14.iii.1996; North Brother 14.iii.1996; Danger Island 15.iii.1996.

Fletcher (1910) reported that *J. villida* was “around the bushes of *Scaevola koenigii* (this is a synonym of *S. sericea*) on which the larvae were found in all stages from newly-hatched to full-fed. The larvae feed on the underside of the leaves, eating away the green cuticle in irregular patches, generally midway between the edge and mid-rib of the leaf. The greenish-grey pupae were found attached to the underside of the mid-rib of a *Scaevola* leaf”.

During the 1996 expedition larvae and pupae of *J. villida* were observed in large numbers on all of the islands where this butterfly was found with the exception of Moresby Islands. The only foodplant recorded was *Scaevola sericea*. Topp (1988) states that *S. sericea* is very common indeed throughout the island (Diego Garcia) inland and on the shore where it forms almost impenetrable barriers up to 100 yards deep. He also states that this plant is an early pioneer of sandy shores. The authors found that these statements could also apply to most of the islands of the Chagos. Another species that has been noted as a foodplant for *J. villida* (e.g. Common and Waterhouse, 1982) is *Portulaca oleracea*. Topp (1988) states that this is common and widespread on sandy, poor soils of Diego Garcia, being a constituent of the beach crest vegetation. This plant species is also present on Salomon, Peros Banhos and Great Chagos Bank atolls (*pers. comm.* Cdr. Topp). However *J. villida* was not observed using this foodplant during the 1996 expedition.

Specimens from the Chagos were described as an endemic subspecies: *chagoensis* by Watkins (1925). The staff at the British Museum (Natural History) compared the series collected by the authors during the 1996 expedition with the world-wide

material in their collection. They reported that the Chagos specimens although no more subtly distinct, had much more bold markings on the underside, particularly of the hind wing. On the hind wing upperside the quite well defined black, crescent-shaped mark appeared reasonably diagnostic, as described in Watkins (1925).

### *Junonia oenone* Linnaeus

Bourne (1886) refers to seeing "one individual of *oenone*". According to Hutson (1981) this may refer to the Black Pansy *J. oenone*, widely recorded around the western Indian Ocean. There are no other records from the Chagos.

### *Junonia* spp.

An encounter with an unidentified species of *Junonia* was made on the main island of Diego Garcia on 1st and 2nd September 1985 (*pers. comm.* Cdr. Topp).

### *Hypolimnus bolina* Linnaeus ssp. *euphonoides* Poulton

Fletcher (1910) records the following sightings of the Eggfly *H. bolina* by the Percy Sladon Expedition in 1905: Salomon Atoll: Ile du Sel 24.v.1905 (one flying high); Ile Takamaka 25.v.1905 (two males); Ile de la Passe 27.v.1905 (one seen flying high over the trees) and 22.vi.1905 (common); Ile Anglaise 31.v.1905 (five males, one female, all rather worn, flying on edge of cocos on seaward side of the islet); Ile Boddam 3.vi.1905 (one male and one female); Peros Banhos Atoll: Ile Diamante 19.v.1905 (one male flying high around the tops of cocos); Ile du Coin 6.vi.1905 (abundant); Diego Garcia Atoll: Middle Islet 12.vi.1905 (one male); Egmont Atoll: reported to occur, but not common. The Percy Sladon collection contains 14 males and five females, all from Salomon and Peros Banhos Atolls. Hutson (1981) saw a single male *Hypolimnus* for several days on Diego Garcia in 1971 which may have been *H. bolina* but was thought to be *H. misippus*.

During the 1996 expedition *H. bolina* was encountered in low numbers on three of the eight islands visited on the Salomon Atoll: Ile Anglaise 13.ii.1996 (one male); Ile Takamaka 14 and 15.ii.1996 (three males) and 8 and 9.iii.1996 (two males); Ile de la Passe 17.ii.1996 (four males) and 10.iii.1996 (one male); and in low numbers on three of the five islands visited on the Great Chagos Bank Atoll: South Brother 13.iii.1996 (four males and three females); North Brother 14.iii.1996 (four males and one female); Danger Island 15.iii.1996 (two males and two females and two sex unidentified). The collection from this expedition contains four males and one female.

Fletcher (1910) reported that "the early stages of this butterfly were not met with". During the 1996 expedition this was also the case. Foodplants recorded as present on the Chagos include *P. oleracea* and *Synedrella nodiflora* (Topp, 1988). Topp (1988) records this latter species as occasional on disturbed or cultivated ground mainly in the town area on Diego Garcia. During the 1996 expedition *H. bolina* was observed to nectar on *Intsia bijuga* on Ile Takamaka.

The species was hard to observe because of its habit of flying above the canopy. However, males of *H. bolina* appeared to be highly territorial: On South Brother three males were observed during an extended period as they constantly chased each other away from a patch of shade cast by tall native trees near the beach-line. So aggressive were these males that they even took to the air to attempt to chase away birds (Lesser Noddies) that were using the same patch of trees for nesting.

Fletcher (1910) reported that female specimens of *H. bolina* from the Chagos exactly resembled specimens from Palawan as represented in the national collection. Later Poulton (1924) described specimens from the Chagos as an endemic subspecies: *euphonoides*. The staff at the British Museum compared the Chagos series collected by the authors during the 1996 expedition with the world-wide material in the museums collection. They reported that they were not impressed by the distinctiveness of this taxon, assuming that the localities given for the specimens in their collection were correct. The supposedly distinctive characters given by Poulton (1924) seemed to fall within the range of variation found in populations from other localities.



*Junonia villida* Fabr. ssp. *chagoensis* Watkins, an endemic subspecies to the Chagos Archipelago that was encountered in very high numbers on the Salomon and Great Chagos Bank Atolls during the 1996 expedition.

### *Hypolimnus misippus* Linnaeus

Bourne (1886) identified *Vanessa "bolini"* from Diego Garcia but Poulton (1924) re-identified his specimen as *H. misippus*. The previously unpublished collection of Mont Hiron contains a single specimen of a female Mimic *H. misippus* captured on Danger Island on 5.iii.1975. This specimen is important as it is the only confirmed recent specimen from the Chagos group. Hutson (1981) saw a single male *Hypolimnus* for several days on Diego Garcia in 1971 which was thought to be have been *H. misippus* but which may have been *H. bolina*.

Foodplants of this species include *P. oleracea* (e.g. Common and Waterhouse, 1982; Fleming, 1983; D'Abrera, 1984; Gay *et al*, 1992) and *Ficus* spp. (*pers. comm.* Chris Samson). Both of these are present on many islands of the Chagos group (Topp, 1988 and *pers. comm.*) including the Great Chagos Bank Atoll and Diego Garcia.

### *Hypolimnus bolina/misippus*

During the period of April 1984 to December 1986 16 records (of 18 individuals – all males) were made of butterflies on the main island of Diego Garcia (*pers. comm.* Cdr. Topp). Although cited as being *H. missippus*, it is the authors' opinion that these records could have been either *H. missippus* or *H. bolina*, as both of these species have males that are very much alike – especially in flight. These butterflies were noted during every month except January and February and were well dispersed around the island.

Other sightings of a butterfly, cited as being *H. missippus*, were made by Cdr. Topp on Petite Ile Coquillage (four males) and Petite Ile de Bois (two males) – Peros Banhos Atoll (4.xii.1985) and Sea Cow – Great Chagos Bank Atoll (4.iii.1986). In the authors' opinion these records were more likely to have been of *H. bolina*, considering this species' present abundance on these atolls.

### Acknowledgements

We thank the British Foreign and Commonwealth Office and the World Wide Fund for Nature (UK) for their financial support. We are also indebted for the help and support provided by the "Friends of the Chagos", Dr Charles Sheppard, the staff at the British Museum (Natural History), Mr Chris Samson, Mr Mont Hiron and to everyone else involved in the 1996 expedition. We thank John Topp for comments on this paper.

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### **The White Admiral *Lagoda camilla* (L.) (Lep.: Nymphalidae) and other unexpected butterflies in north London, Middlesex**

A female *Lagoda camilla* L. was captured (and later released) flying high over *Hebe* blossom, beneath trees on 9 July 1997 at the end of our garden which abuts Coppetts Wood Nature Reserve (OS grid ref: 276916). This butterfly has recently been reported as expanding its range (Plant, 1987. *The Butterflies of the London Area*. LNHS). Plant also notes (p. 103) that there are few Middlesex records, from the earliest at Mill Hill in 1874 to a singleton at Finsbury Square in 1940. Herbert (1993. *Butterflies of the London Borough of Barnet: A Provisional Atlas*. Barnet Group, Herts and Middx Wildlife Trust) cites the above records and adds (p. 4) "recorded on Monken Hadley Common in 1950 and 1961".

Four other butterflies have been seen for the first time in 36 years' residence here. A single male Brimstone *Gonepteryx rhamni* (L.) was taken on 25 May 1997 hovering over variegated ivy. However, this may be only a "wandering male" as noted by Herbert (*op. cit.*, p. 18) as sometimes occurring outside their normal area of distribution. On 18 and 21 July 1997, individual Gatekeeper butterflies *Pyronia tithonus* (L.) were seen on flowers of honeysuckle and golden rod respectively. On 29 July 1997 a rather worn female White-letter Hairstreak *Strymonidia w-album* (Knoch) was found feeding on golden rod. Herbert (*op. cit.*) notes only "one tenuous hold" (Monken Hadley Common) for this species in Barnet, but notes that it was recently recorded in Trent Park [Enfield]. Finally a dead, headless female Purple Hairstreak *Quercusia quercus* L. was found on the garden path on 6 August 1997. We have heard that a colony of this species has been observed above the tops of oak trees in Coppetts Wood in recent years.— K.G.V. SMITH AND J.M.E. SMITH, 70 Hollickwood Avenue, London N12 0LT.

***Eupithecia indigata* Hb. (Lep.: Geometridae) larvae eating aphids**

On the night of 28.v.97, a female Ochreous Pug *Eupithecia indigata* was caught in my garden trap. It was small, with distinct crosslines and a very large discal spot. In the hope (soon dashed) that it might be something rarer, it was kept for eggs. These were laid singly on Scots Pine *Pinus sylvestris* needles. They were oval and slightly flattened, pale cream at first, soon darkening to a deep ochreous yellow. Haggett (*Ent. Rec.* **104**: 39-42) drew attention to the conflicting accounts in the literature by respected observers as to what part of its foodplant the larva of *E. indigata* actually eats, and added his own experiences. Here was an opportunity to rear the species *ab ovis* and see for myself.

The newly-hatched larvae were supplied with sprigs of Scots Pine from the lower branches of a mature tree. During the first instar they fed only on the male inflorescence, which at that time of year was fresh and creamy yellow, not yet shedding pollen. All the frass produced was pale yellow. However, they did supplement their diet. Occasionally, one would be seen clutching a yellowish morsel in the thoracic legs, and munching it like a squirrel with a nut. At first, it was assumed this was a piece of inflorescence, but under a lens it proved to be a tiny aphid. Such behaviour was seen several times. Similar carnivorous feeding habits are known in some Far Eastern species of *Eupithecia*, but apparently have not been reported in Britain before (G.M. Haggett, *in litt.*).

In the second instar, the larvae fed much less on the inflorescence itself, which was now going over. Instead, they were seen to bore shallow pits into its fleshy green central stalk; most of their frass was now pale green. By the time the larvae reached the third instar, in late June, the inflorescence was withered and brown (though the sprigs were changed every few days), and they lost all interest in it. They now fed entirely by boring into the central stalk, more deeply than before.

In their final instar, the larvae bored very extensively into the woody twigs, exactly as described by Haggett (*loc. cit.*), except that they did not enter via the terminal bud, which at this time of year was minute. Although that was the main method of feeding, some larvae had an alternative. Even in early July, the new season's needles were still only halfway out of their sheaths. A larva would bite into the side of a young needle about two-thirds of the way up, and chew right through so that the top third fell away. The remaining portion was then eaten all the way down to its base, leaving most of the needle sheath still standing as an empty tube.

Only four instars were noted in this brood, with dates of the leading larvae as follows:

Eggs laid 30.v.97, hatched from 9.vi.97.

1st instar: length at hatching ca. 2mm, reaching 4.5mm. Greenish or yellowish white with shiny jet-black head and thoracic legs. Oval plate on first thoracic segment dark grey-brown and conspicuous.

2nd instar: from 14.vi.97; reaching length of 7.5mm. Head now dark reddish or blackish brown, thoracic plate reddish brown.

3rd instar: from 20.vi.97; reaching length of 12mm. Head now pale reddish brown, thoracic plate inconspicuous, body striped paler and darker reddish brown.

4th instar: from 30.vi.97; reaching length of 19mm. Spun up from 10.vii.97.

Clearly, the larval feeding habits of *E. indigata* change, depending on instar, the state of the foodplant as governed by time of year, and possibly also on individual preference. To summarise, the larva feeds at first on the young male inflorescence, later by boring shallowly into its stem, and finally by boring into woody twigs. It does not eat the old needles, but sometimes feeds on young needles still partly in sheath. Aphids are eaten if available.

I am grateful to Gerry Haggett for his encouragement to publish this note.— ROY LEVERTON, Whitewells, Ordiquhill, Banffshire AB45 2HS.

### **Monarch Butterfly *Danaus plexippus* L. (Lep.: Danaidae) in Gwynedd**

About midday on 2 October 1997, an unusually warm day, my wife and I, while pottering about in the garden, observed a large butterfly alight on the upper part of a tall privet *Ligustrum* hedge. Not wishing to disturb it we did not approach too closely when, unfortunately, it flew across to a lower wall covered with ivy *Hedera* and brambles *Rubus fruticosus*. We could then see that it was a fine specimen of a Monarch *Danaus plexippus* L.

Sadly, having rested there for a few minutes, it resumed its journey leaving us to congratulate ourselves that we happened to be in the garden at that time.

— R.W. JONES, Tri Brynwcws, Llanaber, Barmouth, Gwynedd LL42 1RR.

### **Trussed-up social wasp *Vespula* sp. (Hym.: Vespidae) recovering after release from the web of a Common Cross Spider *Araneus diadematus* Clerck (Arach.: Araneidae)**

On 7 October 1995 I noticed two social wasps *Vespula* spp. and a Honey Bee *Apis mellifera* L. ensnared and trussed-up in the orb web of a large female Common Cross Spider *Araneus diadematus* Clerck slung between flowering plants on the third floor balcony of our former home in Eppelheim, near Heidelberg, Baden, Germany. While I was looking at them I noticed that one of the wasps was moving within its silken bonds; so I removed it from the web and the silken threads tightly wrapped around it. To my surprise it proved to be unparalysed and very energetic, and flew off quite strongly before I was able to remove from it the last vestige of silk, but not before I had been able to identify it as a German Wasp *Vespula germanica* (Fabricius). As it was already trussed-up when I found it, I do not know if it had received a poisonous bite from the spider. However, I suspect that it had because the other wasp and the Honey Bee were dead.

In this journal (Burton, 1961. 73: 95-96) I reported how, in September 1960, I removed an adult female Common Green Grasshopper *Omocestus viridulus* (L.) from the orb web of another large spider *A. quadratus* Clerck in my then garden at

East Grinstead, Sussex, which had similarly been completely bound in silk, yet completely recovered on being released. It immediately began to consume grass blades and was still alive and active on the following day, having been colour-marked for individual recognition. I have not yet come across similar instances recorded in the entomological or arachnological literature, but suppose they exist, so would be grateful for any references that readers can supply.— JOHN F. BURTON, In der Etzwiese 2, D-69181 Leimen-St. Ilgen, bei Heidelberg, Germany.

### ***Quercusia quercus* L. (Lep.: Lycaenidae) at light in London area**

A male *Q. quercus* visited my garden m.v. light on 9.viii. 1997, operation of which started late, at 22.30 hours. Although the species was reported as being common in nearby Joyden's Wood in 1946 and 1947 by de Worms (1949. *London Naturalist*) it seems not to have been reported from there since, and Plant (1987. *Butterflies of the London Area*) suggests that it may no longer inhabit this locality. However, a specimen settled on my lawn in August 1982, and the species is one rarely observed except in the larval stage; I am sure these two sightings reflect a continued resident status.

Plant (*op. cit.*) omits the species from the Kent portion of the London area, as does Philip (1993. *The Butterflies of Kent*) except to indicate its continued presence at Darenth Wood. There, and at Eynsford it was very common in the 1930s and immediate post-war years where on several occasions in August 1938 I encountered eight or nine specimens half way up one side of a mature ash *Fraxinus excelsior*, vigorously flying together and sometimes settling. I have not seen this behaviour since regarding *Q. quercus*, and have wondered why an ash tree had been chosen rather than an oak. While preparing this note curiosity led me to two nineteenth century textbooks well endowed with anecdotal detail, and in Newman (1885. *An Illustrated Natural History of British Butterflies*) I found a quotation from Mr S.A. Davis which read "I observed about twenty specimens gambolling and settling upon an ash tree near Beckenham, no oak being near."— B.K. WEST, 36 Briar Road, Dartford, Kent DA5 2HN.

### **Notes on the flight, larval periods and food-plants of *Apomyelois bistriatella* (Hulst) ssp. *neophanes* (Durrant) (Lep.: Pyralidae)**

Harry Beaumont's note (*Ent. Rec.* **109**: 212-213) on this species prompts me to write this one.

He draws attention to four records of the adult between August and September. I can add another. On 20 August 1991 I took a worn example (determined by dissection) at Kennack Sands, Cornwall (VC 1).

Goater (1986. *British Pyralid moths*: 121) states that the larva is full-fed in October. It appears that this is not always the case. On 1 December 1996 at Clearbrook, Devon (VC 3) I found two small larvae, about half-grown, inside the foodplant which was growing on burnt gorse, as well as one full-grown larva in a cocoon.

All the standard reference works give the foodplant as *Daldinia concentrica* (Bolt.: Fr.) Ces. & de Not. However, Jordan (1995. *The encyclopedia of fungi of Britain and Europe*: 75) gives two species of *Daldinia*, which are very well illustrated by colour plates. That on burnt gorse and, occasionally, burnt oak (no mention is made of birch) is *Daldinia vernicosa* (Schw.) Ces. & de Not. *Daldinia concentrica* is found on unburnt hosts such as beech, ash and also other wood. Until fairly recently *Daldinia vernicosa* was considered to be a small form of *concentrica*. To the best of my knowledge, the larva of *A. bistriatella neophanes* has only been found feeding on *Daldinia* on burnt hosts.

I am grateful to Mr M. Jordan for information about the two species.  
– R.J. HECKFORD, 67 Newnham Road, Plympton, Plymouth, Devon PL7 4AW.

### ***Tachystola acroxantha* (Meyr.) (Lep.: Oecophoridae) – a first record for North Hampshire**

On the 24 September 1997 we examined my moth trap in Fleet (OS grid reference SU 797539) and found a micro which neither of us recognised. The specimen was taken by RE who later identified it as *Tachystola acroxantha*. Subsequent moths were trapped on a further five occasions, with the last specimen being taken on 18 October 1997. All specimens were trapped in early evening, before 9 pm. Barry Goater has confirmed this as the first record for North Hampshire, VC12.

The record is also interesting due to the lateness of the flight period. Most authors (eg Allen, 1979. *Proc. Brit. Ent. Nat. Hist. Soc.* **12**: 58), discuss specimens taken in late July/early August. Discussion with Roy McCormick indicate that *T. acroxantha* is well established in Devon at Dawlish and Teignmouth, appearing in two overlapping broods from June to September.

The foodplant is generally given to be *Eucalyptus*, with a second preference for *Berberis* sp (Allen, 1979). Both these plants are found locally.– ROB EDMUNDS, 32 Woodcote Green, Calthorpe Park, Fleet, Hampshire GU13 8EY and RON PARFITT, 29 Manor Road, Farnborough, Hampshire GU14 7EX.

### **A further note on the occurrence of *Dorycera graminum* (Fabr.) (Dip.: Otitidae) in Kent**

Earlier (1994. *Ent. Rec.* **106**: 138) I referred to the abundance of this species on the Hoo peninsula in north Kent. On 7 July 1996 several further specimens were obtained from the largely derelict land which has been designated Church Marshes Country Park at Milton, near Sittingbourne (grid reference TQ 9165). One was swept from a leaf of a young sycamore *Acer pseudoplatanus* whilst the remainder were taken from the flowers of one of the larger mayweeds. The first occurrence is of interest in that I have frequently taken the related *Seioptera vibrans* (L.) on sycamore and sallow leaves where I presume it feeds either on the honeydew deposited by aphids or on the microfungi which later develop.

J.F. Stephens (1841. *Entomologist* **1**: 199-202) recorded “*Doryphora graminum*” during a month’s collecting within a four mile radius of Harrietsham (TQ 85) between 8 June and 3 July 1840 and this species I take to be *Dorycera graminum*.

A recent perusal of the records housed in Maidstone Museums and Art Galleries revealed several other records. On 19 June 1896 the Rev. E.E. Green took it at Bearsted (TQ 75). During the first few years of the twentieth century J.W. Yerbury encountered it at Dartford (TQ 57). Specimens exist with the dates 8 June 1909, 13 June 1909 and 14 June 1912. In July 1932 H. St. K. Donisthorpe recorded it from Port Victoria on the Isle of Grain (TQ 87). In the 1940s G. Waller and H.W. Andrews took specimens at Ashford (TR 04) and Eltham (TQ 47) respectively; Waller's being on 30 June 1941 and 1 June 1942 whilst Andrews' were on 6 and 11 June 1946. Finally on 4 June 1956 J.C. Felton recorded it from Sittingbourne (TQ 96).

Donisthorpe's record is particularly interesting since it is from the Grain area where the fly has recently been found in abundance. Unfortunately nothing can be ascertained of the habitats for the historical records. All that I can say from personal experience is that *Dorycera graminum* has recently been found in dry, coastal grassland in north Kent.— LAURENCE CLEMONS, 14 St John's Avenue, Sittingbourne, Kent ME10 4NE.

**EDITORIAL COMMENT:** It may be of interest that I can add another recent Kent example of *Dorycera graminum*, from Northfleet, grid reference TQ 6173, one female on 5 July 1995, taken by myself as well as three Essex specimens, just across the River Thames to the North at Dolphin Quarry, Purfleet, TQ 5678, one female on 7 May 1996 taken by myself and at West Tilbury, TQ 6777, a pair taken by Roger Payne on 31 May 1996. The latter three are the only known Essex records (Del Smith *Pers. comm.*).— COLIN W. PLANT.

### Melanism in some Ennominae (Lep.: Geometridae) in N.E. Scotland

The so-called industrial melanics of many species of Ennominae were familiar to me during an upbringing in the Manchester area in the 1950s and 1960s. But to encounter some of these forms in thoroughly rural, lichen-encrusted north-east Scotland was completely unexpected.

In Banffshire, the Scalloped Hazel *Odontopera bidentata* Cl. is often variegated with blackish-brown, as described and illustrated by Skinner (1984). In a few specimens the dark suffusion is quite heavy, but these could not really be confused with the truly melanic ab. *nigra* Prout. Two males which were identical to the latter form, having forewings, hindwings and abdomen blackish brown, but a pale (almost buff) head and thorax, were caught in my garden on 3.vi.93 and 28.v.97.

The Pale Brindled Beauty *Apocheima pilosaria* D.&S. is reasonably common here. Most of the males are paler than those seen in the south of England, often with a greyish-white ground colour sharply marked with dark grey. Surprisingly, a melanic male agreeing in all respects with f. *monacharia* Staud. was attracted to an outside light on the wall of my house on 17.ii.93.

The Dotted Border *Agriopsis marginaria* Fabr. is also common, inhabiting open moorland as well as woodland. At Ordiquhill, the males are variable, some being almost as dark as ab. *fusca* Mosley, which was easily the dominant form in the Manchester area during my time there. However, the gene responsible here may be

different, as the light and dark forms merge into each other, instead of separating neatly into typical, intermediate and melanic specimens as did the Manchester populations.

I have been unable to find out anything about the prevalence if these melanic forms elsewhere in Scotland. If any reader could help, I would be most grateful.—ROY LEVERTON, Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS.

### **Egg-laying bias in *Pieris brassicae* (L.) and *Pieris rapae* (L.) (Pieridae) on garden nasturtium**

During two days in 1988 and 1989, counts of eggs were made of the large and “small” white butterflies on garden nasturtium in a circular rockery (diameter: 2.2 metres), the centre of which was dominated by a *buddleia* bush. Although *Pieris napi* was seen laying on *Aubrieta* and small crucifers such as *Cardamine hirsuta* L., only *P. rapae* was observed laying on *Tropaeolum major*.

By 1 August 1988, 27 egg batches of *P. brassicae* and 87 eggs of *P. rapae/napi* had been laid on a total of 893 leaves of *Tropaeolum*. Egg-laying in both species was biased for aspect (*P. brassicae*,  $\chi^2(3) = 24.4$ ,  $P < 0.001$ ; *P. rapae/napi*,  $\chi^2(3) = 24.9$ ,  $P < 0.001$ ). Plants in the rockery were divided into four quadrants about north-south and east-west axes. The distribution, clockwise from north-west was 1:2:18:6 in *P. brassicae* and 8:8:38:33 in *P. rapae/napi* for a leaf distribution of 162:226:230:275. Bias, in both species, was for the south, particularly the south-east quadrant.

In July 1989, *Tropaeolum* was distributed only over the southern half of the rockery. On 29 July 1989, 16 egg batches of *P. brassicae* and 74 eggs of *P. rapae/napi* were found on 371 leaves. No significant bias was found in aspect between east and west regarding the distribution of eggs (*P. brassicae*,  $\chi^2(1) = 0.09$ ,  $P > 0.7$ ; *P. rapae/napi*,  $\chi^2(1) = 0.68$ ,  $P > 0.3$ ).

While making observations on the distribution of eggs in relation to aspect, some other data were collected. In both 1988 and 1989, *P. brassicae* biased egg-laying to the undersurface of leaves (1988:  $\chi^2(1) = 13.4$ ,  $P < 0.001$ ; 1989:  $\chi^2(1) = 6.3$ ,  $P < 0.02$ ), whereas results for *P. rapae/napi* contrasted between the two years, the bias in 1989 being for leaf under surfaces (1988:  $\chi^2(1) = 2.2$ ,  $P > 0.1$ ; 1989:  $\chi^2(1) = 40.5$ ,  $P < 0.001$ ). During 1988, if anything, there was a tendency in *P. rapae/napi* for egg-laying to be concentrated on the upper surface of leaves. A further indication of this was found in the seven cases of joint egg-laying by both species on the same leaf. Of these, only two were on the same surface; six of seven each of *P. brassicae* and *P. rapae/napi* were found on the under surface and upper surface of leaves respectively. In 1989, comparisons were also made for shade (under *buddleia*) and leaf size. For *P. rapae/napi* there was bias for sites exposed to sunlight ( $\chi^2(1) = 20.8$ ,  $P < 0.001$ ), but no bias for *P. brassicae* ( $\chi^2(1) = 2.4$ ,  $P > 0.1$ ). Plants were divided into three categories with small, medium and large leaves. No bias was found in selection for leaf size. Finally, in 1989, details were taken of egg batch size. In *P. brassicae* mean egg batch size was found to be 18.8 ( $\sigma = 10.5$ ,  $N = 16$ ) with a minimum of three and a maximum of 32 eggs. For *P. rapae/napi* 48 of the eggs were

laid singly, eight in pairs, two in a batch of four. One cluster of five eggs was found to comprise two groups of three and two eggs that had been laid at very different times.

The bias in aspect suggests that egg-laying preferences are for warm microclimates. This is supported by the selection of exposed sites by *Pieris rapae/napi*. Lack of bias for exposed, compared to shaded, sites in *P. brassicae* may relate to the small numbers of egg batches found; this, and the fact that sunlight penetrated the leaf cover of the *Buddleia* bush on the south side during short periods of the day and that egg-laying may have been carried out in temporary patches of light. The significant tendency for oviposition to be under leaf surfaces probably relates to egg concealment (Dennis, 1992. *The Ecology of Butterflies in Britain*. Oxford University Press). The difference between the two years for *P. napi/rapae* is difficult to explain, especially as no distinction could be made between the two species responsible for laying the eggs. Leaf structure may also affect the balance of eggs laid on upper and under surfaces, as observed in other species (e.g., *Polyommatus icarus* Rott. (Lycaenidae) (Dennis, 1984. *Entomologist's Gazette*, **35**: 89-93). As a last point, it is worth commenting on the relatively small size of *P. brassicae* egg batches. These would tend to indicate that *Tropaeolum* is not entirely suitable as a hostplant for the species.— R.L.H. DENNIS, 4 Fairfax Drive, Wilmslow, Cheshire SK9 6EY.

### Cross-species pairings of noctuids (Lep.: Noctuidae) at sugar

Sugaring was particularly effective at my home address in early July 1996. Well over 200 noctuids at once attended the 24 sugared fenceposts in damp, cloudy weather on the evening of 3rd/4th, not allowing for any turnover of individuals. Some of the posts were more popular than others, and here moths were literally barging and jostling for space.

On the second round, shortly after midnight, a veritable bacchanalia met my eyes. Many moths were already the worse for drink, even though I consider it morally wrong (and such a waste!) to put alcohol in my sugar. Not only were the moths fighting, they were mating too. As at all the best orgies, some unexpected couplings could be observed. I noted:

Dark Brocade *Blepharita adusta* Esp. male with  
female Clouded-bordered Brindle *Apamea crenata* Hufn.

Pale-shouldered Brocade *Lacanobia thalassina* Hufn. male with  
female Clouded-bordered Brindle *A. crenata* Hufn.

Alas, like most recreational sex, nothing came of it. My hopes of seeing a few Clouded-bordered Brocades and Pale-shouldered Brindles the following summer were unfulfilled.— ROY LEVERTON, Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS.

**THE JUNIPER CARPET MOTH  
*THERA JUNIPERATA* (L.) (LEP.: GEOMETRIDAE):  
A DECADE OF MONITORING A POPULATION**

PAUL WARING AND D.E. (BETH) WARING

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THE FLUCTUATIONS in numbers and emergence dates of insects from year to year and throughout each season are a subject of continuing interest. At Park Farm, Kidlington, we have an isolated population of the Juniper Carpet moth *Thera juniperata* on a single bush of a cultivated Juniper *Juniperus communis* var. *compressa*. Further details of this colony are given in a previous paper (Waring 1992). It is possible to count the adult moths directly, at rest on the bush after dark, by examining it with a torch. Counts have been made daily at about 22.00 hours during the adult emergence period, and the results since 1986 are given in Table 1.

These show a number of features which are of more general interest in our understanding of the population dynamics of insects on trees and shrubs.

1. The numbers of moths tends to build gradually to a single peak and then to tail off again during the course of each flight season.

2. The numbers in this example are not varying by several orders of magnitude from year to year or generation to generation, as has been found in some other insect species and in laboratory populations. The peak count has ranged from 80 to 430 individuals and, as the pattern of emergence is similar from year to year, the peak count is likely to be related to the total population size. Food supply is an obvious factor which must be taken into account in population studies. In this system the food supply is a single bush which is not pruned or otherwise interfered with and the total biomass at least is rather constant. On this subject, it is worth mentioning that the larvae tend to feed on the upper shoots and that in 1987 and 1992 they severely defoliated the upper half of the bush (Fig. 1). This was followed by a considerable drop in numbers the following year, in both cases, as can be seen from Table 1. It is quite plausible that the supply of fresh shoots for food became a limiting factor and that larvae died before completing development, or produced less fecund adults, as a result of food shortage in these circumstances. Most years the bush is not defoliated to such an extreme extent. It is worth noting that other species of larvae have been found on the bush occasionally, usually as singletons, such as the Scalloped Hazel *Odontopera bidentata* Cl. and there is a resident population of the Juniper Pug *Eupithecia pusillata* D.&S. which feeds as larvae from April to early June, but the larvae of the Juniper Carpet are by far the most abundant larvae and the defoliation which has occurred has taken place during their period of major growth in August. The photograph of severe defoliation (Fig. 1) was taken on 25 August 1987, which is some time before larvae would normally finish their growth. This emphasises the likelihood that larvae starved in 1987.



Fig. 1. The Juniper bush photographed on 25 August 1987, showing severe defoliation of the upper shoots.

3. The population has not undergone a steady increase or decrease year by year over the decade. There is something of a regular cycle, based on the peak counts. With counts for every year from 1992-1996 we see an alternation of a high count followed by a low one the next year, with 1996 giving a lower count for a third year. The earlier years also show either a two or three year decline followed by an increase, but we cannot be more precise because of the missing years. It will be interesting to see if the peak in 1997 is a high one, as we might predict from past performance. One could speculate on why a low population of adults leads to a much higher number the next year. Interference or competition for a limiting resource could explain the pattern. This could occur in the adult stage as well as among the larvae. The adults walk about over the bush to find mates and lay eggs and high densities of adults may possibly interfere with egg-laying, such that females lay fewer on average.

4. The date at which peak numbers are reached has varied over a range of nearly a fortnight, from 12-24 October, generally occurring in the middle of this period. The date of the first adult sighting has ranged from 4-8 October in the years examined here, but has been as early as the last days of September in some of the previous years. Last sightings have ranged from 23 October (18 October in 1995 was probably premature) to 7 November. In some years the flight season, and presumably emergences, are more protracted than others and this is not necessarily related to the peak count or population size. In 1992 there were 34 days between first and last sightings though the peak count reached only 270 adults, compared with a

peak of 430 adults in 1986 with only about 22 days between the first and last sightings. Possibly the annual variation in population size is less than the peak counts suggest, because of this variation in emergence pattern.

5. There is no consistent trend for the peak numbers to be earlier or later than the previous year over the decade. 1993 was a particularly late year and 1995 was as early as in the late 1980s. However, longer runs of data are desirable for looking for such long-term trends as variations from means, because of the extent of fluctuations from year to year.

Note that, although a number of larvae have been reared from the bush, no parasitoid has yet been reared from them, though this is not to say that parasitoids are not involved in the regulation of this population. There is clearly much scope for more detailed study of this system, should anyone have the time available. Meanwhile, DW will continue to count the adults annually and we hope the moth will be with us on this bush for many years to come.

#### References

Waring, P., 1992. On the current status of the Juniper Carpet moth *Thera juniperata* Lep.: Geometridae). *Entomologists' Record and Journal of Variation* **104**: 143-148.

**Table 1. Juniper Carpet moth counts of adults – Park Farm, Kidlington, Oxon, 1986-1996.**

Key: – = no count made. 0 = count took place but no adults seen.

NB. the bush was heavily stripped of needles in 1987 and 1992, mainly upper parts.

Date	1986	1987	1989	1990	1992	1993	1994	1995	1996
<b>Sept</b>									
27	–	–	–	–	–	–	–	–	–
28	–	–	–	–	–	–	–	–	–
29	–	–	–	–	–	–	–	–	–
30	0	–	–	–	–	–	–	–	–
<b>Oct</b>									
1	0	–	–	–	0	–	–	–	–
2	0	–	–	–	–	0	–	–	–
3	0	–	–	–	–	–	–	–	–
4	–	–	–	–	4	–	–	–	–
5	0	–	–	–	–	–	–	–	2
6	–	–	–	–	13	–	–	–	2
7	0	25	–	0	27	–	–	–	6
8	1	62	–	–	48	–	–	28	11
9	46	125	–	6	–	0	32	73	19
10	114	115	–	20	–	–	86	83	34
11	–	240	–	27	110	–	136	87	34
12	196	300	–	49	131	–	175	106	41

Date	1986	1987	1989	1990	1992	1993	1994	1995	1996
Oct. 13	276	240	157	44	162	-	223	54	52
14	416	250	148	80	193	-	332	48	70
15	430	300	140	-	211	-	307	-	60
16	368	c300	91	66	83	10	266	7	75
17	-	270	52	25	189	46	294	-	66
18	249	170	45	19	230	-	-	7	52
19	227	242+	9	19	244	44	-	-	-
20	-	92	-	13	270	-	161	-	-
21	-	72	-	5	214	73	146	-	-
22	204	51	-	3	190	98	-	0	-
23	160	42	1	1	136	-	-	-	-
24	121	24	-	-	117	104	-	-	-
25	-	16	-	-	211	-	-	-	-
26	45	-	-	-	-	84	-	-	3
27	-	-	-	-	85	-	-	-	-
28	13	-	-	-	83	51	-	-	-
29	6	-	-	-	63	32	-	-	-
30	-	2	-	-	38	-	-	-	-
31	0	-	-	-	66	22	7	-	-

## Nov.

1	-	-	-	-	39	-	-	-	-
2	0	-	-	-	34	15	-	-	-
3	-	-	-	-	21	-	-	-	-
4	-	-	-	-	17	3	-	-	-
5	-	-	-	-	-	-	-	-	-
6	-	-	-	-	11	-	-	-	-
7	-	-	-	-	3	-	-	-	-
8	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-

Peak  
Count

430	300	157	80	270	104	332	106	75
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## Peak date

## Approximate duration of flight period

1986	15 October	1986	8-29 October	c22 days
1987	12, 15, 16 October	1987	7-30 October	c24 days
1989	13 October (peak possibly missed)	1989	pre 13-23 October	11+ days
1990	14 October	1990	9-23 October	15 days
1992	20 October	1992	4 October-7 November	34 days
1993	24 October	1993	16 October-4 November	19 days
1994	14 October	1994	9-31 October	22 days
1995	12 October	1995	8-18 October	10 days
1996	16 October (peak possibly missed)	1996	5-26 October	c21 days

***Blaesoxipha plumicornis* (Zett.) (Dip.: Sarcophagidae) apparently new to Kent.**

Of the three British species of *Blaesoxipha* only *B. erythrura* (Mg.) has hitherto been reported from Kent. Wainwright (1940. The British Tachinidae (Diptera). Second Supplement. *Trans. ent. Soc. Lond.* **90**: 437) recorded that he and J.E. Collin took it during a visit to Wye Downs (grid reference TR 0745) on 4 and 6 June 1936. This record was repeated by van Emden (1954. *Hdbks. Ident. Br. Insects* X (4a). *Tachinidae and Calliphoridae*).

On 9 August 1991 I took two female *Blaesoxipha plumicornis* during a brief collecting trip to one of the disused chalkpits at Northfleet (TQ 630742). Their identity was readily determined using the characters given by Pape (1987. The Sarcophagidae (Diptera) of Fennoscandia and Denmark. *Fauna Ent. Scandinavica* **19**: 101-2, 105-8). On 27 July 1997 I encountered several males of this species at Ditton Court Quarry near Maidstone (TQ 7157). The site is a disused ragstone quarry part of which now supports a wide range of "downland" plants and the flies seemed mainly attracted to the flowers of wild carrot *Daucus carota*. The larvae of *plumicornis* are seemingly parasitoids of several common grasshoppers e.g. *Chorthippus brunneus* (Thunb.), *C. parallelus* (Zett.) and *Omocestus viridulus* (L.) and hence the fly may prove to be more widespread in the county.— LAURENCE CLEMONS, 14 St John's Avenue, Sittingbourne, Kent ME10 4NE.

**Records of *Nephrocerus* spp. (Dip.: Pipunculidae) from Surrey and Middlesex**

The genus *Nephrocerus* comprises exceptionally large members of the Pipunculidae and is represented in the UK by two species, *Nephrocerus scutellatus* (Macquart) and *N. flavicornis* Zetterstedt.

I swept one male of *N. scutellatus* from oak *Quercus* bordering a ride at grid reference SU 981345 in Tugley wood (alias Botany Bay), Surrey (VC 17) on 27 May 1991. A remarkable total of about 80 males and females of *N. scutellatus* were recorded by Colin Plant from two malaise traps on the embankment of the M25 in Surrey (TQ 369529), 27 May-13 July 1993, during an ecological assessment prior to the widening of the motorway. These traps yielded a further 100 or so males and females of this species in the period 1-13 July 1993. The habitat comprised oak scrub and is now lost due to widening of that section of the M25 (C.W. Plant, *pers. comm.*).

The same malaise traps yielded about 50 males and females of *N. flavicornis* between 1-13 July 1993. I swept one male of *N. flavicornis* from Willow (*Salix* sp.) in shelter and semi-shade at Brent Reservoir, grid reference TQ 215882, Middlesex (VC 21) on 14 June 1997. There are a number of oak trees closely adjacent to the capture site.

*N. scutellatus* was added to the UK list on the basis of a male from West Sussex (VC 13) (Stubbs, 1980. *Proc. Trans. BENHS.* **13**, 46-48) who also discusses candidate Homopteran (Auchenorhyncha) hosts for these large species. The second UK locality was Selborne Common, North Hampshire (VC 12) (Stubbs, 1989. *The Piercer* **1**: 2). Both species of *Nephrocerus* were recorded from a malaise trap at

Silwood Park, Berkshire (VC 22) in the period 17-20 June 1989 by Hollier and Belshaw (1990, *Brit. J. Ent. Nat. Hist.* **3**, 81). I would like to express my gratitude to Colin Plant, for allowing me to publish his M25 motorway embankment records in this note.— JOHN R. DOBSON, 46 Elmwood Avenue, Kenton, Harrow, Middlesex HA3 8AH.

### *Tipula (Vestiplex) hortorum* L. (Dip.: Tipulidae) in East Kent

On 1 May 1997 I visited Covert Wood near Canterbury (grid reference TR 182494) in order to add to my list of records for the site. Amongst the craneflies *Limonia nubeculosa* (Mg.) was exceedingly abundant and a couple of *L. nigropunctata* (Schummel) were swept but no others were seen except for what was later identified (from a male) as *Tipula hortorum*. Numerous males and females were observed flying around the ground vegetation which consists largely of bluebells, Perennial dog's mercury and Yellow archangel. A further visit on 3 May revealed several more of this fly and in one spot a female was discovered apparently ovipositing in the soil amongst the moss *Mnium hornum* Hedw. A visit on 12 May produced only a single female, discovered as she was definitely ovipositing in a patch of rather dry soil between clumps of *Mnium hornum*.

Covert Wood is situated on Head overlying the Upper Chalk. The spot where *T. hortorum* was abundant is largely dominated by Hornbeam *Carpinus betulus* and Hazel *Corylus avellana*, with a ground flora of *Mercurialis perennis* and *Galeobdolon luteum*, the soil here appearing somewhat basic. Further along the track there are some acidic areas containing Broom *Cytisus scoparius* and several clumps of the fern *Blechnum spicant*.

Falk (1991. *A review of the scarce and threatened flies of Great Britain and Ireland*. Research and Survey in nature conservation No. 39. NCC) gave Surrey and Sussex from south-east England whilst Stubbs (1992. *Provisional atlas of the long-palped craneflies (Diptera: Tipulinae) of Britain and Ireland*. Biological Records Centre) showed that the nearest previously recorded localities for *T. hortorum* are well over 100km to the west of Covert Wood but states that it is possibly under-recorded on account of its relatively early flight period.— LAURENCE CLEMONS, 14 St John's Avenue, Sittingbourne, Kent ME10 4NE.

### Entomological expedition to Madeira, July 1998 – entomologists needed

Experienced entomologists are needed to assist in a two-week field trip to the Funchal Ecological park, Madeira in July 1998. The aim of the expedition is to survey the Lepidoptera in the park. The research will be conducted in association with the Parque Ecológico do Funchal, Centro de Ciência e Tecnologia da Madeira (CITMA) and the University of Madeira. Accommodation and transport will be provided. If sufficient funding can be raised, the costs of flights and subsistence will be subsidised or covered.

For further information or application to join the expedition please write to me enclosing a *curriculum vitae* or telephone me on 00-44-(0)-1273-473191.— ANDREW WAKEHAM-DAWSON, Mill Laine Farm, Offham, Lewes, East Sussex BN7 3BQ.

***Scythris empetrella* Karsholt & Nielsen (Lep.: Scythrididae) new to Scotland**

On 18 June 1983 SM visited Findhorn Dunes, near Forres (VC 95, NJ 049645) and swept clumps of *Empetrum* and *Calluna* to record bugs and beetles. As well as these, he caught several small Lepidoptera, which remained pinned but unidentified until sent recently to MY. One of these appeared to belong to Scythrididae and was confirmed as *Scythris empetrella* Karsholt and Nielsen (= *variella* (Stephens)), following dissection by JL.

This species has not previously been found north of the English Midlands but its skulking habits means that it may be under-recorded. Nevertheless the Findhorn location represents a great extension of range. The fact that it was swept from patches of its foodplant make it probable that it is resident at Findhorn, rather than being a stray. Scythridids are not commonly known as migrants.— M.R. YOUNG, Culterty Field Station, Aberdeen University, Newburgh, Aberdeenshire, AB41 6AA; J. LANGMAID, Wilverley, 1 Dorrita Close, Southsea, Hampshire PO4 0NY; S. MORAN, Inverness Museum and Art Gallery, Castle Wynd, Inverness IV2 3ED.

***Dolerus pachycerus* Hartig (Hym.: Tenthredinidae) in East Kent**

*Dolerus pachycerus* Hartig, 1837 was formerly known as *D. taeniatus* Zaddach, 1859. It was stated by Benson (1952, *Handbooks for the Identification of British Insects*, 6 2(b) as being a local species of saltmarshes and recorded only from Devon, Essex, Suffolk and Yorkshire. It may therefore be of interest to record that on 6 May 1990 I took two males of this species in the area known as 100 Acre Meadow at Sandwich Bay TR3461. This area consists of a small area of saltmarsh surrounded by coastal sand. As the identity of the specimens was not ascertained until some time after their collection it is not possible to say exactly where they were swept. However, the site supports a range of rushes, one of the host plants for this group of sawflies. — LAURENCE CLEMONS, 14 St. Johns Avenue, Sittingbourne, Kent ME10 4NE.

## BOOK REVIEWS

**The butterflies of Greece** by **Lazaros N. Pamperis**. 560 pages, numerous colour plates, distribution maps and text figures. 296 x 219mm. Hardbound, ISBN 960 7418 20 4. English and Greek versions available. Published 1997 by Bastas-Plessas, Athens and sponsored by the J. F. Costopoulos Foundation. 26,000 Drachma + 2,300 Drachma postage and packaging from the author at PO Box 1220, 41110 Larissa, Greece.

The results of fourteen years' research and hours of painstaking photography are presented in this lavishly illustrated book. Two hundred and thirty-two species of butterfly are illustrated with photographs taken in the wild and presented enlarged and in full colour to show the main features necessary for identification. In some cases, habitats and pre-adult stages are also illustrated. Distribution maps are provided for the species that the author considers not to be currently under threat. The text is available in English or Greek versions.

The book is an identification guide, but the author also discusses the status, biology and conservation requirements of each species. He suggests that study of butterflies through collection of specimens should be replaced by photography. He also highlights the effect of habitat destruction and over-intensive farming on butterfly species. The need for further study of butterflies in Greece (especially in the Aegean Islands) is stated.

The author tackles the identification of the more difficult species. For example, he tentatively discusses the distribution of members of the brown *Hipparchia*-complex. He highlights external features which he thinks necessary to distinguish between the species but does not support these with descriptions of genitalia or androconia. Without this detailed confirmation of specific status I think the reader should treat the distribution maps with caution. This illustrates the limitations of the author's argument that photography can replace the collection of specimens where detailed scientific study is required. However, collection of rare species for its own sake should indeed be replaced by photography.

The book is heavy and therefore difficult to use as a field guide. In some cases the nomenclature is incorrect (for example, *Pseudochazara mniszechii tisiphone* Brown is named *P. cingovskii*; this latter species is only known from the former Yugoslavia). Authors' names are not included with scientific names but this is compensated for by a useful bibliography.

Overall this is an excellent book, providing much food for taxonomic thought (especially in the difficult *Hipparchia*- and *Agrodiaetus*-complexes), and raising the conservation issues which are so important for the future of butterflies and other wildlife in Greece. Among many treats is the illustration of what appears to be *Pseudochazara amymone* Brown in the wild.

The publishers are offering the book at a special introductory price of 26,000 Gr-drh (plus 2,300 for postage and packaging costs) which makes it very reasonably priced. It is a must for all students of Greek butterflies and will make an excellent contribution to their libraries.

Andrew Wakeham-Dawson

**Aquatic Insects of North Europe: A taxonomic handbook. Volume 2 – Odonata, Diptera** Edited by **Anders Nilsson**. 440pp., 195 plates, 2055 line drawings. 290 x 210mm. Hardbound ISBN 87 88757 15 3. 550 Danish Kroner (volumes 1 and 2 if ordered together at reduced price of 900 Danish Kroner (prices exclude postage). Apollo Books, 1997. Available direct from publisher at Kirkeby Sand 19, DK-5771 Stenstrup, Denmark.

This is the completion of the two volume series; volume 1 was very favourably reviewed in *Ent. Rec.* **109**: 103-104. The work is primarily concerned with identification, but also covers biology and ecology of the northern European fauna. Most British species are represented but as with the first volume the work concentrates its efforts on the Scandinavian countries of Denmark, Norway, Sweden and Finland, also including the Fenno-Scandian parts of Russia, the Faeroes and Iceland.

The main value of the book will surely be the keys to larval and pupal stages. These run to species for the Odonata and for Dipteran families such as Culicidae and Simuliidae but for most Dipteran families limited knowledge has permitted such keys only to generic level. In general the keys seem to be good, but in the first one that I checked (adults of hoverflies – Syrphidae), the first lead of couplet 15 on page 354 incorrectly refers to Fig. 14 on page 353 when Fig. 15 is clearly intended; there may therefore be other similar errors. I doubt, however, if the errors are either major enough or sufficient in number to detract in any way from the potentially immense value of this book. It is not a book for the outright beginner in entomology and it can be safely assumed that this type of error can be easily detected by the user. I can only really repeat my closing remark from my review of Volume 1 – no serious British freshwater entomologist can afford to be without a copy.

Colin W. Plant

**Wicken Fen – the making of a nature reserve** edited by **Laurie Friday**. 308 pp, 45 monochrome photographs and 16 pages of colour plates. 244 x 172mm. Hardback ISBN 0 946589 33 X, price £37.50; paperback ISBN 0 946589 58 5. 1997. Available direct from the publisher – Harley Books, Colchester CO6 4AH.

Quite apart from its history of Swallowtail butterflies, Wicken Fen, near Cambridge, is one of the more important nature reserve sites in Britain since it has, probably, the longest documented history of ecological research and survey of any fenland wetland in Britain. This is perhaps not all that surprising, since Wicken was amongst the first properties to be obtained by the National Trust and is one of our oldest nature reserves, set up as long ago as 1899. Equally important is the fact that the 305 hectare fen, now a National Nature Reserve, is still actively farmed for its crop of reed and sedge – something which actually enhances its ecological value rather than detracting from it and which should serve as a model for the future conservation management of some of our other sensitive sites.

This excellent book, ably edited by Laurie Friday, provides us with a very readable summary of the historical and scientific research at Wicken. It examines both successes and failures of management at the site over the years and discusses the policies adopted in order to balance the ecological and conservation requirements of the fen with the educational and recreational needs of the staggering 30,000 visitors who go there every year. The book is divided into four main sections. Part 1 is a helpful introduction; Part 2, entitled habitats and Communities, is accomplished in five shortish chapters; Part 3 discusses the flora and fauna and finally Part 4 relates aspects of the human element at the fen. With different authors for each chapter the coverage will inevitably be varied and it is a mark of Laurie's excellent editorial skills that this is scarcely noticeable. Looking specifically at the chapters on Insects and their conservation, I can find no fault with the content, though there are a few annoying little confusions such as the statement that the Reed Dagger *Simyra albovenosa* "... lacks the 'dagger' markings usual in this family" (the family Noctuidae is not characterised by dagger markings and the Reed Dagger is in an altogether different genus to the other "dagger" moths). There is a conspicuous lack of species lists in the book, but I understand from the publisher that these are so

lengthy that their inclusion would have either involved the use of very small type or the raising of the purchase price to an unrealistic level; they are to be produced as a separate publication early in 1998 and may be ordered direct from the publisher.

All in all, this is an excellent book, and one which was awarded joint second place in the 1997 Natural History Book of the Year Award sponsored by BP and *Natural World*. It is certainly worth the read.

Colin Plant

**Rothschild's Reserves – Time and Fragile Nature** by **Miriam Rothschild** and **Peter Marren**. 258 pp, 101 illustrations including 34 colour plates. 275 x 215mm. Paperback ISBN 0 946589 62 3. £15.00. 1997. Balaban Publishers, Israel in association with Harley Books. Sole European distributors Harley Books, Colchester CO6 4AH.

Eighty years ago, Nathaniel Charles Rothschild (1877-1923), father of joint author Miriam, said by many to be the inventor of nature conservation in Britain, first proposed the establishment of a network of 280 national nature reserves throughout Britain to preserve the cream of its wildlife sites. This book discusses the hard work and effort that went into the selection of those nature reserves and compares the state “then and now” of the 182 of these that are situated in England.

One can't help but wonder what the English countryside might look like today, and what “official” attitudes may be towards its use, had Rothschild – a man of some influence and considerable wealth – lived beyond his 46 years. In 1912, he devised a plan to protect and preserve the varied habitats of rare and dwindling species by setting up a nation-wide network of nature reserves through the co-operative efforts of government, local naturalist societies and private landowners, assisted by scientists both within and outside the United Kingdom. Such a network would include the best examples of all types of countryside and many of our most endangered species. What a man! What a vision! Remember this was 1912 when almost everything that moved was still “fair game” for the gun. Sadly, only limited success was achieved in his own lifetime. A few nature reserves were purchased, mostly from his own funds, but the outbreak of World War 1 followed by his contraction of a fatal illness in 1917, curtailed the proposed activities.

He did achieve two of his aims, however. He established the Society for the Promotion of Nature Reserves (funding it from his own pocket until his death in 1923); this was later to become the Royal Society for Nature Conservation – umbrella body for the County Wildlife Trusts. He also carried out the first ever survey of potential nature conservation areas, between 1912 and 1915, and had he not died early would have doubtless succeeded in his plan to extend this to the entire of the British Empire! Indeed, he had begun such a survey in the South Pacific shortly before he died. A gap of nearly 40 years separated the completion of the British Isles survey and the establishment of the Nature Conservancy and our first National Nature Reserves.

This is a book well worth reading by anyone with even a passing interest in the conservation of the British countryside and its wildlife. At only £15.00 it should be affordable by almost everyone.

Colin W. Plant

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# THE ENTOMOLOGIST'S RECORD

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PUBLISHED BI-MONTHLY

Vol. 110

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THE  
ENTOMOLOGIST'S RECORD  
AND  
JOURNAL OF VARIATION

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

*Assistant Editors*  
R.A. JONES, F.R.E.S. & A. SPALDING, F.R.E.S.

*May/June 1998*

ISSN 0013-8916

F.M.F.  
1890

# THE ENTOMOLOGIST'S RECORD AND JOURNAL OF VARIATION

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## MICROLEPIDOPTERA REVIEW OF 1996

DAVID J.L. AGASSIZ<sup>1</sup>, ROBERT J. HECKFORD<sup>2</sup> AND JOHN R. LANGMAID<sup>3</sup><sup>1</sup> 23 St. James's Road, Gravesend, Kent DA11 0HF.<sup>2</sup> 67 Newnham Road, Plympton, Devon PL7 4AW.<sup>3</sup> 1 Dorrita Close, Southsea, Hants. PO4 0NY.

IN CONTRAST WITH some recent years 1996 provided some discoveries which we have no difficulty in singling out for mention, beginning with no less than four species new to Britain:-

*Stigmella pretiosa* (Heinemann) discovered in Scotland by Keith Bland, *Cosmopterix scribaiella* Zeller discovered in Dorset by Phil Sterling, *Bactra lacteana* Caradja detected in Devon by Bob Heckford and, whereas all of the above are likely to have been long resident and hitherto overlooked, a moth normally found in southern Europe *Duponchelia fovealis* Zeller, was taken in Norfolk by David Hipperson.

Almost more noteworthy than these additions is the rediscovery after over a century of *Ethmia pyrausta* (Pallas) near its original haunts in Scotland, and we hope that in due time the life history in Britain will be detected. *Scythris empetrella* Karsholt & Nielsen is another species long lost which has been rediscovered in its original locality in Dorset by Phil Sterling. *Acanthopsyche atra* (Linnaeus) has not been seen in Surrey for many years and it is fascinating to learn through Dennis O'Keeffe's fieldwork that it can still be found there.

Two recently discovered species, *Ectoedemia amani* (Svensson) and *Caryocolum blandelloides* Karsholt, have been found again in their original localities, confirming their status as resident British species.

Last year we reported that *Tachystola acroxantha* (Meyrick) had become established in the Manchester area, far from its base in south Devon, and now it has come to light in London – in the grounds of the Natural History Museum. There are several species marked as new to Scotland, but this may be due to increased entomological activity rather than spread of the moths concerned, an exception from an earlier year is *Myelois circumvoluta* (Fourcroy) (= *cribrella* (Hübner.)), although this is not a regular migrant its appearance so far north of its known range indicates a capacity to migrate.

Fresh information about life histories includes another foodplant for *Cataplectica farreni* Walsingham and a host plant discovered in Britain for *Monochroa suffusella* (Douglas).

Migrants of note were *Etiella zinckenella* (Treitschke), *Psammotis pulveralis* (Hübner) and *Euchromius ocella* (Haworth). *Cydia amplana* (Hübner) whose appearance in the last decade was considered to be as a result of immigration seems to have established a foothold in Devon and Dorset. A full list is expected to be published in this journal in due course.

During the past year new literature published includes *The Lepidoptera of Cornwall and the Isles of Scilly* by Frank Smith, a very welcome local list with a comprehensive account of microlepidoptera recorded in the county. For Scotland, a

list of species recorded in Shetland was published in *The Entomologist's Record* **109**: 265-280, and then *ibidem* **110**: 41-45 there was a further supplement to the list of Lepidoptera of Aberdeenshire, Kincardineshire and Banffshire. Following the publication reported last year of *The Lepidoptera of Europe, a distributional checklist*, the long awaited revision of the French list (including Belgium and Corsica) by P. Leraut has been published. Like the previous list this, unfortunately, introduces a number of changes of names, some of which are regrettable.

Records of migrants in 1993 and 1994 have now been published in this journal and contain important micro records. The list of records from Ireland in 1995 referred to in press has now been published in *Ent. Gaz.* **48**: 147-155 and includes 317 new VC records and four species new to Ireland: *Parornix fnitimella* (Zeller), *Phyllonorycter geniculella* (Ragonot), *Coleophora milvipennis* Zeller and *Mompha terminella* (Humphreys & Westwood). The occurrence of *Stigmella alnetella* (Stainton) in Ireland was confirmed.

The full systematic list includes records submitted by recorders and those which have been published in entomological journals. Many thanks to those whose records are included, as always these are identified by their initials: D.J.L. Agassiz, M.V. Albertini, H.E. Beaumont, K.P. Bland, K.G.M. Bond, B.R. Baker, M.F.V. Corley, K.V. Cooper, A.M. Davis, B. Dickerson, A.M. Emmet, A.P. Foster, B. Goater, M.W. Harper, C. Hart, R.J. Heckford, S.H. Hind, M.R. Honey, J.R. Langmaid, R. Leverton, N.R. Lowe, D.V. Manning, D. O'Keefe, R.M. Palmer, S.M. Palmer, M.S. Parsons, J. Robbins, A.N.B. Simpson, B.F. Skinner, D.J. Slade, R.A. Softly, P.H. Sterling, and M.R. Young. RIS denotes Rothamsted Insect Survey and PPRS the Pyrlid & Plume Recording Scheme, information supplied by Tony Davis. SEM denotes the Scottish Entomologists' Meeting in Kirkcudbrightshire in June 1996.

Journal titles are abbreviated for economy of space: *Ent.Gaz.* for the *Entomologist's Gazette*, *Ent.Rec.* for the *Entomologist's Record and Journal of Variation*, and *BJENH* for the *British Journal of Entomology and Natural History*.

Again an attempt has been made to identify new vice-county records, these are **bold** and underlined. The maps held by A.M. Emmet have been used for this purpose and we are grateful to Maitland Emmet for providing this information. We are sad to learn of the further incapacity of Ted Hancock who has meticulously checked Tortricid records in former years.

The sequence of records follows the numbers of Bradley & Fletcher's checklists, except Pyralidae which use the sequence of Goater's *British Pyralid Moths*, but nomenclature follows Karsholt & Razowski's *The Lepidoptera of Europe, a distributional checklist*.

Copies of the full list of records submitted are available from David Agassiz.

## SYSTEMATIC LIST

### MICROPTERIGIDAE

- 1 *Micropterix tunbergella* (Fabr.) – Osborne (10) 25.v.96 – D.T. Biggs per JRL
- 4 *M. aruncella* (Scop.) – Hannaston Wood, Dalry (73) many 22.vi.96 – SEM

## ERIOCRANIIDAE

- 6 *Eriocrania subpurpurella* (Haw.) – Hannaston Wood, Dalry (**73**) mines on *Quercus* 22.vi.96; Ravenshill Coast, near Gatehouse, vi.96 – SEM
- 10 *E. salopiella* (Staint.) – Hannaston Wood, Dalry (**73**) 22.vi.96 a few tenanted and vacated mines on *Betula* – SEM
- 12 *E. sangii* (Wood) – Afton Marsh (**10**) several tenanted mines on *Betula pendula* 17.v.96 – D.T. Biggs per JRL

## NEPTICULIDAE

- 21 *Etaina sericopeza* (Zell.) – Rewell Wood (**13**) a few mines, one cocoon on trunk of *Acer platanoides* 9.x.96 – JRL & AME
- 24 *Ectoedemia turbidella* (Zell.) – Castle Ashby (**32**) mines 15.xi.95 – DVM, *Ent. Rec.* **109**: 80
- 28 *E. angulifasciella* (Staint.) – Frenchpark (**H15**) vacated mines on *Rosa pimpinellifolia* 30.x.96 – KGMB
- 36 *E. quinquella* (Bed.) – Lower Earley, Reading (22), Dinton Pastures country park (22), Bear Wood, Wokingham (22) – I. Sims, *Ent. Rec.* **109**: 187-188
- 38 *E. subbimaculella* (Haw.) – Lough Cutra (**H15**) mines 29.x.96 – KGMB
- 39 *E. heringi* (Toll) – Bloxworth (**9**) a few tenanted mines on *Quercus robur* 10.x.96 – JRL, PHS & AME
- 41a *E. amani* (Svensson) – Waresley Wood (31) mines 2.iii.96., moth 11.vii.96 – BD
- 54a *Stigmella pretiosa* (Hein.) – Moffat Hills, Dumfries (**72**) mines in leaves of *Geum rivale* 9.ix.90 – KPB, *Ent. Gaz.* **48**: 81–83, **New to Britain**
- 84 *S. ruficapitella* (Haw.) – Garryland Wood (**H15**) mines on *Quercus robur* 29.x.96 – KGMB
- 88 *S. samiatella* (Zell.) – Rewell Wood (**13**) many mines, a few with larvae, on *Castanea* 1.ix.96 – JRL & RJH; Waresley (**31**) mine 13.x.96, det. AME – T. Heath & BD; Rossington (**63**) 10.viii.96 – HEB
- 92 *S. anomalella* (Goeze) – Drumnadreich, Black Isle (106) mine ix.96 – P. Entwistle per MRY
- 94 *S. spinosissimae* (Waters) – Coul Links, Dornoch (**107**) bred 26.v.96 – P. Entwistle per MRY; Frenchpark (H15) mines 30.x.96 – KGMB
- 97 *S. malella* (Staint.) – Roo turlough (**H9**) mines on *Malus sylvestris* 29.x.96 – KGMB
- 98 *S. catharticella* (Staint.) – Lough Cutra (**H15**) mines 29.x.96 – KGMB
- 102 *S. aceris* (Frey) – Kirdford (**13**) several vacated mines on *Acer campestre* 13.viii.96 – JRL
- 112 *S. luteella* (Staint.) – Lough Cutra (**H15**) mines 29.x.96 – KGMB
- 114 *S. glutinosae* (Staint.) – Habin (**13**) one vacated mine on *Alnus glutinosa* 12.x.96 – AME & JRL; Hurst Stake (**10**) one vacated mine 6.xi.96 – D.T. Biggs per JRL

## TISCHERIIDAE

- 127 *Emmetia angusticollella* (Dup.) – Parkhurst Forest (10) several mines on *Rosa* 9.viii.96 – D.T. Biggs per JRL

## INCURVARIIDAE

- 129 *Incurvaria pectinea* Haw. – Yardley Chase (**32**) tenanted mines on *Betula* 7.vi.96 –DVM; Demesne (H3) mines 19.vi.96 – KGMB
- 132 *Lampronia praelatella* ([D. & S.]) – Beagh (**H15**) 12.vi.96 – KGMB
- 137 *L. morosa* Zell. – Walton Golf Course (57) 10.viii.96 – B. Elliott
- 145 *Nemophora minimella* ([D. & S.]) – Spinningdale, Bonar Bridge (**107**) 28.vii.96 – P. Entwistle per MRY; Dam Wood, Black Isle (**106**) 14.vii.84 – S. Moran per MRY

## HELIOZELIDAE

- 154 *Heliozela sericiella* (Haw.) – Talladale, Loch Maree (**105**) mine ix.96 – P. Entwistle per MRY

## PSYCHIDAE

- 175 *Narycia duplicella* (Goeze) = *monilifera* (Geoffr.) – Glen Moriston (**96**) 29.vi.96 – KPB, BJENH
- 176 *Dahlica triquetrella* (Hüb.) – Faversham (**15**) many cases on wall 19.iii.96 – DO'K
- 177 *D. inconspicuella* (Staint.) – Flowers Barrow (**9**) case 2.xii.95, moth bred iii.96 – PHS
- 182 *Bankesia douglasii* (Staint.) – Fareham (11) very many cases 27.i.96, moths bred, mostly females – JRL, PHS & R.J. Dickson.
- 184 *Luffia lapidella* (Goeze) – Saffron Walden (**19**) 12.vii.92, unless it is an alate *L. ferchaultella* (Steph.) – AME
- 191 *Acanthopsyche atra* (Linn.) – Normandy (**17**) cases on *Larix* & *Pinus* females bred – DO'K

## TINEIDAE

- 196 *Morophaga choragella* ([D. & S.]) – Parkhurst Forest (**10**) 22.vii.96 – S.A. Knill-Jones *et al.*, *Ent. Gaz.* **48**: 107; Notes on diet and distribution – I. Sims, *Ent. Rec.* **109**: 133–134
- 205 *Ischnoscia borreonella* (Mill.) – Torquay (3) 16 & 18.viii.96, only one previous Devon specimen taken 70 years before – RJH. *Ent. Gaz.* **48**: 80
- 215 *Nemapogon granella* (Linn.) – Fordingbridge (11) one 26.x.96 det G.S. Robinson – N. Hutchinson per JRL
- 218 *N. variatella* (Clem.) – Burnham Beeches (**22**) larva on *Piptoporus betulina* 13.iv.91 and 1996 – I. Sims, *Ent. Rec.* **109**: 134
- 219 *N. ruricolella* (Staint.) – Selborne (**12**) many larvae in bracket-fungus on dead wood 28.iii.96, moths bred JRL & AMD; Records from southern England in vcs. 11, **12**, 18, 22 and 24 – I. Sims, *Ent. Rec.* **109**: 159

- 220 *N. clematella* (Fabr.) – Larva on *Diatrype disciformis* on *Corylus* – I. Sims, *Ent. Rec.* **109** 157-159; Chedworth Woods, Glos. (33) larvae 25.v.96, moths bred – MSP
- 224 *Triaxomera parasitella* (Hübner) – Pitsford Reservoir (**32**) 6.vi.96 – P.D. Sharpe per DVM
- 225 *T. fulvimitrella* (Sodoff.) – Hampstead (**21**) 27.vi.96 – RAS
- 227 *Monopis laevigella* ([D. & S.]) – Cornhill, Banff (**94**) vii.96 – RL per MRY
- 240 *Tinea pelliionella* (Linn.) – St John's Town of Dalry (**73**) many 21-22.vi.96 – SEM
- 245 *T. pallescentella* Staint. – Cork (**H4**) 9.iii.96 – KGMB
- 246 *T. semifulvella* (Haw.) – Kirkconnel Flow NNR (**72**) one 23.vi.96 – JRL & MWH

## LYONETIIDAE

- 263 *Lyonetia clerkella* (Linn.) – Inverness (**96**) mines 21.vii.96 – KGMB

## BUCCULATRICIDAE

- 270 *Bucculatrix frangutella* (Goeze) – Roo turlough (H9) larvae 29.viii.96; Lough Cutra (**H15**) mines 29.x.96 – KGMB
- 272 *B. cidarella* Zell. – Ebernoe (**13**) one vacated mine on *Alnus glutinosa* 11.x.96 JRL, AME & AMD
- 273 *B. thoracella* (Thunb.) – Ferry Meadows, Peterborough (**31**) mine 17.x.96 – D. Evans & BD
- 276 *B. demaryella* (Dup.) – Frenchpark (H15) three 21.vi.96 – KGMB

## GRACILLARIIDAE

- 281 *Caloptilia populetorum* (Zell.) – Cockayne Hatley (**30**) x.91 – RIS per DVM
- 283 *C. betulicola* (Hering) – Kendoon (**73**) a few larvae on *Betula* 21.vi.96 – JRL
- 284 *C. rufipennella* (Hübner) – Coul Links, Dornoch (**107**) 19.viii.96 – MRY
- 288 *C. stigmatella* (Fabr.) – Coole (**H15**) mines 4.viii.96 – KGMB
- 289 *C. falconipennella* (Hübner) – Church Norton (**13**) one cocoon on *Alnus glutinosa* 5.x.96, moth bred – JRL
- 293 *Gracillaria syringella* (Fabr.) – Coul Links, Dornoch (**107**) 19.viii.96 – MRY
- 310 *Callisto denticulella* (Thunb.) – Roo turlough (**H9**) mine & fold on *Malus sylvestris* 29.x.96 – KGMB
- 313 *Acrocercops brongniardella* (Fabr.) – Yardley Chase (**32**) vacated mine 3.x.96 – DVM
- 318 *Phyllonorycter tenerella* (Joann.) – Elveden (**26**) one mine on *Carpinus* 18.ix.96 – JRL & PHS
- 320 *P. quercifoliella* (Zell.) – Lough Cutra & Garryland (**H15**) mines 29.x.96 – KGMB
- 321a *P. platani* (Staud.) – Reading town centre (22) mines common 1.xi.96 BRB & JR, also I. Sims – *Ent. Rec.* **109**: 203; Hinchingsbrooke House, Huntingdon (**31**) mines 7.xi.96 – D. Evans & BD.

- 327 *P. cydoniella* (D. & S.) – Lough Cutra (**H15**) & Garryland Wood (H15) mines on *Malus sylvestris* 29.x.96 – KGMB
- 329 *P. spinicolella* (Zell.) – Lough Cutra (**H15**) mines 29.x.96 – KGMB
- 332a *P. leucographella* (Zell.) – Reading town centre (22) mines common 1.xi.96 – BRB & JR, also I. Sims, *Ent. Rec.* **109**: 203; Caterham (17) mines x.95 – RMP, *Ent. Rec.* **109**: 210; Elmfield Park, Doncaster (**63**) mine on *Pyracantha* 20.vi.96, moth bred 22.vi.96; Worcester (**37**) mines 13.i.96 – ANBS
- 335 *P. salicicolella* (Sirc.) – Lough Cutra (**H15**) mines 29.x.96 – KGMB
- 341 *P. maestingella* (Müll.) – Lough Cutra (**H15**) mines 29.x.96 – KGMB
- 343 *P. esperella* (Goeze) = *quinnata* (Geoffr.) – Elveden (**26**) a few mines on *Carpinus* 18.ix.96 – PHS & JRL; Osborne (**10**) 28.ix.96 many mines on *Carpinus* 28.ix.96 – D.T. Biggs per JRL
- 344 *P. strigulatella* (L. & Z.) – Elveden (**26**) a few mines on *Alnus incana* 18.ix.96 – JRL & PHS
- 345 *P. rajella* (Linn.) – Lough Cutra (**H15**) mines 29.x.96 – KGMB
- 347 *P. anderidae* (Fletch.) – Ebernoe (**13**) a few mines on *Betula pubescens* 11.x.96 – JRL, AME & AMD
- 351 *P. lautella* (Zell.) – Coole (**H15**) bred 4.viii.96 – KGMB
- 353 *P. ulmifoliella* (Hüb.) – Lough Cutra (**H15**) mines 29.x.96 – KGMB
- 354 *P. emberizaepenella* (Bouché) – Kingston (**9**) a few mines on *Symphoricarpos* 10.x.96 – JRL & AME
- 358 *P. froelichiella* (Zell.) – Ebernoe (**13**) one mine on *Alnus glutinosa* 11.x.96 – JRL, AME & AMD

## CHOREUTIDAE

- 385 *Anthophila fabriciana* (Linn.) – Spinningdale, Bonar Bridge (**107**) 27.vi.96 – P. Entwistle per MRY

## GLYPHIPTERIGIDAE

- 392 *Glyphipterix schoenicolella* Boyd – Knockakilleen (**H15**) 23.vi.96 – KGMB
- 394 *G. forsterella* (Fabr.) – Hannaston Wood, Dalry (**73**) a few 22.vi.96 – SEM; Badachro, Gairloch (**105**) 2.vii.96 – MRY
- 396 *G. fuscoviridella* (Haw.) – Kirkconnel Flow NNR (73) a few 23.vi.96 – SEM
- 397 *G. thrasonella* (Scop.) – Spinningdale, Bonar Bridge (**107**) 22.vii.96 – P. Entwistle per MRY

## YPONOMEUTIDAE

- 404 *Argyresthia praecocella* Zell. – Migdale Woods, Bonar Bridge (**107**) 26.v.96 – P. Entwistle per MRY
- 405 *A. arceuthina* Zell. – Migdale Woods, Bonar Bridge (**107**) 27.vi.96 – P. Entwistle per MRY
- 408 *A. aurulentella* Staint. – Abernethy, Strathspey (96) 13.viii.96 – MRY
- 411 *A. goedartella* (Linn.) – Gruinard, Islay (**102**) 23.vii.96 – MRY & MWH

- 415 *A. retinella* Zell. – Ledmore Wood, Spinningale, Dornoch (107) 18.vii.96 – P. Entwhistle per MRY
- 416 *A. glaucinella* Zell. – Loch a' Mhullin Wood, Scourie (**108**) 20.vi.96 – P. Entwhistle per MRY
- 418 *A. conjugella* Zell. – Spinningdale, Bonar Bridge (**107**) 18.vii.96 – P. Entwhistle per MRY
- 420 *A. pruniella* (Clerck) – Coole (**H15**) 4.viii.96 – KGMB
- 421 *A. bonnetella* (Linn.) – Inverness (**96**) 29.vii.84 – S. Moran per MRY
- 424 *Yponomeuta evonymella* (Linn.) – Hannaston Wood, Dalry (**73**) many larval nests on *Prunus padus* 21.vi.96 – SEM; Orrin Falls (**106**) 23.vii.96 – D.C. Hulme, *Ent. Rec.* **109**: 75
- 425 *Y. padella* (Linn.) – Cornhill, Banff (**94**) vii.96 – MRY; Brandy Bay (**H15**) larvae 3.viii.96 – KGMB
- 428 *Y. rorrella* (Hübner) – South Kensington (21) 31.vii.95 – MRH
- 430 *Y. plumbella* ([D. & S.]) – Coole (**H15**) 4.viii.96 – KGMB
- 431 *Y. sedella* (Treits.) – Fineshade (**32**) 27–31.vii.95 – RIS per DVM
- 435 *Zelleria hepariella* Staint. – Shrewsbury (**40**) one at m.v. 17.viii.96 – JRL, *Ent. Gaz.* **48**: 110
- 438 *Swammerdamia pyrella* (Vill.) – Cleugh SSSI (**73**) one larva on *Crataegus* 22.vi.96 – SEM
- 442 *Cedestis gysseleniella* Zell. – Spinningdale, Bonar Bridge (107) 4.vii.96 – P. Entwhistle per MRY
- 443 *C. subfasciella* (Steph.) – Croft Pascoe Forest (**1**) 7.vi.96 – RJH
- 449 *Prays fraxinella* (Bjerk.) – Elveden (**26**) one at m.v. 17.ix.96 – JRL & PHS
- 450 *Scythropia crataegella* (Linn.) – A second generation in Yorkshire (63) – HEB *Ent.Rec.* **109**: 126
- 458 *Ypsolopha alpella* ([D. & S.]) – Jones's Covert (**31**) 1.ix.96 – BD
- 461 *Y. ustella* (Clerck) – Rogart (**107**) 24.ix.96 – P. Entwhistle per MRY; Loch Ken (**73**) 24.vii.96 – KGMB
- 463 *Y. vittella* (Linn.) – Inverness (96) 9.viii.84 – S. Moran per MRY
- 469 *Eidophasia messingiella* (F. v. R.) – Bransford (**37**) two 26.vi.96 – ANBS
- 472 *Digitivalva pulicariae* (Klim.) – Selborne (**12**) one 27.iv.96 – A.E. Aston per JRL; Puck's Bridge (H20) mines 29.vi.96 – KGMB
- 476 *Acrolepia autumnitella* Curt. – Ebernoe (**13**) a few mines with larvae on *Solanum dulcamara* 11.x.96 – JRL, AME & AMD

## EPERMENIIDAE

- 479 *Cataplectica farreni* Wals. – *Heracleum sphondylium* confirmed as food plant in Scotland – MRY, *Ent. Rec.* **109**: 57
- 481 *Epermenia falciformis* (Haw.) = *illigerella* auctt. – Gruinard, Islay (**102**) 23.vii.96 – MRY & MWH, **New to Scotland**
- 484 *E. aequidentellus* (Hofm.) – Bullock Down (**14**) two larvae mining *Seseli libanotis* 31.viii.96, moth bred – JRL & RJH

## COLEOPHORIDAE

- 490 *Coleophora lutipennella* (Zell.) – Church Norton (**13**) a few cases on *Quercus robur* 9.x.96 – JRL & AME
- 492 *C. flavipennella* (Dup.) – Church Norton (**13**) a few cases on *Quercus robur* 9.x.96 – JRL & AME
- 495 *C. spinella* (Schrank) – Kirdford (**13**) one case on *Crataegus* 13.viii.96 – JRL
- 496 *C. milvipennis* Zell. – Rewell Wood (**13**) many cases on *Betula* 9.x.96 – JRL & AME
- 511 *C. orbitella* Zell. – Kerry, Gairloch (105) 3.vii.96 – MRY
- 519 *C. deauratella* L. & Z. – Brandy Bay (**H15**) 3.viii.96 – KGMB
- 520 *C. fuscicornis* Zell. – Littley Oakley (19) 14.vi.96 – AME & JRL
- 535 *C. ibipennella* Zell. = *ardeapennella* Scott – Sandall Beat Wood, Doncaster (**63**) larval case 29.v.92, moth bred 21.vi.92; Gibbing Greave Wood, Rotherham (**63**) 19.vii.96 – HEB; Rossington (63) 20.vii.96 – R.I. Heppenstall per AME
- 552 *C. lassella* Staud. – Southsea (11) one at m.v. 4.vi.96, genitalia det. – JRL; Walberton (**13**) one 29.v.96 genitalia det. – J.T. Radford per JRL
- 553 *C. striatipennella* (Nyl.) – Hannaston Wood, Dalry (**107**) vi.96 – SEM;
- 556 *C. trochilella* (Dup.) – Ravenshill Coast, near Gatehouse (**73**) vi.96 – SEM
- 558 *C. ramosella* Zell. – Joydens Wood, Bexley (**16**) cases common on *Solidago* 28.v.96, moths bred – DO'K
- 563 *C. argentula* (Steph.) – Rossington (63) 1996 – R.I. Heppenstall per KVC
- 566 *C. sternipennella* (Zett.) – Fineshade (**32**) 9–15.vii.95 – RIS per DVM; Walberton (**13**) one 25.vii.96 genitalia det. – J.T. Radford per JRL
- 568 *C. versurella* Zell. – Compton (**13**) two at m.v. 26.vii.96, genitalia det. – JRL
- 573 *C. atriplicis* Meyr. – Church Norton (**13**) a few cases on *Atriplex* (*Halimione*) *portulacoides* 9.x.96 – JRL & AME; Cases in stems of *Aster tripolium* – RJH, *Ent. Gaz.* **48**: 106
- 574 *C. deviella* Zell. – Hayling Island (**11**) several cases on *Suaeda maritima* 11.ix.96 – JRL & AMD, *Ent. Gaz.* **48**: 1
- 574a *C. aestuariella* Bradley – Hayling Island (**11**) many cases on *Suaeda maritima* 11.ix.96 – JRL & AMD, *Ent. Gaz.* **48**: 1
- 583 *C. tamesis* Waters – Fineshade (**32**) 7–10.vii.95 – RIS per DVM
- 584 *C. alticolella* Zell. – Friarstown (**H13**) cases 17.i.96 – KGMB
- 586 *C. adjunctella* Hodgk. – Saltfleetby NNR (**54**) swept 1.vii.84 – HEB
- 587 *C. caespititiella* Zell. – Islandmore (**H15**) 22.vi.96 – KGMB.
- 588 *C. salicorniae* Hein. & Wocke – South Kensington (**21**) 31.vii.95 – MRH
- 589 *C. clypeiferella* Hofm. – Walberton (**13**) one 16.viii.96 – J.T. Radford per JRL

## ELACHISTIDAE

- 594 *Elachista gleichenella* (Fabr.) – Mt Desert Wood (**H4**) mines in *Luzula sylvatica* 5.iii.96 – KGMB

- 598 *E. kilmunella* Staint. – Spinningdale, Bonar Bridge (**107**) 4.viii.96 – P. Entwistle per MRY
- 601 *E. albifrontella* (Hüb.) – Gruinard, Islay (**102**) 25.vi.96 – MRY & MWH
- 606 *E. humilis* Zell. – Hannaston Wood, Dalry (**73**) a few vacated mines on *Deschampsia cespitosa* 22.vi.96 – SEM
- 609 *E. monosemiella* Rössl. = *cerusella* (Hüb.) – Kenmure Holms, Dalry (**73**) vi.96 – SEM; Hawkhill turlough (**H15**), 14.viii.96 – KGMB
- 630 *E. albidella* Nyl. – Lough Bunny (**H9**), 3.viii.96 – KGMB
- 632 *Cosmiotes consortella* (Staint.) – Fineshade (**32**) 13-19.viii.95 – RIS per DVM

## OECOPHORIDAE

- 638a *Denisia albimaculea* (Haw.) – South Kensington (21) common in NHM gardens vi.96 – MRH & MSP, *BJENH*
- 646 *Telechrysis tripuncta* (Haw.) – Steeple Ashton (8) 11.vi.96 – E.G. & M.H. Smith, *BJENH*
- 647 *Hofmannophila pseudospretella* (Staint.) – Coul Links, Dornoch (**107**) 19.viii.96 – MRY
- 649 *Esperia sulphurella* (Fabr.) – Peterswell (**H15**), 13.vi.96 – KGMB
- 654 *Pleurota bicostella* (Clerck) – Carsegowan Moss, Wigtown (**74**) vi.96 – SEM
- 656 *Tachystola acroxantha* (Meyr.) – South Kensington (**21**) several in NHM gardens 5.vi-21.x.96 – MRH & MSP, *BJENH*; Flixton (**59**) 17.x.96 – K. McCabe per SHH
- 670 *Depressaria daucella* ([D. & S.]) – Tacumshin Lake (**H12**) larvae 7.vi.96 – KGMB
- 671 *D. ultimella* Staint. – Selborne (**12**) one 24.x.96, genitalia det. – A.E. Aston per JRL
- 674 *D. badiella* (Hüb.) – Lough Cutra (**H15**) 30.viii.96 – KGMB
- 702 *Agonopterix assimilella* (Treits.) – Ballyedmonduff (H21) bred from *Sarothamnus* vi.96 – KGMB
- 704 *A. scopariella* (Hein.) – Spinningdale, Dornoch (**107**) 5.x.96 – P. Entwistle per MRY
- 709 *A. liturosa* (Haw.) – St Cyrus NNR (**91**) many larvae on *Hypericum hirsutum*, moths bred – JRL
- 715 *A. capreolella* (Zell.) – Frenchpark (H15), 15.v.96 – KGMB

## ETHMIIDAE

- 717 *Ethmia terminella* Flet. – Birling Gap (14) larvae on *Echium* 31.viii.96 – RJH & JRL
- 719 *E. quadrillella* (Goeze) = *funerella* (Fabr.) – Holywell (**14**) 13.vii.96 – MSP
- 720 *E. bipunctella* (Fabr.) – Freshwater (**10**) 21.viii.96 – S.A. Knill-Jones, *Ent. Gaz.* **48**: 108; Wheatacre (**27**) 19.viii.96 – R. Harvey per D.H. Hipperson
- 722 *E. pyrausta* (Pallas) – Glas Maol, Angus (90) 14-17.vi.96 – R. Smith and MRY, **first record since 1853** – *Ent. Gaz.* **48**: 85-87; history of the species – K. Sattler, *Ent. Gaz.* **48**: 89-92

## STATHMOPODINAE

- 877 *Stathmopoda pedella* (Linn.) – Petts Wood (16) three at m.v. 13-22.vii.96 – DO'K

## GELECHIIDAE

- 732 *Eulamprotes unicolorella* (Dup.) – Frenchpark (H15), 21.vi.96 – KGMB
- 734 *Argolamprotes micella* ([D. & S.]) – Weymouth (9) 14.vii.96 – PHS
- 735 *Monochroa tenebrella* (Hüb.) – Lowes Lochs (73) a few 23.vi.96 – SEM
- 740 *M. hornigi* (Staud.) – Wroughton (8) 27.vii.96 – D. Brotheridge, *BJENH*; Thursley Common (17) one at m.v. 7.vi.96 – JRL & RMP; Cockayne Hatley (30) seven vii.-viii.96 – RIS per DVM
- 741 *M. suffusella* (Dougl.) – Studland (9) larva in *Eriophorum angustifolium* 2.v.96, moth bred 12.vi.96 – PHS; Fineshade (32) 17-18.vii.95 – RIS per DVM
- 742 *M. lutulentella* (Zell.) – Newtown turloughs (H15) one, 12.vi.96; Garryland turlough (H15) 10.vii.96 – KGMB
- 748 *Ptocheuusa paupella* (Zell.) – South Kensington (21) 16.viii.95 – MRH
- 755 *Stenolechia gemmella* (Linn.) – Fineshade (32) 21-22.vii.95 – RIS per DVM
- 768 *Teleiodes notatella* (Hüb.) – Inverness (96) 27.vii.84 – S. Moran per MRY; Gruinard Marsh, Islay (102) 25.vii.96 – MRY & MWH
- 772 *T. fugitivella* (Zell.) – Castle Ashby (32) 5.viii.96 – DVM
- 778 *Bryotropha umbrosella* (Zell.) – Findhorn Dunes (95) 18.vi.83 – S. Moran per MRY
- 779 *B. affinis* (Haw.) – Inverness (96) 21.vii.96 – KGMB, male gen. det.
- 783 *B. boreella* (Dougl.) – Gruinard, Islay (102) 25.vii.96 – MRY & MWH
- 792 *Mirificarma mulinella* (Zell.) – Coul Links, Dornoch (107) 19.viii.96 – MRY
- 801a *Gelechia senticetella* Staud. – Gravesend (16) 27.vii.96 – DJLA; Saffron Walden (19) 25.viii.96 – AME; Ampfield (11) 31.vii.96 – PHS
- 807 *G. turpella* ([D. & S.]) – Petts Wood (16) several on trunk of *Salix fragilis* 2.viii.96 – DO'K
- 813 *Scrobipalpa salinella* (Zell.) – Pupae in stems of *Aster tripolium* – RJH, *Ent..Gaz.* 48: 106
- 827 *Caryocolum alsinella* (Zell.) – Cahergrillaun, Burren (H9) larvae in seed capsules of *Minuartia verna* 2.vi.96, moths bred 2-10.vii.96 – DO'K
- 831 *C. proxima* (Haw.) – Farnborough (12) one at m.v. 19.viii.96, genitalia det. – R.W. Parfitt per JRL
- 832a *C. blandelloides* Karsholt – Coul Links, Dornoch (107) 19.vii.96 – MRY
- 833 *C. junctella* (Dougl.) – Migdale Woods, Bonar Bridge (107) 25.iii.96 – MRY & P. Entwistle
- 834 *C. tricolorella* (Haw.) – Wath Wood, Rotherham (63) at light 9.viii.96, first v.c. 63 record for over 100 years – HEB
- 836 *C. kroesmanniella* (H.-S.) – Scarborough (62) larvae on *Stellaria holostea* 23.v.96, moths bred 26.vi - 11.vii.96 – M.R. Britton, *BJENH*

- 844 *Syncopacma larseniella* (Gozm.) – Selborne (**12**) one vii.96, genitalia det. – A.E. Aston per JRL; Yardley Chase (**32**) 20.vii.96 several at m.v. – DVM
- 845 *S. sangiella* (Staint.) – Coul Links, Dornoch (**107**) 19.viii.96 – MRY
- 869 *Helcystogramma lutatella* (H.–S.) – Gad Cliff (9) larva in tube on *Brachypodium sylvaticum* 6.vii.96, moth bred 31.vii.96 – PHS
- 870 *Oegoconia quadripuncta* (Haw.) – Bluntisham (**31**) 17.viii.96 – BD; Kingsthorpe (**32**) 14.vii.96 – P.D. Sharpe per DVM

## BLASTOBASIDAE

- 873 *Blastobasis lignea* Wals. – Golspie (107) 24.vii.76; Inverness (**96**) 2.viii.84 – S. Moran per MRY
- 874 *B. decolorella* (Woll.) – Kerry, Gairloch (**105**) 3.vii.96 – MRY

## MOMPHIDAE

- 885 *Mompha conturbatella* (Hübner.) – Seafield, Inverness (**96**) 21.vii.85 – S. Moran per MRY
- 889 *M. divisella* H.–S. – Breage (1) three galls on *Epilobium montanum* 10.viii.96, moths bred 3.ix.96 – PHS
- 890 *M. subdivisella* Bradley – Petts Wood (16) larvae in stems of *Epilobium hirsutum* viii.96, moths bred ix.96 – DO'K; Elveden (**26**) one by day 17.ix.96 – JRL, AME & PHS
- 892 *M. subbistrigella* (Haw.) – Blackford, Edinburgh (**83**) 6.vi.96, second Scottish record – KPB, *BJENH*

## COSMOPTERIGIDAE

- 896 *Cosmopterix orichalcea* Staint. – Longleat (8) several 22.v.96 in coniferous woodland – E.G. & M.H. Smith, *BJENH*
- 896a *C. scribaiella* Zell. – Owermoigne (**9**) bred from larvae in *Phragmites australis*, found 11.x.96 – PHS, *Ent. Gaz.* **48**: 205-207 **New to Britain**
- 903 *Chrysoclista linneella* (Clerck) – Clumber Park (56) 22.vi.96 – Annette Binding per KVC
- 906 *Blastodacna atra* (Haw.) – Farnborough (**12**) singletons 21.vii. & 4.viii.96 – R.W. Parfitt per JRL

## SCYTHRIDIDAE

- 915 *Scythris picaepennis* (Haw.) – Arthur's Seat, Edinburgh (83) 15.vi.96 – KPB, *BJENH*
- 917 *S. empetrella* K. & N. – Studland (9) larvae in tubes in sand under *Calluna/Erica* 2.v.96, moths bred 14.vi.96, first record for many years – PHS
- 918 *S. limbella* (Fabr.) – Gravesend (**16**) 7.vi.96 – DJLA

## TORTRICIDAE

- 926 *Phalonidia manniana* (F. v. R.) – Dalcroy Marsh (88) 19.vi.96 – KPB, *BJENH*
- 930 *Gynnidomorpha alismana* (Rag.) – Raveley Wood (31) 4.viii.96 – BD

- 931 *G. luridana* (Gregs.) – Larva feeding on *Odontites verna*, with description of larva – RJH & PHS, *Ent. Gaz.* **48**: 125-126
- 932 *Phalonidia affinitana* (Dougl.) – Whitestown (**H12**) 6.vi.96 – KGMB
- 936 *Cochylimorpha straminea* (Haw.) – Gruinard, Islay (**102**) 23.vii.96 – MRY & MWH
- 937 *Agapeta hamana* (Linn.) – Gruinard, Islay (**102**) 23.vii.96 – MRY & MWH
- 947 *Aethes smeathmanniana* (Fabr.) – Cornhill, Banff (**94**) 1996 – RL per MRY
- 952 *Commophila aeneana* (Hüb.) – Commonswood, Welwyn Garden City (**20**) 26.vi.96 – R.W.J. Uffen, *BJENH*; Shoreham (16) five swept 18.vi.96 – DO'K
- 956 *Cochylidia implicitana* (Wocke) – Westbourne (**13**) one 19.viii.96 – JRL; Fineshade (**32**) 24-27.vii.95 – RIS per DVM
- 960 *Falseuncaria ruficiliana* (Haw.) – Hannaston Wood, Dalry (**73**) one 22.vi.96 – SEM
- 963 *Cochylis flaviciliana* (Westw.) – Killeenaran (**H15**) 3.viii.96 – KGMB
- 964a *C. molliculana* Zell. – Selborne (**12**) one at m.v. 22.viii.96 – A.E. Aston per JRL
- 968 *C. nana* (Haw.) – Kirkconnel Flow NNR (**72**) one 23.vi.96 – SEM
- 969 *Pandemis corylana* (Fabr.) – Lough Cutra (**H15**) 13.viii.96 – KGMB
- 971 *P. cinnamomeana* (Treits.) – Castlehill (**72**) 4.vii.76, Newlands (72) viii.77 – A.B. Duncan; Dalry (**73**) 24.vii.88 – J. Mackay, *Ent. Rec.* **110**: 35
- 977 *Archips podana* (Scop.) – Frenchpark (**H15**) 9.vii.96 – KGMB
- 991 *Clepsis senecionana* (Hüb.) – Lowes Lochs (**73**) vi.96 – SEM
- 998 *Epiphyas postvittana* (Walk.) – Elveden (**26**) two at m.v. 16.ix.96 – JRL & PHS; Ballinger (24) 12.xi.96 – P.Hall per MVA; Flixton (59) 17.x.96 – K. McCabe per SHH
- 1006 *Epagoge grotiana* (Fabr.) – Frenchpark (**H15**) 9.vii.96 – KGMB
- 1007 *Capua vulgana* (Fröl.) – Hannaston Wood, Dalry (**73**) one 21.vi.96 – SEM
- 1008 *Philedone gerningana* ([D. & S.]) – Roo turlough (H9) 29.viii.96 – KGMB
- 1011 *Pseudargyrotoza conwagana* (Fabr.) – Golspie (**107**) 24.vii.76 – A. Joyce per MRY; Cleugh SSSI (73) one 22.vi.96 – SEM
- 1012 *Sparganothis pilleriana* ([D.&S.]) – Wroughton (**8**) 8.viii.96 – D. Brotheridge, *BJENH*
- 1020 *Cnephasia stephensiana* (Doubl.) – Coul Links, Dornoch (**107**) 19.viii.96 – MRY
- 1021 *C. asseclana* ([D. & S.]) – Rosemarkie, Black Isle (**106**) 31.viii.96 – P. Entwhistle per MRY; Gruinard, Islay (**102**) 23.vii.96 – MRY & MWH
- 1023 *C. genitalana* P. & M. – Raveley Wood (**31**) 15.viii.95 – BD; Cockayne Hatley (**30**) viii.96 – RIS per DVM
- 1031 *Eana penziana* (Thunb.) ssp. *colquhounana* (Barr.) – Frenchpark (**H15**) 9.vii.96 – KGMB
- 1032 *Aleimma loeflingiana* (Linn.) – Loch Ken (73) 24.vii.96 – KGMB
- 1033 *Tortrix viridana* (Linn.) – Seafield, Inverness (**96**) 21.vii.85 – S. Moran per MRY

- 1035 *Acleris bergmanniana* (Linn.) – Coul Links, Dornoch (**107**) 19.viii.96 – MRY
- 1038 *A. laterana* (Fabr.) – Gruinard, Islay (**102**) bred ix.96 – MRY & MWH
- 1041 *A. sparsana* ([D. & S.]) – Caledonian Canal, Loch Ness (**96**) 22.vi.86 – S. Moran per MRY
- 1042 *A. rhombana* ([D. & S.]) – Spinningdale, Dornoch (**107**) 5.x.96 – P. Entwistle per MRY
- 1068 *Celypha rivulana* (Scop.) – Ardmore, Islay (**102**) 23.vii.96 – MRY & MWH
- 1070 *Stictea mygindiana* ([D. & S.]) – Frenchpark (**H15**) 15.v.96 – KGMB
- 1074 *Phiaris palustrana* (L. & Z.) – Coul Links, Dornoch (**107**) 19.viii.96 – MRY
- 1079 *Piniphila bifasciana* (Haw.) – Spinningdale, Bonar Bridge (**107**) 6.vii.96 – P. Entwistle per MRY; Cornhill, Banff (**94**) vii.96 – RL per MRY
- 1080 *Olethreutes arcuella* (Clerck) – Glen Moriston (**96**) 29.vi.96 – KPB, *BJENH*
- 1089 *Apotomis semifasciana* (Haw.) – Gruinard, Islay (**102**) 25.vii.96 – MRY & MWH; Cornhill, Banff (**94**) vii.96 – RL per MRY; Lough Cutra (**H15**) 13.viii.96 – KGMB
- 1092 *A. turbidana* (Hübner) – Ledmore Wood, Spinningdale, Dornoch (**107**) 18.vii.96 – P. Entwistle per MRY; Garryland turlough (**H15**) 10.vii.96 – KGMB
- 1093 *A. betuletana* (Haw.) – Lough Cutra (**H15**) 5. & 30.viii.96 – KGMB
- 1098 *Endothenia oblongana* (Haw.) – see below
- 1099 *E. marginana* (Haw.) – Female genitalia illustrated by Pierce & Metcalfe as *sellana* are *oblongana*, female genitalia illustrated as *oblongana* are *marginana*, male genitalia illustrated as *sellana* are *marginana* – RJH, *Ent. Gaz.* **48**:219 – 220
- 1101 *E. ustulana* (Haw.) – Trottscliffe (16) several 25.v.91, 23.vi.94 – DO'K
- 1103 *E. ericetana* (H. & W.) – Fineshade (**32**) 12-13.vii.95; Cockayne Hatley (**30**) ix.96 – RIS per DVM
- 1104 *E. quadrimaculana* (Haw.) – Salcey Forest (**32**) 5.viii.96 – P.D. Sharpe per DVM
- 1110 *Bactra furfurana* (Haw.) – Gruinard, Islay (**102**) 25.vii.96 – MRY & MWH; Ballinduff turlough (**H15**) 4.vii.96 – KGMB
- 1110aB. *lacteana* Caradja – Trowlesworthy Warren (**3**) two 14.vii.96 – RJH, **New to Britain**
- 1126 *Ancylis badiana* ([D. & S.]) – Galway (**H17**) 16.vi.96 – KGMB
- 1135 *Epinothia demarniana* (F. v. R.) – Skipwith Common (**61**) 23 & 25.vi.96 – M.R. Britton, *BJENH*
- 1137 *E. tetraquetra* (Haw.) – Hannaston Wood, Dalry (**73**) one 22.vi.96 – SEM
- 1138 *E. nisella* (Clerck) – Coole (**H15**) 4.viii.96 – KGMB
- 1139 *E. tenerana* ([D. & S.]) – Frenchpark (**H15**) 9.vii.96 – KGMB
- 1141 *E. nemorivaga* (Tengst.) – Frenchpark (**H15**) imago, 15.v.96; vacated mines on *Arctostaphylos*, 30.x.96 – KGMB

- 1146 *E. rubiginosana* (H.-S.) – Youghal (**H5**) 29.vi.95 – KGMB, *Ent. Gaz.* **48**: 230, first confirmed Irish record
- 1147 *E. cruciana* (Linn.) – Coul Links, Dornoch (**107**) 19.viii.96 – MRY
- 1152 *E. maculana* (Fabr.) – Yardley Chase (**32**) 7.x.96 – DVM; Petts Wood (16) singletons at m.v. 14.x.95, 9.ix.96, Joydens Wood (16) two 24.ix.94 – DO'K
- 1154 *E. caprana* (Fabr.) – Cleugh Meadows, Dalry (**73**) vi.96 – SEM
- 1157 *Crociosema plebejana* Zell. – Cockayne Hatley (**30**) viii.96 – RIS per DVM
- 1158 *Rhopobota ustomaculana* (Curt.) – Glen Leitire, Beinn Eithe (**105**) 3.viii.86 – S. Moran per MRY
- 1163 *Zeiraphera ratzeburgiana* (Sax.) – Lough Cutra (**H15**) 13.viii.96 – KGMB
- 1165 *Z. isertana* (Fabr.) – Inverness (**96**) 15.ix.84 – S. Moran per MRY; Ledmore Woods, W. Sutherland (**108**) 20.vii.96 – P. Entwhistle per MRY
- 1168 *Gypsonoma sociana* (Haw.) – Gruinard, Islay (**102**) 25.vii.96 – MRY & MWH
- 1176 *Notocelia trimaculana* (Haw.) – Frenchpark (**H15**), 9.vii.96 – KGMB
- 1181 *Epiblema grandaevana* (L. & Z.) – Spurn (61) 7.vi.96 – B.R. Spence per HEB
- 1184 *E. scutulana* ([D. & S.]) – Hannaston Wood, Dalry (**73**) several 22-23.vi.96 – SEM
- 1184a *E. cirsiiana* (Zell.) – Kingsthorpe (**32**) 1.vi.96 – P.D. Sharpe per DVM
- 1192 *Eucosma conterminana* (H.-S.) – Hampstead (**21**) 27.vii.96 – RAS
- 1197 *E. campoliliana* ([D. & S.]) – Gruinard, Islay (**102**) 23.vii.96 – MRY & MWH
- 1205a *Spilonota laricana* (Hein.) – Yardley Chase (**32**) 25.vi.96 – DVM
- 1207 *Clavigesta purdeyi* (Durr.) – Shrewsbury (**40**) a few at m.v. 16-17.viii.96 – JRL, *Ent. Gaz.* **48**: 110
- 1208 *Blastesthia posticana* (Zett.) – Horn Wood (**32**) 7.vi.96 – DVM
- 1214 *Retinia resinella* (Linn.) – Carsegowan Moss (**74**) vi.96 – SEM
- 1219 *Lathronympha strigana* (Fabr.) – Dalgig (**75**), 24.vii.96 – KGMB
- 1221 *Strophedra weirana* (Dougl.) – Kingston (**9**) one cocoon on *Fagus* 10.x.96 – JRL & AME
- 1223 *Pammene splendidulana* (Guen.) – Ledmore Wood, Spinningdale, Dornoch (**107**) 12.vi.96 – P. Entwhistle per MRY
- 1233 *P. aurita* Razowski = *aurantiana* (Staud.) – Shrewsbury (**40**) a few at m.v. 16-17.viii.96 – JRL, *Ent. Gaz.* **48**: 110
- 1236 *P. fasciana* (Linn.) – Compton (**13**) a few 26.vii.96 – JRL
- 1238 *P. ochenheimeriana* (L. & Z.) – Newpark Waste (**3**) larva 13.iv.96 in side shoot of *Picea sitchensis*, moth bred 5.v.96 – RJH, *Ent. Gaz.* **48**: 53
- 1239 *P. rhediella* (Clerck) – Spinningdale, Bonar Bridge (**107**) 9.vi.96 – P. Entwhistle per MRY
- 1241 *Cydia compositella* (Fabr.) – Tacumshin Lake (**H12**) 7.vi.96; Galway (**H17**) 16.vi.96 – KGMB
- 1255 *C. succedana* ([D. & S.]) – Kirkconnel Flow NNR (**72**) one 23.vi.96 – SEM
- 1259 *C. fagiglandana* (Zell.) – Gibbing Greave Wood, Rotherham (**63**) several at light 9.vii.96, first confirmed Yorks. record – HEB

- 1260 *C. splendana* (Hübner) – Cornhill, Banff (**94**) vii.96 – RL per MRY
- 1262 *C. amplana* (Hübner) – Abbotskerswell (3) 17.viii.96 – B. Henwood, *BJENH*; Teignmouth (3) one at mv 7.viii.96 – R.F. McCormick; Plympton (3) four at m.v. 18–20.viii.96 – RJH; Portland Bird Observatory (9) fourteen viii.96 – M. Cade per PHS, L'Ancrese, Guernsey (113) 18.viii.96 – R. Austin
- 1268 *C. coniferana* (Ratz.) – Newpark Waste, (3) larva in bark of *Picea sitchensis* 21.v.96, moth bred 7.vi.96 – RJH, *Ent. Gaz.* **48**: 53
- 1283 *Dichrorampha montanana* (Dup.) – Coul Links, Dornoch (**107**) 19.viii.96 – MRY
- 1285 *D. plumbana* (Scop.) – Galway (**H17**) 16.vi.96 – KGMB

## ALUCITIDAE

- 1288 *Alucita hexadactyla* Linn. – Spinningdale, Dornoch (**107**) viii.96 – MRY, PPRS

## PYRALIDAE

- 1289 *Euchromius ocella* (Haw.) – Greatstone (15) 10.viii.96 – B. Banson per S.P. Clancy; Plympton (3) 18.viii.96 – RJH, *BJENH*; Eswick (**111**) 17.ix.96 – T. Rogers; Lizard (1) 24.x.96 – M. Tunmore; Swanmoor (11) dead 25.xi.96 – B. Elliott per BFS
- 1292 *Calamotropha paludella* (Hübner) – Farnborough (12) one 5.viii.96 – R.W.Parfitt per JRL; Castle Ashby (**32**) 5.viii.96 – DVM
- 1293 *Chrysoteuchia culmella* (Linn.) – Glasbury Cutting (**43**) 3.vii.92 – NRL; Water of Deugh (**73**) 8.vii.95 – AMD, PPRS
- 1294 *Crambus pascuella* (Linn.) – Loch Gruinard, Islay (**102**) 22.vii.96 – MRY, PPRS
- 1297 *C. uliginosellus* Zell. – Gruinard Marsh, Islay (**102**) 25.vii.96 – MRY & MWH
- 1303 *Agriphila selasella* (Hübner) – Hempstead (**33**) 22.vii.94 – G.R. Avery, PPRS
- 1304 *A. straminella* ([D. & S.]) – Glasbury Cutting (**43**) 3.vii.92 – NRL, PPRS
- 1305 *A. tristella* ([D. & S.]) – Gruinard, Islay (**102**) 22.vii.96 – MRY, PPRS
- 1306 *A. inquinatella* ([D. & S.]) – Chesham Bois (**24**) 1996 – J. Chainey, PPRS; Frenchpark (**H15**) 9.vii.96; Loch Lomond (**99**) 23.vii.96 – KGMB
- 1307 *A. latistria* (Haw.) – Hampstead (**21**) 21.viii.96 – RAS
- 1309 *A. geniculea* (Haw.) – Montrose Basin (**90**) 7.viii.96 – BG, PPRS; Lough Cutra (H15) 13.viii.96 – KGMB
- 1314 *Catoptria margaritella* ([D. & S.]) – Rora Moss (**93**) 19.vii.96; Gruinard, Islay (**102**) 22.vii.96 – MRY, PPRS
- 1316 *C. falsella* ([D. & S.]) – Skipwith Common (61) 6.viii.96 – M.R. Britton, *BJENH*
- 1323 *Pediasia contaminella* (Hübner) – Maer LNR, Exmouth (3) 20.vii.96 – R. McCormick, *Ent. Rec.* **109**: 23
- 1325 *Platytes alpinella* (Hübner) – Lunan Bay, Angus (**90**) 7.viii.96 – BG, *Ent. Gaz.* **48**: 53, **New to Scotland**

- 1330 *Donacaula mucronellus* ([D. & S.]) – Gruinard, Islay (**102**) 25.vii.96 – MRY & MWH; Lough Cutra (**H15**) 23.vi.96 – KGMB
- 1332 *Scoparia subfusca* Haw. – Kindrogan (**89**) 5.viii.96 – BG, PPRS; Inverness (96) 21.vii.96 – KGMB
- 1333 *S. pyralella* ([D. & S.]) – Kindrogan (**89**) 5.viii.96 – BG, PPRS
- 1335 *S. ancipitella* (La Harpe) – Coed Llyn Mair (**48**) 7.viii.96, Lledr, Dolwyddelan (**49**) 6.viii.96 – SHH, PPRS
- 1338 *Dipleurina lacustrata* (Panzer) – Frenchpark (**H15**) 9.vii.96 – KGMB
- 1336 *Eudonia pallida* (Curt.) – Feckenham Wild Moor (**37**) three 16.vi.96 – ANBS; Gruinard Marsh, Islay (102) 25.vii.96 – MRY & MWH
- 1340 *E. truncicolella* (Staint.) – Garryland (**H15**) 9.vii.96 – KGMB
- 1345 *Elophila nymphaeata* (Linn.) – Kindrogan (**89**) 4-5.viii.96 – BG, PPRS; Loch Ken (**73**) 24.vii.96 – KGMB
- 1354 *Cataclysta lemnata* (Linn.) – Burton Joyce (56) 12.viii.96 – G. Ball per KVC
- 1331 *Acentria ephemerella* ([D. & S.]) – Lough Cutra (**H15**) 13.viii.96 & 30.viii.96; Caherglassaun turlough (H15) 29.viii.96 – KGMB
- 1356a *Evergestis limbata* (Linn.) – Walberton (13) 23.vii.96 – J.T. Radford
- 1358 *E. pallidata* (Hufn.) – Dunmanway (H3) 1.viii.96; Lough Cutra (**H15**) 13.viii.96 – KGMB
- 1364 *Pyrausta sanguinalis* (Linn.) – Frenchpark (H15) 9.vii.96 – KGMB
- 1368 *Margaritia sticticalis* (Linn.) – New Romney (15) three 13–17.viii.96 – K. Redshaw per S.P. Clancy, *BJENH*; St Agnes, Isles of Scilly (1) 20.viii.96 – J. Hale; West Melton, Rotherham (63) 6.viii.96 – HEB; Lymington (11) 1996 – A.J. Pickles, *BJENH*
- 1370 *Sitochroa palealis* ([D. & S.]) – Bullock Down (14) one larva on *Seseli libanotis* 31.viii.96 – JRL & RJH; Parliament Hill Fields, Hampstead (**21**) 3.viii.96 – RAS; near Aldworth, Berkshire Downs (22) 17.viii.96 – BRB & M. Storey; Swindon (8) 14.viii.96 – D. Brotheridge, *BJENH*; Mission Training Range (**56**) 22.vii.96 – S. Wright
- 1373 *Microstega pandalis* (Hüb.) – Lough Cutra (H15) 23.vi.96 – KGMB
- 1380 *Phlyctaenia perlucidalis* (Hüb.) – Abbotskerswell (**3**) 31.vii.96 – B.P. Henwood, *BJENH*; Feckenham Wild Moor (**37**) 16.vii.96 – ANBS; South Kensington (**21**) 28.vi.95 – MRH
- 1383 *Psammotis pulveralis* (Hüb.) – Lydd (15) 23.vii.96 – K. Redshaw per S.P. Clancy, *BJENH*; Dungeness (15) 27.vii.96 – D. Walker; Greatstone (15) 30.vii.96 – B. Banson per BFS
- 1386 *Opsibotys fuscalis* ([D. & S.]) – Swangey Fen, Attleborough (**28**) 27.vi.96 – R.C. Kendrick, PPRS
- 1392 *Udea olivalis* ([D. & S.]) – Garryland turlough (**H15**) 10.vii.96 – KGMB
- 1395 *U. ferrugalis* (Hüb.) – Rhiconich (**108**) 17.viii.96 – RMP, PPRS
- 1401 *Maruca vitrata* (Fabr.) = *testulalis* (Gey.) – Petts Wood (16) 27.vii.96 – DO'K

- 1403a *Duponchelia fovealis* Zell. – Thorpe St Andrew, near Norwich (**27**) 10.ix.96 – D. Hipperson, *BJENH*, **New to Britain**
- 1415 *Orthopygia glaucinalis* (Linn.) – Hampstead (21) 8 & 13.x.96, late second brood – RAS; Llangorse (**42**) 14.viii.96 – NRL, PPRS
- 1425 *Galleria mellonella* (Linn.) – Llangorse (**42**) 19.viii.96 – NRL, PPRS
- 1428 *Aphomia sociella* (Linn.) – Cornhill, Banff (**94**) vii.96 – RL per MRY
- 1433 *Cryptoblabes bistriga* (Haw.) – Lightfoot Green (**60**) 13.vii.96 – SMP, PPRS
- 1449 *Elegia similella* (Zinck.) – Parkhurst Forest (10) 9.vi.96 – P. Cramp, B. Warne & S. Colenutt – S.A. Knill-Jones, *Ent. Gaz.* **48**: 107
- 1451 *Pyla fusca* (Haw.) – Lightfoot Green (**60**) 22.vii. & 13.viii.96 – SMP, PPRS
- 1451a *Etiella zinckenella* (Treits.) – St Agnes, Isles of Scilly (**1**) 20.vii.96 – J.Hale & M. Hicks
- 1441 *Oncocera semirubella* (Scop.) – Brockenhurst (11) 29.vii.96 – J. Chainey, PPRS
- 1443 *Pempelia genistella* (Dup.) – Little Oakley (**19**) many larvae on *Ulex* 14.vi.96, moths bred 18-26.vii.96 – JRL & AME; Landguard Bird Observatory, Felixstowe (**25**) 4 & 15.viii.96 – N. Odin, PPRS
- 1447 *Sciota hostilis* (Steph.) – New Romney (15) 7.vi.96 – K. Redshaw per S.P. Clancy, *BJENH*
- 1447aS. *adelphella* (F. v. R.) – St Osyth (**19**) 14.vii. & 9.viii.96 – R.W. Arthur, PPRS
- 1454 *Dioryctria abietella* ([D. & S.]) – Cors Bodgynydd (**49**) 13.vii.96 – AMD; Kindrogan (**89**) 3.viii.96 – BG, PPRS
- 1454aD. *schuetzeella* Fuchs – Paxton Pits (31) 16.viii.96; Great Staughton (31) 12.vii.96 – BD; Ampfield (11) 31.vii.96 – PHS; Olney (**24**) 15.vii.88 – G.E. Higgs, PPRS
- 1455 *D. simplicella* Hein. = *mutatella* Fuchs – Elveden (**26**) several at m.v. 16-17.ix.96 – JRL & PHS
- 1462 *Pempeliella dilutella* ([D. & S.]) – Frenchpark (H15) 9.vii.96 – KGMB
- 1458 *Myelois circumvoluta* (Fourc.) = *cribrella* (Hüb.) – Lightfoot Green (**60**) 19.vii.96 – SMP, PPRS; Fair Isle (**112**) 2.vi.92 – N.J. & E. Riddiford, **new to Scotland**
- 1461 *Assara terebrella* (Zinck.) – Saffron Walden (19) 18.vii.95 & 8.viii.96 – AME
- 1435 *Conobathra tumidana* (D. & S.) – Twenty records from east Kent (15) – S.P. Clancy, *Ent. Rec.* **109**: 133
- 1439 *Trachycera advenella* (Zinck.) – Lough Cutra (**H15**) 30.viii.96 – KGMB
- 1465 *Nephoterix angustella* (Hüb.) – St Agnes, Isles of Scilly (1) 10 & 13.ix.96 – J. Hale
- 1467 *Ancylosis oblitella* (Zell.) – Spurn (**61**) 29.vii.96 – B.R. Spence per HEB; Dawlish Warren (3) 19.vii.96, Axmouth Saltings (3) 4.viii.96 – R. McCormick, *Ent. Rec.* **109**: 23
- 1475 *Ephestia kuehniella* Zell. – Coul Links, Dornoch (**107**) 19.viii.96 – MRY; Waterford (**H6**) dead imagines, i.96 – KGMB

- 1481 *Homoeosoma sinuella* (Fabr.) – Penmon (**52**) 14.vii.96 – SHH, PPRS  
 1483 *Phycitodes binaevella* (Hüb.) – Frenchpark (**H15**) 9.vii.96 – KGMB  
 1484 *P. saxicola* (Vaugh.) – Linkim Shore (**81**) larva on *Tripleurospermum maritimum* 22.viii.95 moth bred – KPB, BJENH  
 1485 *P. maritima* (Tengst.) – Kingsthorpe (**32**) 9.vi.96 – P.D. Sharpe per DVM  
 1486 *Apomyelois bistratella* (Hulst) ssp. *neophanes* (Durr.) – St Agnes, Isles of Scilly (1) 5.ix.96 – J. Hale; Skipwith Common (**61**) 3.ix.96 – HEB, *Ent. Rec.* **109**: 212–213

#### PTEROPHORIDAE

- 1496 *Cnaemidophorus rhododactyla* ([D. & S.]) – Holywell, Eastbourne (14) reared from larva 15.vi.96 – MSP  
 1502 *Platyptilia isodactylus* (Zell.) – Ashmoor Common (**37**) larvae in stems of *Senecio aquaticus* 21.vii.96, moths bred 7-12.viii.96 – ANBS; Lough Cutra (**H15**) 22 & 23.vi.96 – KGMB  
 1506 *Stenoptilia millieridactyla* (Bruand) = *saxifragae* Fletch. – Bearsden (**99**) larva 30.v.96; Strathbane (**86**) larvae 29.v.96; Kirkby Lonsdale (**69**) larvae 4.vi.96, all on *Saxifraga hypnoides* – CH; Dalby Forest (**62**) 27.vi.96 – HEB  
 1509 *S. pterodactyla* (Linn.) – Hunting Hill (**106**) 22.vii.96 – KGMB  
 1511 *Merrifieldia tridactyla* (Linn.) = *fuscolimbatu*s (Dup.) – Frenchpark (**H15**) 9.vii.96 – KGMB  
 1512 *M. baliodactylus* (Zell.) – Ford (**7**) 3.vii.95 – E.G. & M.H. Smith, BJENH  
 1519 *Euleioptilus carphodactyla* (Hüb.) – Ford (**7**) 21.vi.94 – E.G. & M.H. Smith, BJENH

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#### *Pieris napi* L. and *P. rapae* L. (Lep.: Pieridae): *Cardamine hirsuta* as a basic larval foodplant in north-west Kent

A considerable growth of hairy bitter cress *Cardamine hirsuta* flourished in parts of my garden during July and August 1997, providing a fresh salad vegetable, I was tardy in removing it. For much of July, *P. napi* females were observed attending the plants for egg-laying, along with the occasional *P. rapae*. In mid-August some clearance took place and several well-grown larvae including both species, but mainly *P. napi*, were shaken from it. In this context this plant is not mentioned by Chalmers-Hunt (1960. *Butterflies and Moths of Kent*), L. and K. Evans (1973. *A Survey of the Macro-lepidoptera of Croydon and N.E. Surrey*) or Plant (1987. *Butterflies of the London Area*).

*C. hirsuta* was hardly in evidence when the vernal generation of butterflies was flying, but then females were observed egg-laying on lady's smock *C. pratensis* on the somewhat neglected lawn in an adjacent garden; this plant was introduced some thirty years ago when the lawn was laid with turves from the Weald. However, in general this plant is absent or rare in north-west Kent. Philip (1982. *Atlas of the Kent Flora*) and Burton (1983. *Flora of the London Area*) mark it as absent from my

tetrad and a number of others. *C. pratensis* is considered the main larval foodplant of *P. napi* in Hampshire by Goater (1974. *Butterflies and Moths of Hampshire and the Isle of Wight*) and particularly the first generation in Scotland by Thomson (1980. *The Butterflies of Scotland*). My observations suggest that this plant is the main larval foodplant of the vernal generation of *P. napi* in Co. Clare, Ireland.

Despite *P. napi* being a common butterfly in Kent and the London area, records of its larva being observed are sparse and most of those are given without reference to date, which is important because foodplant preferences may change with time. Not uncommonly there are preferences of a local or geographical nature, sometimes due to the absence of a plant but frequently not so; in the case of bivoltine species there may be different preferences for the generations, and there seems to be some evidence that this is so with *P. napi*. In many parts of the British Isles *C. pratensis* may well be the favourite, or one of the main, larval foodplants for the vernal generation, but I have not found larvae of the later brood upon it; nor records from other sources. On the other hand I have found the second brood larvae to be associated with *C. hirsuta* and *Rorippa sylvestris*, though not the first generation, in north-west Kent; again I can find no such specific observations from other sources. In Kent and the London area especially information on this subject would be most welcome because the relevant recorders accept that larval foodplants should be reported, and to include date and locality.— B.K. WEST, 36 Briar Road, Dartford, Kent DA5 2HN.

### **Thanatosis in *Inachis io* (L.) (Nymphalidae)**

In July 1983, on a visit to Bentley Wood and Blackmoor Copse near Salisbury, it was discovered that *Gonepteryx rhamni* (L.) (Pieridae) could be picked off flowers on which they were feeding and placed on an open hand like a wafer, where they would remain inert often for several minutes. Picking them off flowers was most easily accomplished by a gentle pincer movement of the index finger and third digit. Almost invariably, the butterfly responded by becoming rigid with its legs tucked up under its body, as illustrated in Dennis (1984. *Entomologist's Gazette*, **35**: 6-7). Similar experiments on *Inachis io*, carried out at the same time, were unsuccessful. Although, initially, they responded in the same way, they burst into flight when released on the hand.

During early August 1997, this simple experiment was repeated with *I. io* feeding on garden *buddleia*. Of 23 individuals picked off flowers while feeding, 17 became immobile on the palm (74%), whereas six burst into flight immediately on release. All but five of the individuals undergoing thanatosis were encouraged back to activity after five to ten seconds by raising the wing tip. Five were taken into the shade to return to activity in their own time; respectively, these took 1.30 mins; 2.35 mins; 8.15 mins; 6.20 mins and 5.05 mins to recover. On leaving, they rapidly attained an upright position, opened their wings, alternatively spreading and closing them as they walked about and casually flew off to settle on nearby bushes or the *buddleia* before recommencing to feed. Shade temperatures were very high during this period and no attempt was made to bask before flight. In late August and early

September, the experiment was repeated on *Aglais urticae* (L.) (Nymphalidae). Only seven of the 21 individuals (33.3%) responded by remaining stationary, the remainder bursting into flight on release.

It is interesting that the outcome of this experiment in *I. io* in 1997 differed from that in 1983. It is also puzzling why *I. io* and *A. urticae* did not behave in much the same way. Underlying these observations is the question why individuals of each species should respond differently. One possible reason may be variation in the position and pressure placed across the wings. It was discovered that greater pressure applied closer to the wing base encouraged initially unresponsive individuals to become inert. Differences in response between 1983 and 1997 may also relate to nectaring activity and nectaring time. Resident Nymphalids (i.e., *I. io*, *A. urticae*, *Polygonia c-album* (L.)) feed up in late summer and hibernate in the same manner as *G. rhamni*. They can be particularly engrossed in nectaring and vulnerable to predation prior to hibernation, as indicated by damage (beak marks) on the wings of both *I. io* and *A. urticae* during August and September 1997. Thus, they are more easily approached and caught in the way described above than are Pieridae such as *P. brassicae*, *P. rapae* and *P. napi*. However, some individuals were clearly more active and wary than others. An interesting experiment would be to compare the responses of first and second brood individuals, where these occur, as these two groups invest different amounts of time in feeding.

Thanatosis is likely to extend to all species that hibernate as adults and have cryptic ventral wing surfaces; it is also more likely to be found in species which are lateral baskers and are robust. The closed ventral wing surfaces in *G. rhamni* and *I. io* are both leaf mimics. They differ in that *I. io* is basically a dorsal absorbance basker, but it can also undoubtedly engage in lateral absorbance basking. It would be interesting to test this behaviour in butterflies that have different combinations of these attributes, within and between different higher taxa. For instance, among Pieridae, it would be interesting to compare *G. rhamni* with *Colias croceus* (Geoffroy) (Pieridae), whose wing undersurface is cryptic and which is a lateral basker, but which does not overwinter as an adult.— R.L.H. DENNIS, 4 Fairfax Drive, Wilmslow, Cheshire SK9 6EY.

### Butterfly Hunting in the Rhinns of Galloway

Having been tied to east Fife by the lure of butterfly transects for most of the past 20 years I have spent little time in the west of Scotland in summer – that mythical land of Chequered Skippers, Marsh Fritillaries and Wall, where Large Skippers, Speckled Wood and Scotch Argus abound and Peacocks are plentiful.

On 3 July I had to pick up a friend from Prestwick and put them on the Belfast ferry the next day from Stranraer. The day started sunny so rather than rush home I decided to visit the Rhinns of Galloway before driving eastwards. It soon clouded over, not even whites were flying, it was not the most promising of days. I headed north towards Corsewall Point and took a track down towards the rocky coast where the OS map shows St Columba's Well. A number of small burns cross the route along the coast towards the lighthouse and the vegetation consists of small marshes

with abundant bog asphodel interposed with rock outcrops bearing thrift and English stonecrop.

Eventually the sun broke through and I was rewarded by finding Meadow Brown and Ringlet, the latter a new 10 km record, both in small numbers. After diligently searching all the marsh thistle heads I located two Large Skippers, my first in Scotland, and another new 10 km record. Common Blues were the most abundant species on the wing. Surprisingly there were no Green-veined Whites about, so I guess I my visit coincided with the dip between broods.

There was no chance to record as I drove south towards Portpatrick as it became completely overcast again. Another bright spell tempted me along the cliffs towards Dunskey Castle and back via the old railway line. This yielded Grayling and a single Dark-green Fritillary, as well as more Meadow Browns and Common Blues in the calcareous rich clifftop grassland. At the castle I chased what looked like a Northern Brown Argus over the cliff and failed to find another. However I have since learnt that this is a well known spot for this species.

Having decided to visit the Mull of Galloway before heading home I was distracted by a road sign for Kirkmadrine. A double tree line, no more than a couple of hundred yards long, leads to this small chapel which has a display of early Christian stones. On my way back to the car I was delighted to see a my first Scottish Speckled Wood flying up and down the avenue. Having subsequently seen Speckled Wood in several parts of Argyll, and knowing this species to be quite common on the west coast the significance of this sighting did not register until I recently consulted the 1984 Atlas. Barring introduction, and this location seems a most unlikely spot for an introduction, this record would appear to be the first recent record for Galloway. Judging by the current known distribution of Speckled Wood this individual would as likely be of Irish origin rather than from the nearest Scottish site, Arran. There appear to be plenty of suitable sites in the Rhinns that could support this species and they would be well worth exploring next summer.

Cloud prevailed and I saw no butterflies on the drive to the Mull. After a brief chat with the warden I went to see the small breeding auk colony on the RSPB reserve and had only walked about 50 yards when I was passed twice by a ground hugging Dark-green Fritillary. A single Meadow Brown completed the days tally. The Rhinns of Galloway is an area that would repay exploration in good weather.— P.K. KINNEAR, 20 East Queen Street, Newport-on-Tay, Fife DD6 8AY.

### **Diapause can occur in *Pieris brassicae* L. ssp. *cheiranthi* Hb. (Lep.: Pieridae)**

There has recently been published a very worthy successor to the well-known “Higgins & Riley” *Field Guide to the Butterflies of Britain & Europe* with the same title but the author is Tom Tolman and the new illustrations are by Richard Lewington. In my view the typographical layout and illustrations are a great improvement on the earlier work and this makes the book easier to use. I would have liked the distribution maps to have been to a larger size but then space is always at a premium and this has allowed more room to add a bit about the life-history. I would, however, like to take issue with, and correct, Tom’s statement on page 35 under

*Pieris cheiranthi* that "In captive rearing, attempts to induce diapause by reduction of photo-period have been unsuccessful." Not so, for both I and others have induced diapause in this subspecies. Some thirty years ago I was breeding *cheiranthi* as well as the nominate *brassicae* in continuous culture and in some quantity. It was in fact found necessary, since the culture was being reared all the year round, to maintain an 18/6 hour light/dark period in order to prevent them going into diapause and in addition it was always my practice in order to insure against the loss of the culture through accident and/or disease to keep a reserve stock in diapause. That this was no accident as regards *cheiranthi* was proved only recently when I attended the Christmas Entomological Fair in Kettering and found diapause *cheiranthi* chrysalids on offer which had been bred by Nigel South, an experienced entomologist. As to the conditions required to induce diapause it is important to bear in mind that photoperiod induction can be over-ridden by temperature and even with the nominate *brassicae* it is important to keep this at autumn rather than summer temperatures, a point which I think is often overlooked. My *cheiranthi* were in fact reared at a temperature of 15-25°C. It was also my experience than when nominate *brassicae* were reared at 25-30°C then whatever the light regimen it was virtually impossible to induce diapause.

Whether or not *cheiranthi* should be regarded as a distinct species appears to be a matter of personal opinion guided by the changing views of taxonomists. My view is that as it freely hybridises with the nominate *brassicae* and the offspring are fertile unto the umpteenth generation, then its designation as a subspecies is the correct one – a view recently supported by Karsholt & Razowski (1997. *The Lepidoptera of Europe: a distributional checklist*).— BRIAN O.C. GARDINER, 2, Highfield Avenue, Cambridge CB4 2AL.

### ***Palpita unionalis* Hb. (Lep.: Pyralidae) and other migrants from Devon**

In view of 1997 having been such a poor year for migrating Lepidoptera, it seems worth placing on record an occurrence of the above species at my garden m.v. trap on the morning of 28.ix.1997. The trap itself contained a motley selection of insects: numerous caddis flies, mosquitoes, a few drowsy wasps, a far more alert hornet, several shield bugs, sundry *Aphodius* and other beetles and a few common moths including some rather battered Large Yellow Underwing *Noctua pronuba* L. and Black Rustic *Aporophyla nigra* Haw. I almost overlooked the *unionalis* which was outside the trap, resting on an overhead rafter.

The only other migrants to have appeared at my light this year are Silver Y *Autographa gamma* L. in small numbers from May onwards, a single Dark Swordgrass *Agrotis ipsilon* Hufnagel and Delicate *Mythimna vitellina* Hübner on 30.ix.1997. This is the first year for as long as I can remember when I have not seen a Humming-bird Hawk-moth *Macroglossum stellatarum* L. in Devon and in stark contrast to 1996 I have seen just one Painted Lady *Cynthia cardui* L.— ROBERT BOGUE, Tamar View, Tuckermarsh, Bere Alston, Devon PL20 7HB.

## THE COLEOPTERA OF A SUBURBAN GARDEN: A SUPPLEMENT

A.A. ALLEN

*49 Montcalm Road, Charlton, London SE7 8QG.*

IT IS NOW upwards of forty years since the first instalment of this list (*Ent. Rec.* 1951 to 1964, *passim*) appeared, and at the end of the last (1964: 264) I expressed the intention of adding a supplement at some later date. The interest aroused by the list – despite the inevitable spread and break-up of its parts over thirteen years and the resultant inequality between them in regard to the period covered – has been an added encouragement, even at this late hour, to carry out that intention. The garden (at Blackheath, near Greenwich in south-east London) continued to be worked for beetles, rather intensively at times and much less so at others, up to late 1973 when external pressures brought about a change of residence. The period covered thus spans the better part of half a century, and could have been much longer had circumstances permitted.

The garden underwent relatively little change since the body of the list was published. Suffice to say here that it was a fairly typical and entirely unremarkable suburban garden of half an acre with the house in the middle (up to 1926 a grass field), but which in the latter half of the collecting period was allowed to become increasingly less cultivated. Lawn mowing was eventually discontinued, and a number of wild plants appeared.

In later years two new features were added, each responsible for many additional records: a small pond (already mentioned in the last part of the list) and a standard 125-watt mercury-vapour lamp, run from a top-floor room overlooking the back garden, on suitable nights from the end of May 1959 but less frequently after 1960. The second of these introduces a certain complication, for it might be objected that the lamp would attract insects from beyond the confines of the garden. The point is debatable, but I tend to think that the great majority of them would have been flying in or over the garden before coming under the influence of the light; interested readers who disagree are of course free to ignore such species as components of the list if they so choose. A high proportion of those species have never been found *in* the garden (nor indeed, by me, elsewhere in the district) and may have arrived from a distance – as must certainly be true of at least of few such as *Bembidion varium* and *Stenopelmus rufinasus* (which came in on the same night). Nidicoles, however (*Trox*, *Dermestes*) doubtless originated near at hand.

The pond, about six by four feet in area, was dug out on the back lawn and filled on 4.x.58; water beetles and bugs arrived within two days. To increase water retention it was lined with stout polythene. However, after a year or two this lining became weathered and air bubbles formed under it, forcing the floor up; it was then removed. The character of the pond thereby changed from something like a silt-pond to a fairly typical detritus-pond – a change reflected in its overall fauna.

An investigation pursued, albeit unsystematically, over such a protracted period as this (collecting had begun in a small way in 1927) prompts a few reflections. Above

all, one overwhelming fact emerges: the longer the survey is continued, the more obvious becomes the unstable, ever-changing nature of the fauna over time, in which species wax and wane, appear and disappear, reappear or are replaced by others. It follows that the very notion of "the fauna" of such an area, unqualified by a time factor, is a mere abstraction; only with reference to some given instant does it acquire concrete reality, yet that, even for so small an area, is never completely knowable in practice. At any such instant, it is made up of (1) breeding species (the "backbone" of the fauna), some long established and others recent colonists; and (2) visitors (more or less casual) which do not remain to breed, because the conditions are not right or the visitor is not a gravid female.

A few examples will serve to illustrate some of these and other differences. (A) Species found throughout the whole 46 years with only minor fluctuations in their frequency: *Carabus violaceus*, *Leistus spinibarbis*, *Agriotes lineatus*, *Barypeithes pellucidus*. (B) Species that died out early: *Carabus nemoralis*, *Clivina fossor*, *Pterostichus melanarius*, *Melolontha melolontha*. (C) Species not present from the first but which later became successful colonists: *Amara aulica*, *Stenus clavicornis*, *Quedius molochinus*, *Othius punctulatus*, *Rhagonycha limbata*, *Barynotus obscurus*. (D) Probable unsuccessful colonists: *Harpalus tardus*, *Hoplia philanthus*, *Oxypoda procerula*, *O. amoena*. (E) Rare denizens: *Bembidion 5-striatum*, *Amarochara umbrosa*, *Parabathyscia wollastoni*, *Orthochaetes insignis*, *Ceutorhynchus punctiger*. (F) Casual visitors (very numerous): *Harpalus rubripes*, *Cantharis rustica* & *livida*, *Malachius marginellus*, *Leptura livida*, *Phyllobius maculicornis*, *Aphodius ater*. (G) Species found only at m.v. light: *Amara convexiuscula*, *A. apricaria*, *Ilybius fuliginosus*, *Necrobia ruficollis*, *Cantharis rufa*, *Malthodes fuscus*, *Cercyon laminatus*, *Trox scaber*, *Dorcatome chrysomelina* and many more. (H) Species liable to wide periodic fluctuations in numbers: *Synuchus nivalis*, *Calathus fuscipes*, *Aphthona euphorbiae*, *Longitarsus parvulus*.

Inevitably, several errors had crept into the published list; all cases requiring correction or comment will be dealt with as they arise. Mere changes of name will not be noticed unless there is some special reason to do so, e.g. to avoid confusion. Thus, for instance, the *Oxypoda nigrina* Wat. of British authors is now referred to *O. sericea* Heer, this and similar changes being taken as understood. Specific nomenclature follows Pope (1977), but in certain cases more familiar and basic generic names are retained where I consider that splitting has been carried to unnecessary or inordinate lengths – the unwisdom of such a course being manifest upon reflection. For ease of collation, order of families, genera, and species more or less follows the original list, except insofar as the order of family groups therein was dictated by convenience (the "Clavicornia" and Staphylinidae being for good reasons treated last).

An asterisk indicates the more notable of the added species. Separate entries which are not additions, but species of which there is something further to be said, have their names enclosed within brackets. The abbreviation m.v.l. is used for "mercury-vapour light".

**Carabidae (24 additions)**

A point of interest concerning the Carabidae in particular is the apparently sharp distinction between species that habitually fly to artificial light (Lychnophiles), and their congeners which evince no such attraction. This marked difference is presumably (though not necessarily) determined by the natural flight-time of the species, whether diurnal or nocturnal. Thus, for example, in the large genus *Amara*, several species habitually visit the lamp, but the ubiquitous *A. aenea* and its allies (common in the garden) have never once done so; *Harpalus (Pseudophonus) rufipes* is strongly light-seeking, while *H. affinis* (equally common) again has never shown itself at the lamp.

My belief in 1951 (p.62) that "probably only the Adepaga are now tolerably complete, and here but few additions can be expected" turns out to have been very wide of the mark! The short list I gave there of Carabidae that might be expected to occur would, had I been writing now instead of at the mid-century, be considerably different. In particular I would correct my remark there on the frequency of *Notiophilus palustris* Dufts. (not a garden species) whose apparent commonness proved to be a very temporary affair.

(*Carabus nemoralis* Müll.) – One or two more seem to have occurred in the first few years, but by the early 1930s the species had disappeared. A supposedly common beetle which has never been so to me. *C. violaceus* L., on the other hand, though not seen every year, continued sparingly throughout the whole period.

(*Leistus fulvibarbis* Dej.) – Increased during the 1950s to become eventually about as common as *L. spinibarbis* (F.), with which it often occurred; no observable habitat difference, though elsewhere I definitely associate it with damper situations.

(*Notiophilus rufipes* Curt.) – Not at all uncommon from about 1950 on. A very soft example at roots of grass, 23.ix.53. Its supposed rarity is a complete myth.

(*Loricera pilicornis* (F.)) – Continued to be found singly at rare intervals, mostly under ground-traps near the house; one dropping on to a stone from flight, which was definitely terminated in the air, 20.iv.55 (1955, *Ent. mon. Mag.* 91: 200).

(*Badister bipustulatus* (F.)) – After a long absence this species began to "revive" in the autumn of 1970 and became frequent but never really common. Usually under tiles at base of house wall; one by sweeping, 10.v.71.

(*Bradycellus verbasci* (Dufts.)) – Also at m.v.l., often common and on some warm nights in July and August in profusion.

*B. harpalinus* (Serv.) – First detected at m.v.l., 15.vii.59, and later rather often but sparingly at intervals with *verbasci*. Also in the garden but not commonly, by evening sweeping only.

\**B. ruficollis* (Steph.) – One by grubbing along base of fence, 26.x.55. Doubtless a stray from another garden not far off where heather was grown, as the species inhabits sandy heaths.

*Acupalpus dubius* Schil. – One example swept off weeds, 15.v.52. A very common beetle of wet pond-sides etc.; no doubt a stray from such a situation barely quarter of a mile distant.

(*Harpalus affinis* (Schrank) and *H. (Pseudophonus) rufipes* (Deg.)) – Both increased during the later 1950s or thereabouts. As noted above, *H. rufipes* also often at m.v.l. in July and August.

*H. latus* (L.) – Under stones and similar traps, and in or under vegetable rubbish, at roots of herbage, etc.; first noted October 1953, and thereafter at intervals, singly or more seldom in pairs.

*H. rubripes* (Dufts.) – A female under a piece of boarding, 22.v.52. This species prefers sandy, gravelly or chalky soils.

*H. tardus* (Panz.) – Five isolated examples, mostly male, found at roots of grass and other herbage: 21.iv.56, 27.v.56, 23.iii.59, 30.ii.59, 28.iv.59.

*H. (Ophonus) rufibarbis* (F.) – Under tiles at base of house wall; odd specimens at intervals from June 1952 to July 1971; two at m.v.l., 1.vii.73.

*Amara aulica* (Panz.) – This fine *Amara* first appeared on 10.vi.52 (a pair) under traps set for ground beetles at the side of the house, followed by another in August of that year at base of fence; others in 1963-4. A teneral example under a large stone, 22.v.72; a male at m.v.l., 20.vii.72.

- A. convexiuscula* (Marsh.) – This (a slimmer edition of the last), a great lychnophile, has never been found in the garden or elsewhere in the area, but was often numerous at m.v.l. on suitable nights from June to August (first 26.vi.59). Before the 1950s it was regarded as a saltmarsh insect exclusively – a habitat it still frequents; but where these recent large inland populations (it was the same here at Charlton) originate is something of a mystery.
- (*A. apricaria* (Payk.)) – Another strongly lychnophilic species, so the occurrence of the first specimen (and of *B. verbasci*) in a bedroom of the house is no surprise. General at m.v.l. without being abundant, but, like the last, never found in the garden.
- \**A. cursitans* Zimm. – A female amongst grass by a fence, 16.iv.53. Only the second specimen known as British; its identity was confirmed by the carabid specialist Prof. C.H. Lindroth. As no other has been found, the species clearly has the status of a casual adventive in our fauna. (See Allen, 1956. *Ent. mon. Mag.* 92: 215-6; 1960, 96: 218).
- A. bifrons* (Gyll.) – Seven examples taken by grubbing along the base of a fence, with *A. aenea* and *A. anthobia*, 26.vi.52; one under a trap behind the house, 24.ix.52, and another at m.v.l., 6.viii.60. (A frequent visitor to the lamp here at Charlton.)
- A. tibialis* (Payk.) – One floating on the pond, 8.v.59; another in the same vicinity, swept, 16.vii.64. This small species has no connection with damp places but favours sandy and gravelly soils, and never bred in the garden.
- (*A. ovata* (F.) and *A. similata* (Gyll.)) – Both remained very sporadic in later as in earlier years.
- (*A. eurynota* (Panz.)) Must be deleted from the list, the specimen having been taken in Blackheath Village and placed on the garden list through some confusion.)
- (*A. anthobia* Villa) – Continued to be found throughout the period, especially under weeds on paths and flowerbeds etc., but irregularly.
- (*A. lunicollis* Schdt.) – Formerly rare in the garden, but about the mid-1950s began to increase, becoming in later times commoner than the next.
- (*A. convexior* Steph.) – Remained infrequent, but both it and *A. lunicollis* were found rather freely in company in lawn turf freshly dug out, October 1958.
- (*A. plebeja* (Gyll.)) – Seemed to have either died out or (more likely) been lost sight of until about 1950, after which it was again found widely but rather sparingly.
- (*Pterostichus melanarius* (Ill.) (*P. vulgaris* of the list)) – There appear to have been two further early finds: 29.iv.31 and 29.viii.31. This is a typical field species, so its disappearance soon after the field became a garden is little surprising.
- (*P. madidus* (F.)) – Despite its overall abundance, it has periods of scarcity. I noted that on 14.vii.73 it was suddenly common, with *Harpalus rufipes*, under the two large stones by the garage, though not seen at all earlier that year.
- (*Calathus fuscipes* (Goeze)) – This normally common species seems liable to very wide and slow fluctuations in its numbers. After being more than usually frequent in 1952 and 1953 it disappeared rather abruptly until the autumn of 1970, when a revival set in, gradually developing into a wave of unusual abundance lasting, in this district, well into the 1980s. *C. melanocephalus* (L.) also recovered its earlier moderate frequency, but in a far less spectacular way.
- (*C. piceus* (Marsh.)) – Though only twice noted up to 1950, like so many other species it turned up more often in later years, especially in hay and straw litter along the base of a brick wall from about 1965, often with *Abax parallelepipedus*.
- (*Synuchus nivalis* (Panz.)) – After a lapse of 35 years from the original capture, this uncommon beetle was at last found again, this time in some numbers (often three together) under tile-traps behind the house and more seldom at a distance therefrom, through the summer of 1965 (first on 19.vi). Also sporadically in later years.
- (*Agonum dorsale* (Pont.)) – Only two records of this very attractive species up to 1950; but a year or two later it turned up in plenty in early spring (perhaps still hibernating) under an old dustbin-lid placed on a disused vegetable plot as a beetle trap. Since then not uncommon at times under cover, e.g. tile-traps near the house.
- \**Bembidion quinquestriatum* Gyll. – A single example beaten out of ivy on a wall, 6.xi.51. An elusive insect whose true habitat is in some doubt (underground mammal nests have been suggested), but seeming from the records to have some association with old walls.

- B. lunulatum* (Fourc.) – Rather common at the edges of the pond from about 1964 (much commoner than the next).  
*(B. guttula* (F.)) – Infrequent in later years; swept near the house, 16.iv.70; at m.v.l., 20.vii.72.  
*B. properans* (Steph.) – Doubtless often confused with *B. lampros* and probably not uncommon; checked specimens are dated 1 & 9.viii.57, 12.iv.60 and 29.vi.68 (two under a stone).  
*B. quadrimaculatum* (L.) – Occasional: among roots at foot of earthen bank, 15.iv.51; by grubbing along base of fence, 11.ix.53.  
*(B. tetracolum* Say) – This, the *B. ustulatum* of the list, seems to have become extinct in its very restricted habitat some time after 1955.  
*B. varium* (Ol.) – A coastal and saltmarsh species of which a specimen occurred at m.v.l., 6.viii.59.  
*Trechus quadristriatus* (Schrank) – One by sweeping, 22.ix.52; occasional at m.v.l. in 1959-60. One would expect so common a beetle to have been found more often.  
*T. obtusus* Er. – Very sparsely under tile-traps along rear wall of house in the 1960s and autumn of 1970; in hay and straw along base of garden wall, under which were mouse runs, 30.iii & 25.iv.66.  
*Demetrias atricapillus* (L.) – Rare: swept off grass under apple trees, 10.vi.53; swept near the pond, 12.v.61; shaken out of weeds, 14.v.65. Once at m.v.l., 8.viii.59.  
*Dromius linearis* (Ol.) – Only one of this common beetle has occurred, by sweeping near fence, 14.ix.58.  
*D. meridionalis* Dej. – Well established, but met with on few occasions. From ivy, 29.x.51; four from dead leaves and shakings of ivy, 13.x.52; at m.v.l., 21.vii.59, and 9.viii.57; several under flakes of apple bark, 4.iv.73.  
*D. quadrimaculatus* (L.) – Very scarce: one beaten from apple tree, 9.v.54.  
*D. quadrinotatus* (Zenk.) – Under flakes of apple bark: 19.x.59 (one) and 4.iv.73 (one live, one dead).  
*(Metabletus foveatus* (Fourc.)) – Only one earlier record, but in later years quite common at roots of grass etc., especially along base of fence.

#### Haliplidae (one addition)

- Haliplus lineatocollis* (Marsh.) – One found swimming in the pond, 14.viii.59, two more on the 25th, then a long absence until 23.iii.72; and a few more subsequently.

#### Dytiscidae (14 additions)

Unless otherwise stated, all listed members of this and the next family were taken from the pond (October 1958 onwards).

- Laccophilus minutus* (L.) – A single specimen dredged, 23.v.59.  
*Hydroglyphus pusillus* (F.) (*Bidessus geminus* auct.) – Two specimens only: 27.ix & 6.x.59.  
*Coelambus confluens* (F.) – One, 27.iv.59. (Common in a pond on Blackheath.)  
*C. impressopunctatus* (Schall.) – Singly on 3.iv., 27.iv., and 8.v.59.  
*Hydroporus palustris* (L.) – The sole record for this common water-beetle is one on 3.iv.69, which is curious (but the species seems absent from the ponds on Blackheath).  
 \**H. incognitus* Sharp – 9.x.58, 26.x.58, 13.v.61, all singletons. One of the first arrivals at the pond; as I have suggested elsewhere, this may possibly mark the beginning of a habitat-extension from acid to neutral water.  
*H. memnonius* Nic. – A male on 13.v.59. (Tends to occur singly in my experience.)  
*H. nigrita* (F.) – The only record is for one on 24.iv.59.  
*H. tessellatus* Drap. – One of this rather pretty species fished out of the pond, 14.iv.59.  
*H. pubescens* (Gyll.) – Singly on 14.x.58, 27.xii.58, 19.iv.59. This used to be one of our very commonest Hydropori, but in later times the following species has most definitely usurped that position at least in my area.  
*H. planus* (F.) – By far the commonest Dytiscid in the pond at all times, though varying much in numbers; often abundant; first on 11.x.58. Active also in winter; in some plenty, 27.xii.58, 15.ii.59, swimming freely over floor of pond. Less often noticed in later years when the bottom was muddier and the weed thicker.

*Agabus nebulosus* (Forst.) – First taken 26.x.58, and never common but not infrequent in at least the next few years; not seen after the plastic lining was removed from the pond. (Except for one in Surrey these are the only examples of *nebulosus* I have met with.)

(*A. bipustulatus* (L.)) – This very common *Agabus* was present almost continuously, I believe, whatever the condition of the pond. Several larvae, with one adult, 23.iii.72; more larvae, 23.v.72.

*Ilybius fuliginosus* (F.) – One at m.v.l., 8.viii.59, is the sole record for the garden (another in swimming-pool in next-door garden when drained, 10.vii.73). This species might have been expected in the pond when recent, but it prefers gently moving water (perhaps not a common commodity in the district).

*Rhantus suturalis* Macl. (*pulverosus* (Steph.)) – First found 9.x & 26.x.58, thereafter singly from time to time. (Certainly the commonest overall of our *Rhantus* spp.)

### Hydrophilidae (18 additions)

*Hydrobius fuscipes* (L.) – Frequent both in the pond (still there 28.iv.69) and at m.v.l. singly from spring to autumn. The first was at the lamp, 24.vii.59.

*Enochrus melanocephalus* (Ol.) – At m.v.l., one, 15.viii.73.

*Helochaers lividus* (Forst.) – One, 14.ix.62, by which time there was plenty of vegetation in the pond.

*Anacaena globulus* (Payk.) – Also one only, 28.iv.69.

*A. lutescens* Steph. – One by dredging, 23.iii.59; another under board floating on pond, 21.iv.70. A recently separated species.

*A. limbata* (F.) – Also twice: 11.v.59, at surface; 5.v.72, amongst pondweed (*Elodea crispata*).

*Laccobius bipunctatus* (F.) (*alutaceus* Thoms.) – First on 2.iii.59, soon becoming frequent.

*Helophorus grandis* Ill. (*aquaticus* auct.) – Mostly in early spring; several under boards floating on the pond, from 1.iii.59, with others of the genus; one amongst leaves of loose pieces of *Elodea* at pond-edge, 12.iii. Subsequently sporadic.

*H. obscurus* Muls. (*aeneipennis* auct.part.) – Not uncommon, often with the preceding and following species.

*H. minutus* F. – As the last, or rather more common. Like the others, often on floating boards.

\**H. griseus* Hbst. – A very few in company with *H. minutus*, and only in early March 1959. (Occurred with *H. longitarsis* Woll. in a pond on Blackheath.)

*H. brevipalpis* Bed. – Common along with the other species; occasionally swept, in flight, and at m.v.l. (The most abundant of the genus.)

*Hydrochus angustatus* Germ. – A single specimen by dredging, 9.vi.63.

*Ochthebius minimus* (F.) – A stray example of this small water-beetle by sweeping, 22.v.53, long before the garden pond existed.

*Sphaeridium lunatum* F. – A male found under fish bait, 2.vii.52. The commoner *S. scarabaeoides* does not seem to have occurred, but both are typically dung insects.

(*S. marginatum* F.) – This is the correct name of the species recorded in the list (1951) as *S. bipustulatum* ab. *marginatum*; *bipustulatum* is now recognised as a separate species. A few more were met with at the end of June 1953 in compost.

\**Cercyon laminatus* Sharp – This very distinct *Cercyon* was captured exclusively at m.v.l. (occurring similarly here at Charlton), but its true habitat is almost certainly the nests of pigeons which would explain its never having been found in the garden. It was new to Britain when first taken on 6 & 8.viii.59 (1969, *Ent. Rec.* 81: 211-2), and so far is recorded from very few other localities in southern England though it rapidly spread over much of Europe from Japan. Always erratic and scarce but one or two have visited the lamp in several of the years up to 1973.

(*C. unipunctatus* (L.)) – Continued to turn up rarely, including one at m.v.l. 19.viii.71.

*C. quisquilius* (L.) – This long expected species appeared first at m.v.l., 8.viii.59, and again much later on 20.vii.72, 17.vii. & 1.viii.73.

(*C. atricapillus* (Marsh)) – Only one specimen had occurred in earlier years; but several were found in rotting straw and compost; 7-8.viii.53.

\**Cryptopleurum subtilis* Sharp – One at m.v.l., 17.vii.67. (Another immigrant from the Far East, previously taken in Cheshire, Merionethshire and Essex.)

\**C. crenatum* (Kug.) – An example of this rarity sieved from compost, 13.viii.55.

**Staphylinidae (36 additions)**

- (*Megarthritis sinuatocollis* (Boisd. & Lac.)) – Since the one example recorded, another was found (29.v.58) in the decayed remnants of a grass heap.
- \**Proteinus macropterus* (Grav.) – One at m.v.l., 15.viii.73. (I mark this as notable because I have never found more than singletons anywhere – so unlike our two really common species of the genus.)
- (*Omalius excavatum* Steph.) – A second specimen on 15.v.73 by sweeping mixed herbage.
- (*Carpelimus bilineatus* Steph.) – Only one previous record for the garden, but since taken twice at m.v.l.: 25.viii.69 & 4.vii.73.
- C. rivularis* Mots. – At the damp edges of the pond at grass roots, etc., or floating; three or four at m.v.l., 20.vii.72.
- C. corticinus* (Grav.) – One on the wing, 15.iii.72. (I have a memory of collecting it on a much earlier occasion in rotting herbage, but no definite record.)
- C. pusillus* (Grav.) – One on the wing 15.iii.72. (I have a memory of collecting it on a much earlier occasion in rotting herbage, but no definite record.)
- (\**C. gracilis* (Mann.)) – Further single examples swept, 25.iii.53 (a warm, bright day) and 2.x.54. Doubtless rare only because of its subterranean habitat.
- (*Oxytelus sculptus* Grav.) – Rather frequent at m.v.l. throughout the period (vi-ix).
- (*O. rugosus* (F.)) – Common at m.v.l. on the night of 20.vii.72, and odd ones at other times. It is worth noticing that no species of *Anotylus*, to which most of our species of the old genus *Oxytelus* are now referred, appears to have visited the lamp.
- Platystethus cornutus* (Grav.) – One at the pond, 26.v.60 (where however there was not enough mud for the species to have bred).
- Stenus juno* (Payk.) – One specimen only has been met with, by sweeping (not near the pond), 10.v.67.
- (*S. clavicornis* (Scop.)) – Continued to flourish throughout the period of the survey from its appearance in 1954. Several found under a plank, others by sweeping.
- S. ossium* Steph. – First noted 1.iii.59, when one was sieved from refuse which included old mouldy apples; a second swept on an overgrown lawn, 12.vi.62.
- S. aceris* Steph. – The first swept, 13.v.68; another 8.ix.70, thereafter becoming more frequent; most by sweeping, but several times under traps along base of house wall, summer 1972. This was just the start of a wide increase of *S. aceris* throughout the district, lasting into the 1980s. The very closely allied *S. impressus* Germ., normally far commoner, seemed absent from the garden and is in fact rare in the district.
- S. flavipes* Steph. – Has occurred, singly, only twice: in debris of moss and litter, 23.iii.61; and running on a wall of the house, at the foot of which was a small heap of straw refuse, 26.iv.68.
- S. nitidiusculus* Steph. – A macropterous female by sweeping, not near the pond, 14.iii.72. (This not very common species has been associated with springs.)
- S. picipennis* Er. – One swept by the pond, 5.viii.61, but not seen again until 1969 when a few more were taken similarly up to ix.71.
- S. cindeloides* (Schall.) – One swept off pondside herbage, 22.vi.70.
- (*Stenus fulvicornis* Steph.) – Continued to be found, mostly by sweeping; one on washing hung out to dry; well established by the mid-1960s. (A dozen species of *Stenus* seems a respectable total for the garden, even though a few were doubtless casuals.)
- (*Lathrobium multipunctum* Grav.) – Continued sparingly through the rest of the period; two by the pond, quite near the water, 5.v.71, though usually but little hygrophilous.
- (*Lithocharis nigriceps* Kr.) – Yet another Oriental immigrant, which remained very common to the near-exclusion of our native species.
- (*L. ochracea* (Grav.)) – Very seldom found since the last species became dominant. Singly in decaying pond-weed (5.v.72) and at m.v.l. (15.ix.73).
- Othius punctulatus* (Goeze) – First found 26.viii.64, after which it soon became not at all uncommon, but almost restricted to the traps along the rear wall of the house.

- \**Neobisnius lathrobioides* Baudi (*cerrutii* Grid.) – Two females swept on or over the back lawn, just behind the house, within a few minutes and about a dozen yards apart, 15.iv.71. This corrects the published record (1972, *Ent. mon. Mag.* **108**: 37) where the identification as *N. prolixus* Er. was, I am now satisfied, erroneous. (It can be difficult to separate these two species on females.)
- (*Philonthus succicola* Thoms.) (*chalceus*, *proximus* auctt.) – Became not very uncommon at carrion during the 1960s; three or four in a long-dead pigeon, 30.iv.67.
- (\*) *P. decorus* (Grav.) – A distinctive species connected with small mammal nests or runs underground. Appeared 10.v.59 under a tile-trap in a moist spot behind the house, singly at first but in a year or two had become by no means scarce, continuing on and off into the early 1970s. Like the *Othius* above, not or hardly found elsewhere in the garden. (I have met with it in very few other places, and not nearly as freely.)
- (*P. marginatus* (Ström)) – Remained very rare: a second specimen at fish bait, 18.viii.53.
- (*P. albipes* (Grav.)) – Two examples in warm mouldy grass-cuttings, 7.viii.53.
- (*P. concinnus* (Grav.)) – One more on 26.iv.66 (male), out of dry grass.
- P. cruentatus* (Gmel.) – The first and only specimen of this bright species sifted from well-rotted grass, 20.iv.59. Largely a dung insect, like *P. intermedius* Boisd. & Lac. (also unique for the garden).
- (*P. agilis* (Grav.)) remains unconfirmed and would be best deleted from the list.)
- (\*) *P. longicornis* Steph. – Though it figures in the main list, it turns out that the specimens were misdetermined. The true *P. longicornis* (male) was taken from a rotted-down grass-heap, 20.vi.53, and is not only unique for the garden but also the only one I have found anywhere. The species is not accounted a rarity, but I can only conclude that it has become so in the last half-century, at least around London.
- P. quisquiliarius* (Gyll.) – One in or under drying blanket-weed out of the pond, 5.v.72. (A frequenter of muddy watersides.)
- Gabrius subnigritulus* Reitt. – Not uncommon on 15.iv.71 and later occasions at the edge of the pond, especially in pondweed left there as a trap. Appears to have been the first suburban record (1972, *Ent. mon. Mag.* **108**: 37).
- (*Ocypus olens* Müll.) – A second example, 4.x.52, under a large stone at the side of the house. *O. globulifer* Fourc. and *O. winkleri* Bernh. have both recurred (data not to hand).
- (*Ontholestes murinus* (L.) & *Creophilus maxillosus* (L.)) – Both became rather frequent at carrion (fish). On one occasion a titanic struggle between one of the former and a green-bottle (*Lucilia sericata* Meig.) was witnessed – victory going to the fly, which was so doggedly determined to free itself that the aggressor had finally to retire crestfallen and sacrifice its prospective meal!
- (*Quedius mesomelinus* (Marsh.)) – Not as uncommon and restricted in later years as formerly, becoming tolerably frequent in grass-cuttings, compost and rubbish heaps.
- Q. fuliginosus* (Grav.) (*subfuliginosus* Britten) – Had not been recognised from the garden when the list was compiled, but proved a little later to be by no means scarce. (I have little doubt that its sibling *Q. curtipennis* Benh. also occurred, but have no definite record; both species have occurred in my Charlton garden.)
- (*Habrocerus capillaricornis* (Grav.)) – Two further examples of this fragile species in straw litter, 11.v.65.
- (*Mycetoporus longulus* Mann.) – One at roots of grass along base of fence, 18.iv.56.
- (*Sepedophilus marshami* Steph.) – As will probably have been guessed, the *Conosomus testaceus* of the list is really the above common species, the true *testaceus* being a very local species unlikely to inhabit a London garden. When I wrote however, what we now call *S. marshami* was known as *C. testaceus* (formerly as *C. pubescens*).
- (*S. immaculatus* (Steph.)) – Tended to increase latterly; six from hay and straw litter along base of wall, 11.v.65.
- Tachyporus obtusus* (L.) – One by sweeping on lawn, 14.v.65; another on house wall above cut grass, 3.v.69. (This bright and distinctive species is chiefly found in flood refuse.)
- T. pallidus* Sharp – A few specimens in early May 1970 swept near the pond, one ditto 14.iii.72; also one on front lawn (and so well away from the pond), 8.v.70.

- \**Tachinus flavolimbatus* Pand. – A single male, not until 30 years later recognised as this species (1988, *Ent. Rec.* **100**: 234), was taken on 15.xi.58 in vegetable refuse and passed at the time as *T. marginellus* (F.). The first London record of this rather scarce and restricted *Tachinus*.
- (*Callicerus obscurus* Grav.) – Only two specimens had occurred up to 1970, but from then began a remarkable increase for a few years. By sweeping grass on mild days from March to May only, mostly (in some numbers) on the front lawn; a few stragglers elsewhere in the garden in 1973 were the last seen.
- (\*) *Amischa soror* (Kr.) (*sensu* S.A. Williams) – A single female swept on front lawn, 14.iv.70. (Possibly passed over earlier with *A. analis*, but its larger size should draw attention to it and I think it is genuinely rare here.)
- Atheta* (*Philhygra*) *malleus* Joy – This must replace *A. (P.) halophila* in the list; a male occurred at the pond, 3.ix.71.
- (*A. (Plataraea) brunnea* (F.)) – Captures became less infrequent later – always single specimens in varied conditions, but mostly swept.
- (*A. (Microdota) liliputana* Bris.) (*alpina* Benick) – A second female of this rarity sieved out of decaying pondweed, 5.v.72.
- (*A. (M.)* “n.sp.?”) after *A. indubia* in the list. – Not a distinct species but a spermathecal abnormality of *A. indubia*, as I later became convinced; *cf.* the next entry.
- (*A. (A.)* “sp.?”) after *A. trinotata* in the list, of which, again, it must be regarded as a spermathecal “sport”, on exactly the same plan as the last (it was taken in the same spot). In each case the apical half of the organ is in effect rotated through 180°, giving the spermatheca a strikingly different appearance from the normal.
- (*A. (A.) triangulum* (Kr.)) – One from decaying pondweed, 22.v.72. (The supposed coastal bias of this species is perhaps questionable.)
- \**A. (A.) harwoodi* Wlms. – Both sexes from rotted grass, 23.iv.68; and a male by general sweeping, 14.iii.71.
- (*A. (A.) aquatica* (Thoms.)) – Only one already recorded, but it later occurred freely under rotting cauliflower leaves (14.iii.72) and under dog dung (iv-v.68).
- A. (A.) graminicola* (Grav.) – As for *A. triangulum* above, 1.v.72, but unlike that species the present one is strongly hygrophilous.
- \**A. (Liogluta) pagana* (Er.) – A female of this uncommon largely subterranean species sifted out of moist surface soil rich in humus, on what used to be a marrow bed, 18.x.64.
- A. (Dimetrota) ischnocera* Thoms. – This must be substituted for *A. (D.) cauta* in the list, which is much the less common of the two and has not been taken in the garden.
- (*A. (D.) setigera* Sharp) – The previous specimen whose identification was provisional is definitely of this species. One caught flying, 8.viii.65; another under dog dung, 2.v.68.
- A. (D.) cinnamoptera* (Thoms.) – Of this distinctive species two have been taken under dog dung, 9 & 15.v.68.
- \**A. (D.) laevana* (Muls. & Rey) – Another dung species of which a male occurred in the same habitat, 20.iv.68.
- A. (Acrotona) parvula* (Mann.) (*parva* auctt.) – One taken with the last; another swept, 29.iv.69.
- (*A. (A.)* “n.sp.” after *A. aterrima* in the list) – The question of this form and its status is a difficult one, and this is not the place to discuss it: for present purposes it is best included under *A. (Acrotona) pygmaea* (Grav.).
- (*A. (A.) exigua* (Er.)) – A second example by sweeping herbage near the house, 3.vii.73.
- (*A. (A.) muscorum* (Bris.)) – A second sifted from loamy soil, 1.iii.59; a third by sweeping, 10.iv.71.
- A. (Mocyta) amplicollis* Muls. & Rey – Not uncommon, mostly by sweeping, but till relatively lately confused in Britain with the ubiquitous *A. fungi* (Grav.). The latter is Fowler’s “*fungi v. dubia*” while the present species is his “*fungi*”. The species is well-named: the larger specimens with noticeably ample thorax and long pale antennae are *amplicollis*.
- (*Alevonota gracilenta* (Er.)) – A further male of this rare beetle was swept, like the others, from grass on a warm afternoon, 14.v.65. The “*Alevonota* n.sp.” after *A. gracilenta* in the list, though considered as new by Dr G. Benick, appears after all to differ very little from the last-named species to which I now unhesitatingly refer it; unlike any of the others it is a female.

- \**Oxyptoda longipes* Muls. & Rey – A male of this very local moles'-nest species was found by grubbing along the base of a fence, v.1973. Its occurrence in the garden is problematic, moles having for very long been absent from the entire area.
- (*Oxyptoda lividipennis* Mann.) – Only one previous find, but on 18.v.66 two occurred in litter along the base of a wall.
- \**O. procerula* Mann. – A rare species of wet places which suddenly turned up in very small numbers in 1969-71. One swept near the remains of a bonfire, 7.iv.69; one not far off in a damp spot under a stone against the house wall, and another 19.v; one in a small pile of moss, 8.v.70; a few more the next year similarly, the last 29.viii.71 (1969, *Ent. mon. Mag.* **105**: 279).
- \**O. amoena* Frm. & Lab. – Only in 1966: single examples by sweeping grass, 20.iii., 8.iv., 10.iv. (1968, *Ent. mon. Mag.* **105**: 279). Another rarity, like the last to be regarded as a failed colonist.
- (*Aleochara funebris* Woll.) – This is the now-accepted name of the *A. diversa* of the list, also lately known as *albovillosa* Bernh. Later records for the garden are of two specimens from a heap of decayed grass, 23 & 27.iv.68.

### Pselaphidae (five additions)

- Rybaxis longicornis* (Leach) – A female swept from mixed vegetation, 7.vii.63, presumably a stray. A species of pondsides, etc.; if breeding at the garden pond it was never found there, and the same applies to the next two species. The pond some distance away where *Rybaxis* used to occur had by then been drained and filled in.
- Brachygluta haemata* (Rchb.) – One at m.v.l., 30.viii.67, towards the end of a period favourable for this species.
- Reichenbachia juncorum* (Leach) – One swept on the front lawn, 20.iv.71, early in a favourable period for the species.
- (*Euplectus signatus* (Rchb.)) – Must be deleted from the garden list, as the record was based on what since proved to be a small pale individual of the common *E. sanguineus*.
- (\*) *E. infirmus* Raffr. – Not very uncommon from the 1960s on; a series with a few *Anommatus* on soil under mouldy grass and hay refuse, 18.x.64; several times in rotted-down straw, e.g. 26.iv.66. (First recognised as British in the 1920s as a guest of the ant *Lasius brunneus* at Windsor and only later found to have a far wider distribution and habitat.)
- E. karsteni* (Rchb.) – One swept over cut grass, vi.54; at grass roots along base of fence, males, 16.viii.57, 19.iv.69; one in hay, 5.v.70.

### Scydmaenidae (three additions)

- \**Scydmorephes helvolus* (Schaum) – The sole example I have taken of this scarce beetle was sifted from litter and debris of straw placed as a trap along the base of a brick wall (1969, *Ent. mon. Mag.* **105**: 198). It was probably connected with mouse runs which the insect fauna of the material suggested were under the surface.
- \**Euconnus duboisi* Méc. (*murielae* Last) – One netted in evening flight over lush grass under apple trees, 13.v.54, with the atmosphere close and humid after a shower (1954, *Ent. mon. Mag.* **90**: 185). Only four specimens previously known, with few records since.
- (\*) *Eutheia scyamaenoides* Steph. – One of this long-expected species crawling on a leaf of a beech hedge, 12.vii.69. The usual habitats are grass-heaps, hotbeds, manure heaps and the like.

### Silphidae

- (*Necrophorus interruptus* Steph.) – A supposedly rare or uncommon species which became rather frequent at fish bait in the few years after 1952 when the first specimen was found. This burying-beetle increased very markedly around London at least (probably far more widely), becoming much the commonest of the genus from about the mid-1940s.
- (*Thanatophilus sinuatus* (F.)) – Continued periodically common at the fish bait; whilst one specimen was found at roots of herbage nowhere near any obvious carrion, 9.vii.65.

### Catopidae (three additions)

- Nargus velox* (Spence) – Singly in small piles of rather fresh grass: 28.ix.54; 4.xi.55, 26.iv.66.
- N. wilkini* (Spence) – One specimen with the last, 28.ix.54.

*Catops grandicollis* Er. – Occasional in rotting herbage etc. in 1966 (4.v, 11.v, 29.v.)  
 (*C. fuliginosus* Er.) – In rubbish, 31.iii.59, and odd ones since by sweeping, up to 1972. (The most generally common *Catops* in later years in these parts.)

#### Leiodidae (three additions)

*Colenis immunda* (Sturm) – One by evening sweeping, 9.viii.53.

*Leiodes rufipennis* (Payk.) – A male of this, the *L. dubia* of our lists, found floating on the pond the day after it was filled, 6.x.58. Possibly derived from the lawn turf dug out to make the pond.

*Agathidium varians* Beck – Three at different times from hay litter along base of brick wall: the first undated, the others 28.ix.59 & 22.iv.65. A not uncommon species but not gregarious.

#### Clambidae (one addition)

\**Clambus gibbulus* (LeC.) (*radula* E.-Younga) – One of this rare species in cut grass, 14.iv.46 (1994, *Ent. Rec.* 106: 190). The specimen being only recently identified, others could have been present but taken for *C. punctulum* Beck, the usual species in the garden (the *C. minutus* of the list).

#### Histeridae (two additions)

(*Acritus nigricornis* (Hoff.)) – It is worthy of note that this small beetle was never seen again after the last record cited in the list (14.viii.42), though hardly scarce in the earlier years and its normal habitat continued to be closely worked.

*Kissister minimus* (Aubé) – Two by sweeping, 24.ix.61, not far from the pond; another, 15.iii.72, swept near the pond. The species increased markedly from somewhere around the early 1960s for about two decades in this district. Lives both in rotting herbage and on the ground at roots of plants, much as the next species.

(*Hister purpurascens* (Hbst.)) – Had occurred only three times up to 1953, but continued to be found singly at intervals in the later years, in each of its two types of habitat. Widely dispersed in the district.

*H. striola* Sahlb. – One from rotting vegetables, July 1933, but only much later determined. The singularity of this find is explained by the absence from the garden of the beetle's specific habitats, namely flowering tree-sap and tree fungi.

(*Atholus duodecimstriatus* (Schränk)) – In earlier times this was much the commonest of the smaller *Histers* in the garden, but it became far less so during the 1950s and from about 1955 was no longer to be found – a fact hard to account for, like the case of the *Acritus* above.

#### Ptiliidae (one addition)

(*Ptilium exaratum* Allib.) – The garden species is *P. horioni* Rossk.; the true *P. exaratum* is very rare in Britain.

*Acrotrichis cognata* Matth. (*platonoffi* Renk.) – A distinctive species found rather freely under dryish dog dung with *A. fascicularis* (Deg.) and *A. atomaria* (Hbst.), 18.iv.69 (1969, *Ent. mon. Mag.* 105: 169). It had not long been added to our list (as *platonoffi*) and was spreading rather rapidly.

(The record of *A. championi* must be transferred to *atomaria*, and that of *A. brevis* to *sericans*. *A. bovina* is now referred to *dispar* Matth.)

#### Nitidulidae (four additions)

*Kateretes rufilabris* Latr. – Single examples swept by the pond: 3.viii.60, 21 & 28.vii.68.

*Meligethes atratus* (Ol.) – One in June 1968 in a blackberry flower is the sole record. (Elsewhere often occurs gregariously in flowers of dog-rose.)

*M. morosus* Er. – Accidentally omitted from the original list, the first having been taken 31.viii.53; another 5.v.56. The hostplant, *Lamium album*, was absent from the garden.

*Nitidula rufipes* (L.) – Three times singly in 1966 under fish put out as bait: 18.v., 12 & 14.vi. (No longer a rare species since the 1940s.)

(*N. carnaria* (Schall.)) – A second specimen found in soil under the fish, 25.ix.68. (This can no longer be called rare, an epithet now better suited to the once-common *N. bipunctata* (L.))

(*Epuraea unicolor* (Ol.)) – This is the *E. heeri* of the list, where one find only was noted. A very common species in woods at tree-sap, but in the garden it turned up in later years in compost, in a grass-heap, by sweeping (15.iii.72) and at m.v.l. (20.vii.72).

(*Pria dulcamarae* (Scop.)) – One on the kitchen window, 20.viii.68. Undoubtedly established.

**Monotomidae**

(*Monotoma picipes* (Hbst.)) – Also at m.v.l. in 1959: 21.viii, 5.ix.

**Silvanidae**

(*Ahasverus advena* Waltl) – A second specimen sieved out of compost, 16.ix.57.

**Lathridiidae (five additions)**

(*Lathridius minutus* (L.)) – The data given in the list under *Enicmus minutus* relate to the following; the true *L. minutus*, much scarcer, is hard to separate and is not known to have occurred.

(*L. anthracinus* Mann.) – Data given under the above name apply here. On house wall, 24.vi.60. Despite its name, usually rusty-brown and *not* coal-black.

*L. pseudominutus* Strand – One at roots of grass along fence, 1.iii.59. (Usually the largest and blackest of the group.)

*Dienerella* (formerly *Cartodere*) *ruficollis* (Marsh.) – Found very sparingly on a wall of the house, where there were probably small moulds, end of June 1960.

*D. separanda* Reitt. – Two examples of this often common species (split off from the rarer *D. elongata* (Curt.)), by grubbing along base of fence, 16.iv.67.

\**Cartodere* (formerly *Lathridius*) *constricta* (Gyll.) – A solitary specimen in a mouldy grass-heap, 21.v.59. (Mostly occurs singly in my experience.)

(*Enicmus brevicornis* (Mann.)) – Odd specimens continued to be swept increasingly often since the first occurred in 1951, up to the end of the period. The transformation of this beetle from a rare old-forest species, into one found sometimes by the million on sycamores infected with sooty-bark disease, is one of the more remarkable events in the recent history of our Coleoptera. The latter habitat was not found in the Blackheath district, but *E. brevicornis* soon became general.

(*Corticaria elongata* (Gyll.)) – Remained quite scarce in the garden, but occasionally rather numerous at m.v.l. on “good” nights.

(*C. inconspicua* Woll.) – This is the *C. crenicollis* of the list, the true species of that name not being British.

**Mycetophagidae (one addition)**

*Mycetophagus quadripustulatus* (L.) – Stray specimens have twice been swept: 29.x.58, 30.v.63. (One of our commonest fungus-feeders.)

(*Typhaea stercorea* (L.)) – Often quite common at m.v.l.

**Colydiidae (one addition)**

\**Aulonium trisulcum* (Fourc.) – This *Scolytus*-predator was by no means infrequent at m.v.l. during and after the peak-period of Dutch elm disease in the district, the decade 1960-70. It bred freely in the local elms when conditions were right. First noted 19.vi.60: another on 24.vi.61; seven on 1.vii.73.

**Erotylidae (one addition)**

*Dacne bipustulata* (Thunb.) – Three examples in a fungus on trunk of dead cherry tree, 3.vii.63; one swept at end of beech hedge not far from same tree, 18.v.70.

**Coccinellidae (three additions)**

(*Coccinella septempunctata* L.) – A number found hibernating at roots of a clump of michaelmas daisies (*Aster novi-belgii*), 2.ii.71.

\**Halyzia sedecimguttata* (L.) – One at m.v.l., 24.vi.60 (the only one I had seen in the area until last year, 1996. Recently found to be often associated with sycamore, as a mildew-feeder).

*Myrrha octodecimguttata* (L.) – Singly at m.v.l., 8.vi.60, 9.viii.67, 7.vii.70; one from foliage of red-flowering hawthorn overhanging from next garden, 25.viii.60 (curious site for this pine-dwelling species).

*Scymnus haemorrhoidalis* Hbst. – Occasional in later years, by sweeping rough herbage, etc.: 3.vii.58, 27.iv.63; 21.vii.68 (by the pond).

(*S. auritus* Thunb.) – A male on *Pyrus japonica* 17.v.64, the second to have been found on this shrub; twice later on a young self-sown oak (its proper host tree), the last 29.vii.73.

(*Stethorus punctillum* (Weise)) – Further records; singly, 23.v.62 & 19.v.72, on the beech hedge.

### Some personal records of *Melinda* (Dip.: Calliphoridae) from Kent

I recently purchased the eminently readable book in the Naturalists' Handbooks series entitled *Blowflies* by Dr Z. Erzinçlioglu (1996). Having become accustomed to identifying my calliphorids using the works of van Emden (1954. *Hdbks. Ident. Br. Insects Vol. X. part 4a. Tachinidae and Calliphoridae*) and Rognes (1991. *Blowflies (Diptera, Calliphoridae) of Fennoscandia and Denmark. Fauna Ent. Scandinavica* 24: 199-205) I was rather concerned to find that only one species of *Melinda* (*M. gentilis*) was included in Dr Erzinçlioglu's key on page 48 and checklist on page 59.

There has been much confusion in the nomenclature of this genus, a phenomenon common to the Diptera in general and to the calypterates in particular. Van Emden distinguished *Melinda anthracina* Mg. and *M. caerulea* Mg. initially on the presence or absence of the pre-sutural intra-alar bristles respectively. Rognes followed this but said that the species possessing a pre-sutural intra-alar bristle is *Melinda gentilis* Rob.-Des. whilst that without is *M. viridicyanea* (Rob.-Des.). The latter characters and nomenclature are those on which I have based my identifications and the current data for both species are listed below.

#### *Melinda gentilis* Robineau-Desvoidy, 1830

7 August 1987 Gorsehill, Dover TR 298426, 22 May 1988 Oak Wood, Alkham near Dover, TR 273425, 3 June 1988 Old Park, Canterbury TR1 68589, 7 May 1989 Folkestone Warren TR 244379, 30 March 1990 Canterbury Field Study Centre TR 158593, 9 August 1991 Northfleet TQ 630742, 15 May 1994 Iron Hill, Hickman's Green TR 0658, 12 April 1995 Wye Downs TR 0745, 27 May 1995 Lullingstone Park TQ 5164.

#### *M. viridicyanea* (Robineau-Desvoidy, 1830)

3 July 1983 Park Wood, Chilham, TR 0452, 21 July 1983 Oare Gravel Pits near Faversham, TR 003623, 14 June 1986 Yocklett's Bank, Stelling Minnis, TR 125475, 11 July 1987 Holy Well, Folkestone TR 222381, 11 July 1987 Shakespeare Cliff, Aycliffe TR 303398, 29 August 1987 Hosey Common, Westerham, TQ 4552, 6 September 1987 Holy Well, Folkestone TR 222381, 20 September 1987 Kearsney near Dover, TR 281441, 16 July 1988 Brockhill Country Park, Saltwood, TR 1435, 6 August 1988 Sladden Wood, Alkham near Dover, TR 258428, 14 August 1988 Lydden LNR near Dover, TR 276452, 7 May 1989 Folkestone Warren TR 244379, 28 May 1992 Rusthall Common, Tunbridge Wells, TQ 5639, 29 July 1992 Madam's Wood near Stelling Minnis, TR 165466, 5 August 1993 Nackholt Wood, near Ashford, TR 0642, 6 August 1993 Bingley's Island, Canterbury TR 142576, 27 August 1993 Wincheap, Canterbury TR 1357, 24 April 1994 Kiln Wood, Lenham, TQ 8851, 15 May 1994 Park Gate Down near Stelling Minnis, TR 168459, 28 August 1994 Mereworth Woods TQ 663553, 6 May 1995 Parsonage Wood TQ 7932.

Clearly most records relate to *M. viridicyanea* and the bulk of the records are from sites with a distinctly calcareous substrate, matching the preferences for the recorded molluscan hosts of the flies.— LAURENCE CLEMONS, 14 St John's Avenue, Sittingbourne, Kent ME10 4NE.

**Concerning the 1976 population explosion of the Seven-spot Ladybird *Coccinella septempunctata* L. (Col.: Coccinellidae) and the reported biting by this species of Man *Homo sapiens* L.**

During a huge south-easterly movement of the Seven-spot Ladybird *Coccinella septempunctata* L. on the North Somerset coast at Clevedon, 22.5km west-south-west of Bristol, on 7 July 1976, many of them alighted on my bare arms and chest — I had been shirtless in my garden in the very hot, rather humid weather conditions that day while attempting to write. The sheer magnitude of the numbers of these beetles almost drove me indoors, but I decided to “stick it out” and instead observe their behaviour. At least three different individuals nipped my arms while I watched, and felt, them do so. The biting of one individual was so persistent, causing a stinging sensation, that eventually I felt obliged to flick it away, but not before I noticed that it had exuded into the small incision it had made droplets of what I took to be the protective yellow fluid these insects release on being molested. Michael Majerus (1994, *Ladybirds*. Harper Collins, London) states that the stinging sensation felt on being bitten is actually due to the injection of a droplet of a digestive enzyme. The following day I displayed the reddish mark remaining on my skin during a BBC regional television interview in the Bristol studios when discussing the phenomenal numbers of ladybirds present in the Bristol area at that time.

There were, of course, widespread reports in the media of people being bitten during the remarkable Seven-spot Ladybird population explosion of that exceptionally hot summer in 1976 (see Majerus 1994 *op. cit.* for a general account). The reason universally given for this was that the consequent population crash of their normal aphid prey made the coccinellids desperate in their search for alternative sources of sustenance; hence their willingness to sample *Homo sapiens* L. I do not have a particularly sensitive skin covering my arms, but it took several days for the “wound” described above to vanish.

Judging by the reports received by the BBC newsrooms in Bristol, this south-easterly movement of *C. septempunctata* that hot July day in 1976 occurred along a front of at least 32km, from Portishead in the north to Burnham-on-Sea in the south. People were driven from the beaches by the vast hordes of ladybirds. On the previous day (also very hot and sunny) they had been extremely abundant throughout the Bristol area.

At Clevedon on 7 July it was at about 1100 hrs BST that I became aware that a directional movement was taking place towards the south-east. It was especially concentrated between 1130 hrs BST and 1230 hrs BST, subsequently dying down gradually, so that by 1300 hrs BST only a few were still moving through. During the peak period of the movement I attempted to estimate the numbers flying through the six-metre gap between the side of my house and the adjacent one up to a height of six metres, although, in fact, they were passing through just as densely at a much greater height than that. I estimated that they passed through my 36-square metre observation square at, very approximately, 200 per second, giving a total of about 720,000 per hour. Yet this represented only a tiny fraction of the prodigious numbers moving on the 32km or so front!— JOHN F. BURTON, In der Etwiese 2, D-69181 Leimen-St. Ilgen, bei Heidelberg, Germany.

**White-letter Hairstreak *Strimonidia w-album* (Knoch) ovipositing sites**

On 7 August 1993, I visited Red Lodge Plantation, an uneven-aged Forestry Commission oak woodland in north Wiltshire, to look for dragonflies. Driving along the east-west ride at 13.00 hours, I noticed a group of Peacock butterflies feeding on a stand of creeping thistles growing in the sun on the edge of the ride. They were accompanied by several other species including Brimstone, Comma, White Admiral, Silver-washed Fritillary and at least six White-letter Hairstreaks.

I watched the behaviour of the hairstreaks for an hour during which time three individuals continued to feed together on a group of flower heads. Their movement was minimal and the similarity between drooping dead thistle heads and the faded under sides of the butterflies' wings made for excellent camouflage. From time to time, an individual feeding elsewhere in the patch of thistles would take off and disappear into the tree canopy but at no time during the hour were fewer than six individuals present which indicated that the total colony was much greater than six. Several young wych elm trees *Ulmus glabra* growing along the woodland edge close to the thistles seemed likely to be the colony's breeding site. In order to confirm the theory a visit during the following winter would be necessary.

A visit was made on 21 November in poor light. The ride verges had been swiped and evidence of the bed of thistles had been obliterated. However, the unmistakable silhouette of the wych elms marked the spot. The few branches that were accessible were examined for eggs. Every terminal bud was found to be a leaf bud and each twig bore up to three flower buds spaced on average 15 mm apart. Eggs were found on two branches but, due to the poor light and the awkward height of the branches, others may well have been overlooked.

On one branch, twig A had two eggs side by side under the terminal leaf bud and a third 13 mm below under the first flower bud. Twig B bore a single egg beneath the terminal bud. All eggs were laid on the opposite side of the twig to the leaf scar. No fresh eggs were found on any of the girdle scars. The placing of an egg as close as possible to a bud to which the newly-emerged larva must crawl to feed would be the best strategy for its survival. On closer examination of the girdle scars under x10 magnification, four were found to have empty egg-shells from which larvae would have hatched the previous year (1992). They were invisible to the naked eye but magnification showed the exit hole, close to the micropyle, as a dark speck in the top of the spherical egg-shell. In each case, the egg-shell, the bark on the girdle scar and on the 1992 year's growth were clothed with algae which appeared as a fine green dust which more or less obliterated the shape of the shell. The position of girdle scars which marked the junction of the 1992/93 year's growth, would have been beneath the terminal bud in the 1992 growing season, the position in which three of the four 1993 eggs had been laid. Therefore, the same twig had been chosen by a female hairstreak in 1992 and 1993. Twigs A and B each had an empty egg-shell on the girdle scar in addition to the eggs laid in 1993. Twig C was a year older and therefore had two scars each having an empty egg-shell, one laid in 1992 and one in 1991 but none in 1993.

On a second branch, a single egg was found under the terminal bud and another close to the base of a flower bud on the same twig. All the above evidence strengthened the theory that a strong colony of White-letter Hairstreaks was supported by this and adjacent wych elms.

On 11 June 1994, the egg-bearing tree was searched for larvae and pupae. A full-grown larva was feeding on the underside of a leaf and continued feeding while being photographed; one pupa was found at the end of a twig on a low branch and two were detected, using binoculars, on the underside of leaves in the crown of the tree. On 17 July, an empty pupal case was found on the low branch and three adults were seen, one feeding on creeping thistles as in 1993 and two flying in the ride nearby.

The following references to the positioning of eggs (listed in chronological order) are conflicting and most are rather vague.

E Mansell, L Hugh Newman. *The Complete British Butterflies in Colour*. 1968. “. . . usually depositing them close to a bud.”

Robert Gooden. *British Butterflies. A Field Guide*. 1978. “. . . usually in the forks of the twigs.”

J A Thomas. *RSNC Guide to the Butterflies of the British Isles*. 1986. “. . . fixed below a flower bud or on a twig.”

A Maitland Emmet, J Heath (Eds). *The Moths and Butterflies of Great Britain and Ireland*. Vol. 7, Part 1. 1989. “Generally laid on the girdle scar. . . .; more rarely in a bud axil or at a junction of twigs (White, *pers. comm.*).”

Jeremy Thomas and Richard Lewington. *Butterflies of Britain and Ireland*. 1991. “. . . most are laid beneath flowerbuds, in forks and particularly on the wrinkled girdle scar.”

Martyn Davies. *The White-letter Hairstreak Butterfly*. 1992. “The favoured site on a wych elm . . . is the girdle scar.”

My observations from a single tree occupied by a single colony, and the placing of the eggs by the females consistently at the base of buds and not on the girdle scars, may be unusual but, unfortunately, I have been unable to reach other possible egg sites. It is, of course, known that a White-letter hairstreak larva does not eat its egg-shell but I have found no mention in the entomological literature available to me that empty shells can be found on girdle scars a year or more after they were laid.

In December 1996, a meeting of the Wiltshire Branch of Butterfly Conservation was arranged to search for the eggs of Brown and White-letter Hairstreaks in Red Lodge. The tree where I had made my earlier observations, and those adjacent to it, were examined. With the advantage of more than one pair of eyes and a tall member among the searchers, thirteen eggs including three pairs were soon found, all at the base of terminal buds. The search is to be repeated during the coming winter.—  
BEATRICE GILLAM, 19 Roundway Gardens, Devizes, Wiltshire SN10 2EF.

**EARLY BUTTERFLIES AND MOTHS IN THE ISLE OF WIGHT  
DURING 1997**

S.A. KNILL-JONES

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NATIONALLY, 1996/1997 was the driest two-year period since records began over two-hundred years ago. During the twelve months since April 1996, only November 1996 and February 1997 have recorded above average monthly rainfall. At Ryde up to 108mm (4.25 inches) of rain fell during February, about 70% more than average, boosting the low underground sources as well as reservoir levels and river flows. It was the warmest March for sixty years with the mean maximum temperature of 13°C (55.6°F) which was the highest since 1938 and was 3.4°C (5.6°F) above the average. The highest day temperature was 18.1°C (61°F) on 15 March and the lowest night temperature was 2°C (35.6°F) on 31 March. The total sunshine of 129 hours was almost exactly average and it was a dry month with under an inch of rainfall. April was the sunniest on the island since records began in 1918. With 248.8 hours of sunshine, the month just beat the previous April record of 240.3 hours in April 1990. The sunniest April day was the 30th with 13.8 hours of sunshine, the previous highest being 13.7 hours in 1966 and 1959. The month was also warmer than usual and the highest temperature of 19.1°C (66.4°F) was recorded as early as the 10th. With only 14.2mm (0.56 inches) of rain compared to the 46.2°C (1.82 inches) long-term average for April, the drought, which started at the beginning of March continued. There was 12.7mm (0.5 inches) of rain on 3 March and between then and 25 April there were seven days on which very small amounts of rain (less than 0.5mm (0.02 inches)) fell.

The exceptionally warm and sunny months of March and April caused some very early emergences of many of our spring butterflies and moths, which may be compared to the years 1989, 1990, 1993 and 1995 when there were also forward springs. Over the last ten years there has been only one appreciably cold winter, in 1991, and there seems to be good evidence of the effects of global warming over this last decade with this feature of mild winters and early springs being the norm.

Amongst the butterflies that emerge in the spring the Holly Blue *Celastrina argiolus* (L.) was seen as early as 20 March compared to 28 March in 1989 and 29 March in 1990. On the same day a very early Green-veined White *Pieris napi* (L.) was observed at Arreton. An Orange-tip *Anthocharis cardamines* (L.) was seen on 27 March at Gurnard. During April the Green Hairstreak *Callophrys rubi* (L.) was noted in the chalk-pit at Afton Down on 9 April which compares to 12 April 1995. The Grizzled Skipper *Pyrgus malvae* (L.) was observed at the same locality on 10 April compared to 14 April in 1995. An exceptionally early Duke of Burgundy Fritillary *Hamearis lucina* (L.) was seen on Tolt Down, Gatcombe on 16 April. The Small Heath *Coenonympha pamphilus* (L.) was recorded on Brading Down on 21 April. The Small Blue *Cupido minimus* (Fuess.) and Brown Argus *Aricia agestis* (D.&S.) were seen on Afton Down on 27 April and the former species was observed at the same locality on 29 April in 1990. The Glanville Fritillary *Melitaea cinxia* (L.)

was also noted on 30 April at Wheelers Bay together with the Common Blue *Polyommatus icarus* (Rott.).

On the mainland there were some even more incredibly early examples of early butterflies, the details of which are given below:

Speckled Wood *Pararge aegeria* (L.) – 6 March, Somerset.

Green Hairstreak *Callophrys rubi* (L.) – 27 March, Suffolk.

Grizzled Skipper *Pyrgus malvae* (L.) – 1 April, Sussex.

Pearl-bordered Fritillary *Boloria euphrosyne* (L.) – 11 April, Dartmoor.

Dingy Skipper *Erynnis tages* (L.) – 12 April, Sussex.

I now give below a list of early emergent spring species of butterflies seen on the island during March and April:

Date	Species	Locality
March		
20	Holly Blue <i>Celestrina argiolus</i> (L.)	Freshwater and Gurnard
	Green-veined White <i>Pieris napi</i> (L.)	Arreton
27	Small White <i>Pieris rapae</i> (L.)	Binstead and Brading
	Speckled Wood <i>Pararge aegeria</i> (L.)	Freshwater
	Orange-tip <i>Anthocharis cardamines</i> (L.)	Gurnard
April		
9	Small Copper <i>Lycaena phlaeas</i> (L.)	Newtown
	Green Hairstreak <i>Callophrys rubi</i> (L.)	Afton Down
10	Grizzled Skipper <i>Pyrgus malvae</i> (L.)	Afton Down
	Large White <i>Pieris brassicae</i> (L.)	Freshwater
16	Duke of Burgundy <i>Hamaeris lucina</i> (L.)	Tolt Down, Gatcombe
21	Small Heath <i>Coenonympha pamphilus</i> (L.)	Brading Down
22	Dingy Skipper <i>Erynnis tages</i> (L.)	Brading
27	Small Blue <i>Cupido minimus</i> (Fuessl.)	Afton Down
	Brown Argus <i>Aricia agestis</i> (D.&S.)	Afton Down
	Wall Brown <i>Lasiommata megera</i> (L.)	Binstead
29	Pearl-bordered Fritillary <i>Boloria selene</i> (L.)	Parkhurst and Walters Copse
30	Glanville Fritillary <i>Melitaea cinxia</i> (L.)	Wheelers Bay
	Common Blue <i>Polyommatus icarus</i> (Rott.)	Brading and Wheelers Bay

Amongst the migrant butterflies the first Red Admiral *Vanessa atalanta* (L.) was seen at Gurnard in the Solent on 16 January and the first Painted Lady *Cynthia cardui* (L.) was recorded on 27 April on Afton Down.

In early March warm southerly winds blew up from the Azores causing a considerable migration of moths. I recorded the rare North African Pyralid *Euchromius ocella* (Haw.) on 7 March at Freshwater and a second was recorded at

Christchurch on the mainland on the same night. I recorded the White-speck Wainscot *Mythimna unipuncta* (Haw.) on 9 March, the Pearly Underwing *Peridroma saucia* (Hb.) also on 9 March; the Silver Y *Autographa gamma* (L.) on 11 March and I observed a Hummingbird Hawkmoth *Macroglossum stellatarum* (L.) feeding on Elephant's Tongue by day on 20 March. Nearly two dozen Dark Sword Grass *Agrotis ipsilon* (Hufn.) were recorded at this time with the first being taken at Binstead on 3 March.

Brian Warne and I made several trips to Whitefield Woods near Ryde during March to see if we could capture the Orange Underwing *Archieris parthenias* (L.) and on 21 March we caught six examples during a warm and sunny afternoon. When I had set mine I noticed that one was in fact the Light Orange Underwing *Archieris notha* (Hb.) which happened to be the first record for over fifty years on the island. There is a stand of Aspen in these woods so both species appear to be present.

Amongst the species which were several weeks early were several Prominents. The Swallow Prominent *Pheosia tremula* (Cl.) was recorded at Freshwater on 3 April. The Lesser Swallow Prominent *P. gnoma* (Fabr.) was taken on 14 April which compares to 12 April in 1995 and the very early date of 31 March in 1990. The Pebble Prominent *Eligmodonta ziczac* (L.) was noted on 11 April (24 April in 1995) and the Iron Prominent *Notodonta dromedarius* (L.) on 21 April (26 April in 1995). The Red Twin-spot Carpet *Xanthorhoe spadicearia* (D.&S.) was recorded at Binstead on 21 April (27 April in 1995) and the Mullein *Cucullia verbasci* (L.) was seen on 12 April. A very early Ruby Tiger *Phragmatobia fuliginosa* (L.) was taken at Arreton on 27 March (12 April in 1995). Compared to 1995 this year was about a week earlier but there were even earlier records in 1990 which included the Brimstone *Opisthograptis luteolata* (L.) on 31 March (9 April in 1997).

I now give below details of the more interesting species of moths that were recorded on the island during March and April 1997.

Date	Species	Locality
March		
9	White-speck Wainscot <i>Mythimna unipuncta</i> (Haw.)	Freshwater
11	Silver Y <i>Autographa gamma</i> (L.)	Freshwater
12	Square Spot <i>Paradarisa consonaria</i> (Hb.)	Binstead
14	Orange Underwing <i>Archieris parthenias</i> (L.)	Whitefield Woods
	Powdered Quaker <i>Orthosia gracilis</i> (D.&S.)	Freshwater
16	Engrailed <i>Ectropis bistortata</i> (Goeze)	Binstead
20	Humming-bird Hawk <i>Macroglossum Stellatarum</i> (L.)	Freshwater
21	Light Orange Underwing <i>Archieris notha</i> (Hb.)	Whitefield Woods
27	Red-green Carpet <i>Chloroclysta siterata</i> (Hufn.)	Binstead
	Ruby Tiger <i>Phragmatobia fuliginosa</i> (L.)	Arreton
29	Purple Thorn <i>Selenia tetralunaria</i> (Hufn.)	Freshwater and Binstead

## April

3	Swallow Prominent <i>Pheosia tremula</i> (Cl.)	Freshwater
	Nut-tree Tuffet <i>Colocasia coryli</i> (L.)	Binstead
9	Brimstone <i>Opisthograptis luteolata</i> (L.)	Binstead
11	Pebble Prominent <i>Eligmodonta ziczac</i> (L.)	Freshwater
12	Mullein <i>Cucullia verbasci</i> (L.)	Freshwater
14	Scorched Carpet <i>Ligdia adustata</i> (D.&S.)	Binstead
	Cinnabar <i>Tyria jacobaeae</i> (L.)	Binstead
	Lesser Swallow Prominent <i>Pheosia gnoma</i> (Fabr.)	Binstead
	Pale Prominent <i>Pterostoma palpina</i> (Cl.)	Binstead
21	Iron Prominent <i>Notodonta dromedarius</i> (L.)	Binstead
	Red Twin-spot Carpet <i>Xanthorhoe spadicearia</i> (D.&S.)	Binstead
24	Grey Dagger <i>Acronicta psi</i> (L.)	Freshwater
25	Pale Tussock <i>Calliteara pudibunda</i> (L.)	Binstead
	Maidens Blush <i>Cyclophora punctaria</i> (L.)	Binstead
	Bright-line Brown-eye <i>Laconobia oleracea</i> (L.)	Freshwater
26	Poplar Hawk <i>Laothoe populi</i> (L.)	Binstead
	Peppered Moth <i>Biston betularia</i> (L.)	Binstead
27	Cabbage <i>Mamestra brassicae</i> (L.)	Freshwater
29	Oak Hook-tip <i>Drepana binaria</i> (Hufn.)	Binstead

It will be interesting to see if mild winters and early springs are a feature during the next ten years. If so it may add greater weight to the theory of global warming.

### Acknowledgements

I should like to thank my mother for reading and commenting on the manuscript and Mr B. Angell, Mr D.A. Britton, Mr S. Colenutt, Mr B. Goater, Mr I. Kimpton, Mr and Mrs D. Peach and Mr B.J. Warne for their useful records and information which has helped me in writing this paper.

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### Hazards of butterfly collecting – Egg Curry Orchha – India, 1985

An interesting thing happens in northern India in winter. A number of Palaearctic butterfly species, normally only found above 1500 metres in the Himalayas, breed in large numbers on the plains, among them *Pieris brassicae* Linnaeus, *Artogeia rapae* Linnaeus, *Pontia daplidice* Linnaeus, two species of *Colias*, *Argyreus hyperbius* Johansson, and several others. These are normally hibernating species, but they seem to have evolved the alternative strategy of moving down the mountains to breed continuously on the plains between autumn and spring. Most of these species breed on weeds in irrigated fields, so possibly this is a relatively recent phenomenon (for more details see my paper: 1986. *Atalanta* 16: 245-252).

Having already investigated the foothills of the Himalaya, I decided to take my girlfriend to see the wonderful temples at Khajurao – with their superb sculptures – thus allowing me to check how far into central India these seasonal wanderers might extend. The best piece of luck I had was just south of Agra, where in the bandit-infested (yet another example of the wonderful Indian way with words) ravines of the Chambal River, *Argyreus hyperbius* was more common than I have ever seen it in the mountains. Thousands were about, but no violets, the normal foodplant. We made a longer stop on the way back, but to my great shagrin, we could find no larvae.

Before we left, a friend had advised us to stop at Orchha, and “do ask for room number 1 – the view from the toilet is magnificent”. Orchha is almost unknown, and well off the normal tourist trails, so we went. And what splendid advice! It is an enchanting place. Two huge, empty palaces, one said to have been built in anticipation of a visit by Shah Jehan that never materialised, and subsequently never used. As in so many places in India, monumental tombs had been built. A river babbled by, unfortunately attracting only the most banal of butterflies.

We were the only foreigners for miles. This was a good thing, because the Madhya Pradesh Government Guest House had only three rooms, and we were able to get number 1. It was on the fourth floor of what had been the harem. A huge room was outfitted with bric-a-brac confiscated from a neighbouring Maharajah palace, complete with huge Belgian mirrors on the wall, four-poster bed, stuffed tigers, and enough weapons to fight a minor civil war. But, as our friend had said, the bathroom was the crowning glory. It was in a narrow turret with a view covering 270 degrees, including one of those sunsets which make winter in northern India more bearable than it would otherwise be. And all this for \$15 a night for a double room.

Would we like dinner? Most emphatically, yes! Unfortunately it had to be vegetarian, said a hand-wringing manager. That, however, is hardly a hardship in India, while meat dishes often are, since local meat is normally tough as old boots. A table in the little courtyard adjoining the room was impeccably set on a gleaming white tablecloth. Half an hour later, the meal arrived. Dal, yoghurt with chopped cucumber, assorted chutneys, the fluffiest of basmati rice, chapatties, popadums, and, the crowning glory, a most wonderful egg-curry. Such a meal in such a setting

will be remembered forever, simple though it was. We had egg-curry the next two days as well, despite the manager's half-hearted attempts at rustling up a chicken.

We had a chat with the manager. We had seen our share of completely hopeless State Government Rest Houses, so how could he be doing so well in what had to be a remote "punishment-posting"? Well, we probably did not put the question exactly like that, but basically it seems he was simply too effective, and too demanding, and setting too high standards for the system to bear. So he was "punishment-posted". But there was hope. Someone in Bhopal seemed to be listening. He had been promised he could open two more rooms next year. The wheels of Indian bureaucracy turn in inscrutable ways.

As we left, we asked to see the *khansamah* (cook), to thank him and to give him the generous tip he richly deserved. There he was, on the floor, under an ancient open-air staircase, with a blackened petroleum cooker of the freestanding *Primus* variety, and a few battered pots and pans. I doubt if I could have made *cuppa-soup* on his equipment. If only India could release this type of initiative and ingenuity in more productive ways\*.

Boiled eggs travel well, even in the tropics, and *Egg-Curry Orchha* is now standard camping fare for us in Botswana. I cannot say that I reach the standards of that *khansamah*, but the curry *is* good and rice *is* basmati. However, there is no way I could manage chapatties and popadums as well.

\*Ten years later the liberalisation programme in India is beginning to do just that.—  
TORBEN B. LARSEN, 358 Coldharbour Lane, London SW9 8PL.

### **The Monarch *Danaus plexippus* L. (Lep.: Nymphalidae) in Glamorgan, October 1997**

On 23 October 1997, Roy Jones showed me a dead Monarch butterfly, which had been handed in at the Environment Centre in Swansea. It had been found floating in a pond at Caswell, south Gower, by a visiting holidaymaker who "thought it might be important".

Only a few days earlier, Kevin Dupe (Warden of Crymlyn Bog National Nature Reserve), had told me he had seen a Monarch on 18 October while driving along Fabian Way (which links Swansea to the M4 motorway). He had seen the butterfly cross ahead of him, coming from Crymlyn Burrows and heading northward inland. He had not had the opportunity to stop and check it out, but as he remarked "how many huge, deep-orange butterflies are there in Britain?"

A study of weather patterns in the period preceding these sightings could presumably identify the system capable of sweeping up the migrating butterflies and carrying them out across the Atlantic.

Interestingly, Kevin's sighting was within the Neath 10km square – it was in Neath that the first recorded British (and European) sighting of a Monarch occurred, in 1876.—MARTIN J. WHITE, 8 St. Nicholas Square, Maritime Quarter, Swansea SA1 1UG.

***Anomis fulvida* Guenée (Lep.: Noctuidae): first pest record on *Hibiscus syriacus* L. at 1685 metres (5500 feet) altitude in the Kumaon Hills, India**

The larvae of *Anomis fulvida* were observed feeding on the bark of the ornamental plant Gurhal *Hibiscus syriacus* from mid-August to October at Pithoragarh, some 1685 metres above sea level in the Kumaon Hills of India. The larvae were green and almost resembled the plant's leaves making them hard to locate. Fully grown larvae measured between 3.3 and 3.8 cms. Feeding damage is recognised by the appearance of white patches on the stems and feeding appears to take place predominantly on the mid-portion of the plant stem rather than at higher or lower levels. Larvae collected and reared in the laboratory on the same pabulum pupated rapidly and yielded adults after 9 - 10 days. The yellowish adult moths survived only 3 - 4 days.

The moth has previously been reported as a pest causing damage to guava fruits in Himachal Pradesh and to citrus fruits in Himalaya. It has also been reported as a sporadic pest of cotton causing serious damage to the crop (Nair, 1986. *Insects and Mites of Crops in India*. Indian Council of Agricultural Research). *Hibiscus syriacus* has been reported being attacked by *Clinetoria spilota* Hope (Arif & Joshi, 1992. *Prog. Hort.* **24**: 120) and *Popilla cupricollis* Hope, *P. cyanea* Hope and *Heterorhina mutabilis* Hope (Arif *et al.* *Sci. & Cult.* **59**: 43).

Examination of available literature reveals that this is the first report of *Anomis fulvida* from the central Himalaya. We are grateful to Dr J.D. Holloway and the Director of the International Institute for Entomology, London, for identification of *Anomis fulvida*.— MOHOMMAD ARIF AND NARENDRA KUMAR, Defence Agricultural Research Laboratory, Pithoragarh (UP), 262 502, India.

**Late moths in the Isle of Wight during 1997**

On 6 November I took an example of *Ourapteryx sambucaria* (Linn.) at light, which happens to be the latest that I have ever taken it – beating the 2 November record in 1994. On 1 December I recorded a very late *Apamea monoglypha* (Hfn.) which was one of several that I noted in the late autumn although in favourable years there are second brood examples of this species in the south. On 12 December I found a freshly emerged *Gymnoscelis rufifasciata* (Haw.) in the sitting room; this could have been breeding on indoor plants and emerged indoors. In previous years I have recorded this species as late as 28 November at light in the garden. All three species were observed at Freshwater.— S.A. KNILL-JONES, Roundstone, Freshwater, Isle of Wight PO40 9AL.

**Information wanted: insects in poetry**

As part of a research project into insects in poetry, I would like to hear from anyone who knows of poems by any poet, classical or contemporary, published or unpublished in which an insect or insects of any order are featured specifically or generally. All correspondence will be acknowledged. John Tennent, 1 Middlewood Close, Fylingthorpe, Whitby, North Yorkshire YO22 4UD.

***Leucospilapteryx omissella* (Stainton) and *Coleophora artemisicolella* Bruand  
(Lep.: Gracillariidae and Coleophoridae) in Berkshire**

On 16 September 1997, while searching plants of mugwort *Artemisia vulgaris* growing beside the River Lodden at Lower Earley for larvae of *Leucospilapteryx omissella* (Stt.), I noticed the characteristic feeding holes left by larvae of *Coleophora artemisicolella* Bru. in the mugwort seeds. Although larvae of this coleophorid are hard to find, due to their habit of using seed capsule as their larval case, careful searching soon revealed them in some numbers. At present they are overwintering in nylon mesh bags on a south-west facing fence, where they will remain until I bring them in during late May or June 1998. This species is not mapped for VC 22 in MBGBI (III).

At the same time as finding the coleophorid larvae I also found larvae of *L. omissella* in some numbers on the same plants. Their characteristic purplish inflated mines in the mugwort leaves were very obvious, as were the scarlet larvae that vacated them within a few days. I have looked for these larvae in and around this area, and indeed on plants in this very spot, each year for several seasons before, without success. It is a species notorious for having years of abundance followed by years of almost complete absence. Considering I had "just popped out for a stroll" this turned out to be a productive afternoon.

As a foot-note I must add that one active case of *C. artemisicolella* was found attached to a piece of dead wood collected during a field meeting at Burnham Beeches in Berkshire on 18 October 1997. This moth does not appear to be mapped for this vice-county either (Burnham Beeches is in VC24).— I. SIMS, 2 The Delph, Lower Earley, Reading, Berkshire.

**Colonisation of north Scotland by *Bombus lapidarius* (L.) (Hym.: Apidae)**

The bumblebee *Bombus lapidarius* (L.) has not been recorded frequently in the north of Scotland. The *Atlas of the Bumblebees of the British Isles* (ITE 1983) shows no records for Highland or Grampian Regions since 1960, and I did not find it in Highland from 1988-1995 inclusive. My first record in Highland Region was in 1996, and I alerted local naturalists to submit records to me. This continued in 1997. Some records came from competent naturalists not specialist in *Bombus*, but who were given a clear description of *lapidarius*. In some cases no critical distinction was made from the similarly coloured *B. ruderarius* (Müller), also essentially absent from Highland region, and not recorded by me in Scotland other than on the islands of Coll and Tiree (where *lapidarius* also occurs). In other cases (asterisked below) I made a positive determination of *lapidarius*. I have assumed that all records of black, red-tailed bees are of that species.

In 1996, queens were present at Strathpeffer, Culbokie and Inverness (NH45\*, 66 and 64) during May and June. This coincided at Strathpeffer with the presence of three queen *B. terrestris* (L.), a species which is sporadic and irregular in its appearance this far north. In summer 1996, males and/or workers of *lapidarius* were active at Inverness, Portmahomack and Tarbat Ness (NH64\*, 98\*). In May and June 1997,

queens were again found at Knockfarrel, Fodderty, Dingwall, Inverness, Culbokie, Culloden, Rosemarkie and Portmahomack (NH45, 55\*, 64, 66, 74, 75, 98). From May to August workers and/or males were found in NH45\*, 54, 55\*, 66\*, 76, 85, 87, and 98 (localities listed above, plus Hilton of Cadboll, Kilcoy Castle, Nairn and Cromarty). In contrast, I have no evidence that *terrestris* bred in the area in 1996, or indeed in any year since 1988, despite the sporadic appearance of queens in spring, summer and autumn, and I saw no queens in spring 1997.

*B. lapidarius* has clearly recently moved into the Highlands, and expanded its range significantly either as autumn queens at the end of the very hot, dry summer of 1995, or as overwintered queens in the following spring. Some of these bred successfully, and queens over-wintered to emerge in 1997. Records from Annie Lamb and Laura Smith (*pers. comms.*) show that *lapidarius* has been present in Grampian Region since at least 1990 (records for NJ92, 82, 90, NO59, and breeding in NJ54, NK02). I have breeding records from Maryculter (NJ80) in 1990 and Braemar (NO19) in 1996. Since the Atlas does not record the species north of the Tay except for some pre-1960 records on the west and north coasts, it seems that over the past 20 years or so since the Atlas recording was done, *lapidarius* has spread significantly up the east coast of Scotland and is now well established in Grampian and Highland Regions. It remains to be seen whether the recent colonisation of Highland Region can be maintained in the long term.—MURDO A. MACDONALD, Dingwall Academy, Dingwall, Ross & Cromarty IV15 9LT.

### Rearing *Nemapogon wolffiella* (Karsholf & Nielsen) (Lep.: Tineidae)

Larvae of the scarce tineid *Nemapogon wolffiella* were found during a field meeting at Warberg Reserve, Bix Bottom, Oxfordshire on 3 May 1997. John Langmaid suggested that a search be made for it, as it had recently been reared in some numbers in Devon. Here Mr Heckford had discovered larvae feeding in the fungus *Hypoxyton multifforme* earlier in the year (*Ent. Gaz.*, **48**: 193-194. 1997). *H. multifforme* grows on dead branches and trunks of silver birch that have either been lying on the ground or stacked for a while (years). It has the appearance of small black/brown pustules, roughly round in shape and anything up to 1cm in diameter. At this time of the year (April/May) these growths are very hard and dry in texture. This is a material with a singularly unappetising appearance which has probably been overlooked in the past as a diet for tineids. Externally, tenanted material had little of any sign or the larvae within, although small grains of dry black frass were evident on close inspection of a few examples. Subsequent examination showed that the larvae were also mining the dead birch wood beneath and around infected fungal material.

Several lepidopterists spent some time examining this fungal material in the field for larvae. I collected samples of fungal infected birch twigs and branches, although I could see no evidence of larvae. These were kept in Perspex fishtanks indoors, and on 15 June 1997 adults of this species began to emerge. A total of four individuals emerged by 28 June 1997. Their pupal exuviae were seen projecting from both fungal material and dead wood proximal to the fungal fruiting bodies.

On the 17 May 1997 I collected similar samples of dead birch with *H. multiforme* from Bear Wood, west of Wokingham, Berkshire. Again, no evidence of larval activity was seen, but on 24 June a female *N. wolffiella* emerged. A total of four individuals emerged by 12 July 1997.

That this uninspiring fungus is a suitable pabulum for moths of this family is supported by a rearing of one *N. clematella* (Fabr.) from the Warburg material and several examples of *N. cloacella* (Haw.) from the material collected at Bear Wood. Perhaps other species frequent this material (e.g. *N. granella*).— I. SIMS, 2 The Delph, Lower Earley, Reading, Berkshire.

### **The recurrence of *Emus hirtus* (L.) (Col.: Staphylinidae) on the Isle of Sheppey**

Some readers will doubtless have seen the recent report in the national press (*Sunday Telegraph*, 9 November 1997) of a specimen of this spectacular rarity at Elmley in the south-west of the Isle of Sheppey, said to be the first in Kent since 1951 – though in fact the late Dr A.M. Masee had heard odd reports of singletons farther east in Kent (probably unpublished) up to about 1956. The beetle was found in the act of entering a public lavatory (!) and later released; the date, about the beginning of November, making the occurrence particularly remarkable. This early-summer insect has been found very occasionally with us in autumn, but never (as far as we know) as late in the year as this: it was not especially warm at the time.

The Elmley district would appear to be a new part of Sheppey for the species, the chief area in the past being the Harty Marshes in the south-east of the island. (See Allen, 1962, *Ent. Rec.* 74: 219-221.) The present record prompts the questions: is *Emus* again breeding on Sheppey? and if so, has it been there continuously, despite the lack of records for so long? Clearly, a single specimen found in “unnatural” conditions cannot furnish proof, but at least it is highly suggestive.— A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

### **New species of Lepidoptera for the Isle of Wight during 1997**

On 5 October Tony Redfern caught an example of the Pale-lemon Sallow *Xanthia ocellaris* (Borkh.) at his actinic light trap at Wootton. This species occurs regularly in small numbers in the East Anglian and Thames Valley populations although this is the most westerly record in southern Britain.

During January, Brian Warne passed me a Tortricoid moth which he had taken at Binstead which was initially identified as *Acleris boscana* (Fabr.). This specimen was later exhibited at the British Entomological and Natural History Society's annual exhibition in South Kensington in October when it was identified by a group of Scottish entomologists as *Acleris logiana* (Clerck.). This is only the second record for England; the first was that of a larva found at Botley Wood, Hampshire in a folded leaf of *Betula* on 31 October 1991 by Dr John Langmaid. A female moth emerged sometime in the late autumn, and was found dead and desiccated on 8 March 1992. This species was believed to be confined to the Highlands of Scotland.

Peter Cramp and Simon Colenutt set up light traps at Cranmore on 7 July and recorded the first Isle of Wight record of *Argyresthia brookeella* (Hübner.); I took a further one at the same locality on 9 July. On 10 July I caught only the second Hampshire and Isle of Wight record of *Monochroa palustrella* (Dougl.) at Cranmore.

In July, I took an example of *Dichrorampha alpinana* (Treits.) at Freshwater and on 17 August I recorded *Eupoecilia ambiguella* (Hubner.) also at Freshwater. Both these species are new to the Isle of Wight.

I should like to thank my brother Dr Robin Knill-Jones, Dr John Langmaid and Col Maitland Emmet for their help in identification of the microlepidoptera.— S.A. KNILL-JONES, Roundstone, 2 School Green Road, Freshwater, Isle of Wight PO40 9AL.

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## BOOK REVIEWS

**Bombici e Sfingi d'Italia** by **Edgardo Bertaccini, Gabriele Fiumi and Pietro Provera**. Vol. 1, pp. 248, 16 colour plates, 1995; vol. 2, pp. 256, 16 colour plates, 1997. Numerous distribution maps and line drawings. 235 x 170mm, paperback, published by Natura – Giuliano Russo Editore. Available from E.W. Classey Ltd, PO Box 93, Faringdon, Oxon SN7 7DR, £27.50 each volume, including postage.

These two beautifully illustrated books on Italian hawk-moths and bombycids aim to provide entomologists, and especially amateurs, with a critical and up-to-date guide to the identification of their captures.

The area covered by these guides comprises Italy itself, together with the adjacent regions of Alpes Maritimes, Alpes de Haute-Provence, Hautes-Alpes, Savoie, Haute-Savoie, Valais, Ticino, Grisons, Tyrol, Carinthia, Slovenia, Istria, Corsica and Malta.

The first volume covers 127 species in the families Arctiidae, Dilobidae, Bombycidae, Brahmaeidae, Endromidae, Lasiocampidae, Lemoniidae, Saturniidae and Sphingidae; 121 species are covered in the second volume, in the families Syntomidae, Lymantriidae, Notodontidae, Thaumetopoeidae, Axiidae, Drepanidae, Thyatiridae, Cossidae, Limacodidae, Hepialidae, Thyridae, Heterogynidae and Noctuidae (Nolinae).

The families Sesiidae and Zygaenidae have been omitted, as other works have recently been published, which include the Italian species. The Psychidae have also been omitted, due to lack of information on this relatively little-known family.

Following the introduction and acknowledgements, each volume contains an English-language abstract of the preface, a systematic list of the species dealt with, a preface (in Italian), a map showing the various regions of Italy, a glossary and list of abbreviations. There then follows the systematic section, an extensive bibliography, the colour plates and an index. The second volume contains errata and addenda to the first volume and a German-language abstract of the preface.

The classification largely follows that used by De Freina and Witt (1987, 1990).

In the systematic section, there is an introductory paragraph to each family, giving details of the characteristics of the imagines and an outline of the early stages. Similar information is given for each genus, together with any synonyms.

For each species there is an indication of any synonyms, together with information on the range, distribution in Italy, biology and remarks (habitat, life-history, number of broods, foodplants and flight-period), sexual dimorphism, variation and similar species. There is also a map, showing the distribution in Italy; where a species has recently been taken in a given region, this is shown in black; speckled areas indicate regions where a species has been mentioned in the literature, but has not been taken in the last forty years. If a species occurs in Corsica and Istria, this is also shown.

The colour plates are of high quality, and show both sexes life-size, photographed against a pale-blue background; however, the paler species, such as the white arctiids and lymantrids, would have benefited by being photographed against a much darker background. In the case of "difficult" species (e.g. *Clostera*, *Phalera* spp.) there are line drawings in the text, pointing out the distinguishing features. Drawings of genitalia are also provided, where an examination is required for identification.

There is a marked tendency for collectors to concentrate on daytime field work when visiting the Continent, to the detriment of night-time collecting. This is unfortunate, as continental Europe has much to offer: excluding the families Zygaenidae, Sesiidae and Psychidae, 332 species of hawk-moths and bombycids occur in Europe, with 248 species in Italy and 125 in Great Britain. The visitor can also make a valuable contribution where distribution is concerned, for example, in Italy some regions are largely unworked, such as Molise, Campania and Calabria. Collectors who visit Italy to carry out night-time field work will find these two volumes invaluable. The fact that they are written in Italian need not be a deterrent. With a linguistic structure very similar to French, Italian presents few problems for anyone with a good knowledge of French.

#### References

- de Freina, J.J. & Witt, T.J., 1987. *Die Bombyces und Sphinges der Westpalaearktis (Insecta: Lepidoptera)*. Vol. 1. München: Edition Forshung und Wissenschaft Verlag GmbH.  
–, 1990: *Ibid.* vol. 2.

C.L. Nissen

**Die Schmetterlinge Baden-Württembergs** edited by **Günter Ebert**. **Band 5, Nachfalter (moths) III**. 575pp., 400 colour photographs, 360 diagrams and drawings, 133 distribution maps, hardback, size 17 x 24cm. Verlag Eugen Ulmer, 1997. ISBN 3 8001 3481 0. Price DM98. **Band 6, Nachfalter IV**. 622pp., 512 colour photographs, 433 diagrams and drawings, 187 distribution maps, hardback, size 17 x 24cm. Verlag Eugen Ulmer, 1997. ISBN 3 8001 3482 9. Price DM98. Both volumes in German.

In earlier reviews in this journal (1992, **104**: 87 and 1995, **107**: 203-204) I have sung my praises of the previously published, sumptuously illustrated volumes in this

superb series on the butterflies and moths of the south-western German state of Baden-Württemberg. I now enthusiastically welcome the publication of the latest two volumes covering the Sesiidae, Arctiidae and Noctuidae (subfamilies Herminiinae, Rivulinae, Hypenodinae, Hypeninae, Scoliopteryginae, Catocalinae, Sarrothripinae, Chloephorinae, Pantheinae, Acontiinae, Acronictinae, Plusiinae, Cuculliinae, Heliothinae, Stiriinae and Ipimorphinae). They are every bit as excellent as the previous volumes and are a veritable mine of up-to-date biological and ecological information compiled by teams of specialists under the very able leadership of Günter Ebert of the State Natural History Museum at Karlsruhe. The numerous outstandingly fine colour photographs of mostly living imagines, larvae and eggs of all the species as well as their typical habitats, selected from many hundreds submitted by local lepidopterists, make these beautifully produced books a must for European lepidopterists, including those living in the British Isles; the majority of the species included are to be found in our islands. At DM98 (about £34 at the time of writing) for each volume they represent exceptionally good value for money and may be ordered direct from the publisher Verlag Eugen Ulmer, Postfach (PO Box) 700561, 70574 Stuttgart, Germany. I thoroughly recommend them. Volume 7, covering the rest of the Noctuidae, is, incidentally, in advanced preparation.

As I have mentioned before (*Ent. Rec.* **107**: 203-204), volume three of this series contains sections in English and French to enable those who do not read German to obtain the maximum information possible from the text and captions. Nevertheless, with the help of a decent English-German dictionary the non-German reader will gain access to much valuable information not readily available in the English entomological literature. If you don't read German, the possession of these books will stimulate you to learn it. It's not so difficult and opens the way to many other European publications.

John F. Burton

**Larger Moths of Surrey** by **Graham A. Collins**. 333pp., numerous distribution maps, 16 colour plates. A5, hardbound. ISBN 0 9526065 2 6. Surrey Wildlife Trust. £18.

Surrey is one of the few counties in south-east England for which there had been no account of the macrolepidoptera published since the *Victoria County History*. Much of the county is densely populated with at least its fair share of lepidopterists; there was consequently a huge amount of data awaiting publication.

The book begins with some introductory chapters: firstly Surrey is placed in its geographical context, and there is a chapter on the geology of the county. This is written from a general point of view, rather than with a view to the types of habitat resulting from the surface geology, but this is made good by the following chapter about moth habitats in Surrey. There are brief chapters about collecting and conservation, methods of studying moths and an interesting account of species which

have decreased or become extinct with those which have spread or been recently discovered. There follows an account of such publications as have appeared covering Surrey and adjoining counties.

The main part of the book is the species accounts which are preceded by notes about the terms used in the text, references sensibly abbreviated, and names of recorders with the abbreviations used. There is a brief introduction to each family and such groups as the pugs. For each species there is a brief account under the headings Status, Voltinism, Foodplant and then a paragraph giving the distribution in Surrey. Except for migrant and scarce species this is accompanied by a distribution map with a dot indicating presence in each tetrad (2 x 2 km square). No distinction by date is made by the symbols, all records represented being from the last 20 years, but records of larvae are shown by a solid square whereas those of adults are shown by a solid circle. Where a species is accorded RDB status this is given. For rare species and migrants all records are given in chronological order, without a map.

The distributional maps have, as well as the county boundary, the main geological features so that one can see at a glance those species confined to chalk or heathland, and this is a commendable refinement. The frequency of each species is said to be given on a sliding scale: common, fairly common, uncommon, scarce, rare. I find the distinction between uncommon, scarce and rare to be difficult to keep in mind but in practice these are not adhered to in the body of the species accounts. One finds descriptions such as very common and very scarce, and this together with the wealth of information given in the maps and text makes the position adequately clear.

There are five appendices at the back of the book giving scientific and common names of plants, a gazetteer of place names found in the text, the sites of Rothamsted moth traps, information about concerned organisations, glossary and references.

In the centre of the book is a section of 16 colour plates, one depicting set specimens of species probably extinct in Surrey, the remainder of larvae or adults in their natural setting with a few of Surrey habitats. These are of excellent quality and well produced, although the lack of a consistent scale of moths at rest can be disconcerting. They do not add to the scientific content. Their value is decorative and I trust they did not account for too much of the cost of printing.

A huge amount of work has gone into the production of this list, by both recorders in the field and by Graham Collins in assembling the data. It is well presented in a manageable A5 format, well indexed and easy to use. Considering the vast amount of data assembled it seems remarkably free from errors.

Some people will want less emphasis on recording adults, with more new information on biology or ecology of Lepidoptera. This is a county list and does not pretend to be anything else. As such it establishes a well-researched baseline and one hopes that Surrey entomologists and those further afield may be able to use it for further studies.

As a county macrolepidoptera list I commend it unreservedly, and for the quality of production it is not unreasonably priced.

David Agassiz



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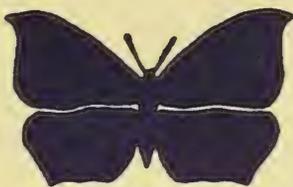
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**AND JOURNAL OF VARIATION**  
*(Founded by J.W. TUTT on 15th April 1890)*

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THE  
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 AND  
**JOURNAL OF VARIATION**

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

*Assistant Editors*  
**R.A. JONES, F.R.E.S. & A. SPALDING, F.R.E.S.**

*July/August 1998*

ISSN 0013-8916

# THE ENTOMOLOGIST'S RECORD AND JOURNAL OF VARIATION

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***Epirrhoe alternata* Müll. (Lep.: Geometridae): life cycle in south-east England**

BRIAN K. WEST

*36 Briar Road, Dartford, Kent DA5 2HN.*

THE RECORDS obtained at my garden m.v. light to which *E. alternata* has been attracted in fair numbers in recent years have led to my finding considerable discrepancies between them and statements concerning this insect's life cycle in the standard textbooks, including relevant local works.

A realistic appraisal of the literature perhaps begins with Barrett (1902). Regarding the time of appearance of this moth he gives May and June, and a partial generation in August and September (late July in early seasons). This pronouncement seems to have set the pattern for almost all other works that have followed. South (1939) adds to this by specifying "in the south especially", an essential refinement, as in parts of the British Isles the moth is single brooded; also the second brood is not described as being partial. Newman and Leeds (1913) in tabulated form give May and late July and August, but only one generation in the north in June. Edward Newman (1874) had suggested a somewhat similar régime, May and late July. The latest textbook is Skinner (1984) which states that the second generation of *E. alternata* is a partial one flying in August and September, and that the moth is single brooded in the north.

There are very few reputable works of a local nature, excluding checklists. Fortunately, north-west Kent is covered by the two most accurate and comprehensive. Chalmers-Hunt (1970) commenting on the species' voltinism states that specimens of the second generation are fewer in number and smaller in size; Plant (1993) – bivoltine, possibly trivoltine in some years, the moth being most abundant in late-May and early-June; also it is asserted that there appears to be no discernible break between generations.

Although from 1969 to 1978 the species was a somewhat casual visitor to my garden m.v. light, subsequently, coinciding with a good growth of cleavers *Galium aparine* in the vicinity, upon which larvae have been found, it has appeared commonly.

For the latter period 1977 to 1996, these records are shown in tabular form (Table 1), based upon the number of nights on which specimens were recorded (i.e. not the number of specimens) in half-monthly periods; the total of nights for each generation are also shown. For the whole span of twenty-nine years all first generation specimens have been singletons; from 1988 two specimens per night in the second generation has been of occasional occurrence, and once three specimens. This to a small extent offsets the constraints which include the light not being operated on distinctly unpropitious nights, mainly in May and early-June, and breaks due to my being abroad, which have been fairly evenly scattered over the two broods.

Some features of these records are at considerable variance regarding voltinism with all the textbooks, and surprisingly with the two comprehensive local works quoted. An analysis of these records indicates:

- (a) *E. alternata* is much commoner, as indicated by attraction to m.v. light, in the second generation; the figures are not consistent with a partial second generation. Some corroboration for my findings appears in Evans & Evans (1973) for north-east Surrey, an adjacent area, in which two short series of light-trap records for Addiscombe are quoted – June 1969(2), July/August 1969(47), June 1970(3), July/August 1970(16). Thus my figures give a ratio of second to first brood of nearly 4:1, those for Addiscombe 12:1. A simple, but probable explanation, for these results being contrary to those published by Chalmers-Hunt and Plant for Kent and the London area respectively lies in the nature of the records. For Dartford and Addiscombe they relate to two specific localities and m.v. light attraction over the full season; the Kent and London area records are accumulations of an arbitrary nature. They include m.v. light records from casual visits to numerous localities, to which are added sightings in other circumstances. I believe it is beyond the realms of possibility that there are aberrant colonies of *E. alternata* with life cycles so different from those of the species in the surrounding area; also I am confident that the constraints mentioned regarding my twenty-nine years of records, plus any which I have overlooked, cannot seriously undermine the validity of my interpretation of the records, and the Addiscombe records are both gratifying and interesting. Therefore I look no further for an explanation of the discrepancies than the difference in the type of record.
- (b) Here the moth is rarely noted in September, and the 13th is the latest date for a record in this month; this trend is corroborated by Plant (*ibid*) for the London area. Why September is included in almost all the standard textbooks may be due to inertia. Authors have only previous textbooks and their own experience, necessarily limited when considering the whole of the British Isles, plus notes in journals, and local works of which there are so few.
- (c) Here the time of the second generation is better described as late July and August, rather than August and September. The comment that the moth is on the wing continuously from mid-May to mid-September is not reflected for any one year by my records; a break usually occurs in late-June and early-July lasting from two to over four weeks. But it is quite conceivable that an accumulation of records from the whole London area would mask local differences in time of appearance.
- (d) The possibility of an occasional third generation at Dartford is supported by only one record, a specimen recorded for 6 October 1993, previously noted that year no later than 8 September.

Having demonstrated the preponderance of *E. alternata* at m.v. light in its second generation at Dartford, and referred to a probable similar occurrence in north-east Surrey, further examination of the insect's life cycle in south-east England is needed; for most of Britain such investigation will amount to real exploration!

Several textbooks state that the moth is single brooded in the north; however, in England it appears to remain bivoltine to the Scottish border, to Northumberland (Dunn and Parrack, 1986) and to Morecambe on the western side (Goodall, 1960).

In Scotland it remains bivoltine as far north as Sterling (Coates, 1968) and partially double-brooded on Canna (Campbell 1971). However, for the Orkney Islands, Lorimer (1983) states that the moth is univoltine, and my records for Grantown-on-Spey, Moray, suggest this is also true for parts of the Central Highlands in view of an absence of May records but numerous sightings for early July. In Ireland the species is certainly bivoltine in Co. Clare; I have specimens I have taken 26.v.1987 and 26.v.1988, and also 2.viii.1988, but it would be a mere presumption to suggest that this obtains throughout Ireland.

**Table 1.** Numbers of nights when *E. alternata* was recorded at m.v. light on a half-monthly basis in a Dartford garden, 1977 to 1996.

– = absent.

Year	May	June	July	Aug.	Sept.	Oct.	Brood		Total
							1st	2nd	
1977				3 2			–	5	5
1978		3	1	3			3	4	7
1979		2 1		5 3	1		3	9	12
1980	–			6 8			–	14	14
1981	1 2		2	8 5			3	15	18
1982		4	1	3 1			4	5	9
1983				7 6	–		–	13	13
1984		1		1 6			1	7	8
1985		1		2 3			1	5	6
1986		3	3	8 5			3	16	19
1987	–	1		8 9			1	17	18
1988	–	3 5	3	13 7	2		8	25	33
1989	2	2 1	8	9 2			5	19	24
1990	2 1		1 4	8 2	–		3	15	18
1991	2		1 1	12 –	1		2	15	17
1992	1 10	5 –	1 10	6	–		16	17	33
1993	2 3	– 3	3 9	9 5	3	1	5	32	38
1994	1	5 1	5 –	9 5	3		7	22	29
1995	2 4	2 2	1 11	10 2	–		10	24	34
1996	1		1	4 1	–		1	6	7

Despite *E. alternata* being a widespread and common moth throughout much of the British Isles, knowledge of its larval foodplants has until very recently remained rudimentary. Newman (*ibid*) quoted hedge bedstraw *Galium mullago* only; Chalmers-Hunt writing as late as 1970 for Kent was unable to supply the name of any larval foodplant, but in a supplement quoted D. O'Keefe as finding a larva on *G. mullago* at Eynsford in August 1969. By 1973 the larva remained unknown in north-east Surrey, no larval foodplants being mentioned by Evans & Evans (*ibid*); however, for the London area, Plant records *G. mullago*, *G. aparine* and *G. saxatile*, and is able to make the interesting suggestion that the moth can penetrate the city areas due to its ability to utilise *G. aparine*.

The observations on *E. alternata* at Dartford raise a number of points. Accepting the validity of my records and the corroboration of those for Addiscombe, why should the moth appear to be commoner in the second generation, and where else does this obtain? I suspect that there are localities further north where there is a partial second brood; if so, where are they?

This exercise has served to demonstrate the great value of legitimate local works. That my observations on voltinism are in accord with one, and conflict with two others, and that *G. aparine* is acknowledged as a larval foodplant by one, suspected by another, and not noted by a third, does not detract from the value of such works, but enhances it by drawing attention to the validity of certain methods of evaluating voltinism, and emphasising the lack of acquaintance with the larvae of even the commonest moths.

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## THE COLEOPTERA OF A SUBURBAN GARDEN: A SUPPLEMENT

A.A. ALLEN

49 Montcalm Road, Charlton, London SE7 8QG.

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**Phalacridae**

(*Stilbus testaceus* (Panz.)) – Recorded in the list as rare in the garden; but in later times far more often met with, becoming very general and frequent.

**Cryptophagidae (five additions)**

*Antherophagus nigricornis* (F.) – Very uncommon: swept, 1.vii.62; on thistle head, 21.vi.63; on hogweed umbel, 14.vii.73.

(*A. pallens* (L.)) – One in flower of dog-rose, 13.vi.72.

\**A. canescens* Grouv. – Rare: four or five from thistle heads, July 1963.

(*Cryptophagus setulosus* Sturm) – One at light (not m.v.), 13.viii.72.

*C. distinguendus* Sturm – One, x.61, in vegetable litter.

*C. scutellatus* Newm. – This small species first turned up in hay and straw refuse, 22.x.57; subsequently in some numbers in those conditions.

(*Micrambe villosa* (Heer)) – Single examples shaken from flowers of apple (2.v.51) and golden-rod (14.ix.51).

\**Caenoscelis subdeplanata* Bris. – First found 29.iii.68 (not long after it was added to our list) in the windows of the garage, continuing thus for a few days. In April 1970 began to occur in the garden (but only behind the house) by evening sweeping, and likewise in March 1971; one by grubbing on path in front of house, 10.x.71.

(*Atomaria linearis* Steph.) – Much oftener seen at m.v.l. than in the garden, sometimes in numbers on certain nights; otherwise usually by evening sweeping.

(*A. lewisi* Reitt.) – This immigrant from the East, first recorded in Europe from the garden, is perhaps the most generally common of the genus at m.v.l. (*A. atricapilla* coming next).

(*A. pusilla* (Payk.)) – Remained very rare: one swept near edge of front lawn, 9.viii.53; two on house wall, 7.vii.63.

**Dermestidae (two additions)**

*Dermestes haemorrhoidalis* Küst. – An introduced species frequent at m.v.l., first found 3.vii.59 and continuing at intervals, singly, from June to September for the rest of the period. Pigeons' nests were almost certainly the source of the beetles.

*Attagenus pelli* (L.) – A male swept by a small privet hedge near the house, 18.v.73; previously found from time to time indoors only. A birds'-nest dweller mainly, whose seeming non-appearance at the lamp is curious.

**Byrrhidae (one addition)**

*Byrrhus pilula* (L.) – One found dead by working along base of fence, 14.iv.57, is my only record for the district.

**Lucanidae**

(*Lucanus cervus* (L.)) – Occasional males at m.v.l. (19.vi.60, 1.vii.71). Larvae have been found deep down in rotten lime stumps just outside one corner of the garden.

(*Dorcus parallelipipedus* (L.)) – In 1951 I could only report one specimen, found that year under a beetle-trap by the house. Oddly enough, another female turned up under the same or a similar trap in the same spot, 4.viii.53; and yet another female flew to m.v.l., 11.vi.70.

**Geotrupidae**

(*Geotrupes stercorarius* (L.)) – I consider this species would be best expunged from the list, as I now believe the specimen (at light about 1930) was probably really *G. spiniger*. The latter is our local dor-beetle and I have never found the former in the district.

**Trogidae (one addition)**

*Trox scaber* (L.) – This inhabitant of birds' nests is hardly scarce in the summer at m.v.l., some good nights producing three or even more; very retiring in habit, tucking itself into any available corner. Several on 23.vi.59 and 20.vii.72.

**Scarabaeidae (six additions)**

- Aphodius fimetarius* (L.) – Though a dung species like most of the genus, it seemed to have readily adapted itself to a different habitat in the garden, viz. piles of grass in various stages of decay – very much like *A. foetidus* (*scybalarius* auctt.). Five in the remains of such a pile, 4.iv.52; three in a small grass-heap, 15.iii.61; a few more similarly and already quite active as early as 19.ii.70.
- A. ater* (Deg.) – Strays have occurred at least twice. Swept on the back lawn, 6.v.60 & 20.v.62; one under dog dung, 9.v.68. May appears to be its time of maximum activity.
- (*A. granarius* (L.)) – Also found repeatedly at intervals under a piece of board placed as trap in a damp spot behind the house (where *Bembidion tetracolum* used to occur); but not after midsummer, and not in later years.
- A. sphacelatus* (Panz.) – One in rotting herbage on what used to a vegetable plot, 20.iv.53.
- A. contaminatus* (Hbst.) – This abundant autumnal species has occurred three times: remains of one under cat dung, 18.x.52; two in a grass-heap, 25.x.55; and one at dog dung, 16.x.69.
- \**Hoplia philanthus* Fuess. – Very scarce, and may have died out after several years. Taken singly by sweeping or searching the flower-heads of field thistle; 19.vi.61, 11.vii.63, 27 & 28.vii.68; all males but the second. (I know of one other occurrence in the district.)
- Amphimallon solstitiale* (L.) – One found dead on a window-ledge, vii.57, having evidently flown to the house lights. Oddly enough the “Summer Chafer” never turned up at m.v.l., though certainly resident in the district at the time (it comes freely to my lamp at Charlton). May be regarded as having replaced the “common” cockchafer in the area.

**Throscidae (two additions)**

- Trixagus dermestoides* (L.) – By sweeping long grass, especially in the evening; much rarer than *T. carinifrons*: 26.vi.52, vi.54, viii.55.
- T. obtusus* (Curt.) – Sparingly at m.v.l.: 19.vi.60 and later occasions.

**Elateridae (five additions)**

- (*Athous haemorrhoidalis* (F.)) – This common “skipjack” remained curiously uncommon in the garden since the first was noted in 1951, but continued to occur very sporadically in the rougher parts.
- Melanotus erythropus* (Gmel.) (*rufipes* (Hbst.)) – A male at m.v.l., 9.vi.60. Some time previously a larva and remains of an adult had been found under grass at the base of a fence (where many species of note occurred); as parts of the fence below ground were decaying, it seems possible that *Melanotus* had developed there. (The trivial name has lately been changed yet again – to *villosus*, always applied up to then to a different insect; but I suspect that a mislabelling has been involved, and very much agree with the late Dr G.A. Lohse that the long-established name *rufipes* should have been made a *nomen conservandum*.)
- Agriotes obscurus* (L.) – A solitary example, 21.iv.56, at grass-roots at the base of the above-mentioned fence. It is a fallacy to suppose that this species is common all over the country; besides the above I have found one near Plumstead and for N.W. Kent that is all, our common wireworm-beetle being the next species.
- (*A. lineatus* (L.)) – A curious habitat may be added to those given: under boards floating on the pond, where it was repeatedly found, mainly in the spring of 1960 when the pond was recent and devoid of vegetation. One might expect respiration problems but the beetles must have found submergence congenial!
- (*A. sputator* (L.)) – Listed on the strength of one dead example. About the early to mid-1960s it began to be found, very sparingly, in a small area of the front garden quite near the house, including a corner of the lawn where it was later often trapped in small grass-piles (e.g. May 1969-71); a very few casual specimens elsewhere.
- (*A. acuminatus* (Steph.)) – A very few more captures up to 1971, including two at m.v.l. (4.viii.61, 26.vi.70). It is very doubtful whether this woodland beetle ever bred in the garden.
- A. pallidulus* (Ill.) – One off lilac bloom, 26.v.53. A species often associated with the last, but rather more general.
- Adrastus pallens* (F.) – Has occurred twice at m.v.l.: 1.vii.68, 7.vii.70.
- Cidnopus* (formerly *Limonius*) *minutus* (L.) – By sweeping long grass etc.: one, 3.vi.59. Peculiarly rare in the garden, though general in the district.

**Cantharidae (10 additions)**

- Cantharis rustica* Fall. – A scarce visitor to the garden: by sweeping, 7.vi.56; in flight, 31.v.61; and on foliage, 13.vi.61. (Not common anywhere in the district.)
- C. livida* L. – Again three records only: on mixed herbage, 12.vi.57; flying on to rose arch, 15.vi.58; at m.v.l., 9.vi.62. (I knew of no contemporary colony in the area.)
- C. rufa* L. – Only at m.v.l.: 5.vi.60 and not infrequently since, up to 18.vi.70 (two females). Otherwise I have not seen it in the district, except fairly recently at Shooters Hill.
- (*C. pallida* Goeze) – As this species seems largely restricted to damp and marshy places, and occurred formerly by a pond not far distant, that was the probable source of the few garden specimens; no more being found after it was drained and built over.
- (*C. cryptica* Ashe) – Later became well dispersed over the garden, if hardly common. This being the sole species of the genus that certainly bred there regularly, its non-appearance at the m.v. lamp is noteworthy.
- \**C. lateralis* L. – One on an umbel of wild parsnip, 27.vi.65. An unexpected find, it being mostly a saltmarsh species, which is however occasionally found in this area.
- \**Rhagonycha lutea* (Müll.) – A male of this rather uncommon species at m.v.l., 4.vii.59. Not otherwise seen by me in the district.
- (*R. fulva* (Scop.)) – Only at all plentiful in July-August 1971 (several pairs on umbels and odd ones at m.v.l.).
- R. lignosa* (Müll.) – Singly at m.v.l.: 28.v.59, 30.v.59, 11.vi.70. (Occurs in the Shooters Hill woods.)
- (*R. limbata* Thoms.) – A few, 26.v.63; became established in the front garden from 1971 and quite common there, though still rather local, in June 1972; more occasional elsewhere. (Peculiarly local in the area for a species regarded as common.)
- Malthinus balteatus* Suffr. – At m.v.l. only, and very rare: single males 15.vii.67, 16.vii.69. (The only one of our four species not otherwise found by me in the area.)
- \**Maltodes fuscus* (Waltl) – Males somewhat frequent at m.v.l. in the second half of June, mostly settling or walking on the ceiling and often coming in late; first noted 26.vi.59, the last 18.vi.73; seven on the night of 26.vi.70. A rather scarce but widespread species.
- \**M. fibulatus* Kies. – A single male at m.v.l., 5(6).vi.66 (came in towards dawn). Like the last two, I have been unable to find it in the field in this area; yet, conversely, the common *M. minimus*, for instance, never once turned up at Blackheath.
- M. pumilus* Bréb. – This tiny species was very erratic in the garden; from time to time in small numbers, usually in the evening and mostly swept in shady places near bushes; perhaps often overlooked. First found 4.vi.52 by beating a thicket; 21.vi.63, swept in a shrubbery, etc. The very rare male has not occurred.

**Melyridae (three additions)**

- Malachius bipustulatus* (L.) – One example by sweeping mixed herbage, 9.v.52. An evident casual visitor, common enough in wooded areas.
- M. marginellus* (Ol.) – Likewise unique for the garden: a male swept off buttercups (*Ranunculus* sp.) by the pond, 12.vi.72, is the only specimen I have seen in the district.
- M. viridis* F. – First noted 6.vi.53, the next 5.vi.64, from which time it gradually increased; not uncommon from 1971 by sweeping on the lawns. (Favours open situations.)

**Cleridae (two additions)**

- \**Necrobia ruficollis* (F.) – Exclusively at m.v.l., in July and August, the first 4.viii.59 and several more that month; after 8.viii.60 there was a long gap until 1972 when it reappeared (20 & 22.vii). I could never discover where the beetles came from, and have scarcely seen the species elsewhere.
- N. violacea* (L.) – One swept off long grass under apple trees, 19.vi.52; another shaken from remains of bird carcass, 13.vi.63.

**Ptinidae (one addition)**

- \**Ptinus sexpunctatus* Panz. – In the list this species was mentioned as having occurred in the house. It can now be reckoned a genuine inhabitant of the garden, where a male was beaten off flowering cherry, 13.v.58. The beetle has been recorded as breeding in bees' nests, which may well have been the source of this specimen.

**Anobiidae (four additions)**

- Anobium fulvicorne* Sturm. – A single specimen beaten from a tangle of branches and foliage (ash, ?sycamore) in a corner of the garden, 8.vii.52.
- Stegobium paniceum* (L.) – One off a small *Malus japonica*, 11.v.73. A common indoor species (often a pest) whose occurrence outdoors is exceptional, but I have so met with it in the district three times in all.
- Ernobius mollis* (L.) – Males sporadic at m.v.l. in July or August 1960, 1962, 1972, etc. A pine, or at any rate a conifer feeder.
- \**Dorcatoma chrysolmelina* Sturm. – As for the last species: 16.vi.60, 23.vii.69, and perhaps one or two other occasions. An uncommon beetle, but the least rare of our five species of the genus. Its habitat, red-rotten wood mainly of oak, never existed in the garden.

**Lyctidae**

- (*Lyctus brunneus* (Steph.)) – I could previously record only a solitary dead example, but it has since turned up repeatedly at light: once at a house light (two large females) before 1959, and a few or several times at m.v.l., vi-viii. Very variable in size.

**Cisidae (two additions)**

- Cis boleti* (Scop.) – This very common species was found a few times in polypore fungi on wood (such being rare in the garden): the first 24.viii.57.
- C. setiger* Mell. – One on a wall of the house, 28.ix.52; in some small numbers under bark of a dead William pear tree, hardly visibly fungus-infected, in or about 1960.

**Tenebrionidae (two additions)**

- Cylindrinotus laevioctostriatus* (Goeze) – This polysyllabic insect, though a very common woodland beetle in our area, is more doubtful as having inhabited the garden; but a dead one was found in an old web in an angle of the house wall, 11.x.53. Conceivably the species might (?) have lived at the base of trees (e.g. birch) in a neighbouring garden.
- Tenebrio molitor* (L.) – The source of the mealworm beetles at m.v.l. and indoors was, I feel sure, local pigeons' nests. (The late Dr Easton and I once found them freely in all stages in this habitat in Surrey.)
- \**Corticeus bicolor* (Ol.) – Very sparsely at m.v.l., e.g. 24.vi.61, 14.viii.73, often with *Aulonium trisulcum* (Colydiidae); like that species, a *Scolytus*-predator on elm.

**Melandryidae (two additions)**

- \**Hallomenus binotatus* (Quens.) – One specimen at m.v.l., 1.vii.69, is the sole record for the district of this rare species associated with fungi and rotten stumps.
- \**Anisoxya fuscula* (Ill.) – Another rarity of which a single example was obtained from dead twigs, etc., of weigela in a corner of the front garden, 8.vii.52. Most likely the beetle originated from one of the roadside lime trees quite close by, which was over-mature and partly fungus-ridden.

**Salpingidae (one addition)**

- Rhinosisimus planirostris* (F.) – Taken singly as follows: beaten from ivy branch on brick wall, 6.xi.51 and 8.vii.52; and from dead bough of pear tree, 17.x.52.

**Anthicidae (one addition)**

- Anthicus formicarius* (Goeze) (*quisquilius* Thoms.) – In the same habitats as the common *A. floralis* (for which it was probably sometimes passed over); one, 30.x.37.
- (*A. antherinus* (L.)) – In the list as very occasional in the early years only. Not seen in later times until one was sieved from rotting Brussels sprouts, 14.iii.71.

**Cerambycidae (one addition)**

- (*Clytus arietis* (L.)) – Only a single specimen of the Wasp Beetle had been found earlier (1930), but from about the mid-40s it was noted in the garden with some regularity in June and July; however, it began to die out about 10-12 years later and did not return. A most remarkable individual was taken from a bramble bush on 22 May 1958, in which the yellow "chevron-mark" or angular fascia is totally absent (v. *medioniger* Allen, 1959, *Ent. mon. Mag.* 95: 116) – apparently very nearly unique.

(*Grammoptera ruficornis* (F.)) – Remained not uncommon, occurring also on lilac, apple, and hawthorn blossom. Larvae once found in a dead stem of ivy. *G. holomelina* Pool, included in the list, is now considered only a fully melanic form of the above.

*Leptura livida* F. – Two examples turned up, to my surprise, in 1952; on flowers of yarrow (25.vi.) and golden-rod (8.vii.).

(*Tetrops praeusta* (L.)) – As with *Clytus*, only one had occurred earlier (1950); but in May 1971 there was a small population explosion, often three at a time being obtained by brushing the outer foliage and twigs of one or two of a group of apple trees; two noted flying in hot sun about the sprays, on different trees, on 18.v, which seemed to be the peak time.

#### Chrysomelidae (14 additions)

*Cassida vibex* L. – A solitary specimen of the greenish form taken by sweeping on the back lawn, 29.viii.70. It could have come off a low thistle, but black knapweed (*Centaurea nigra*) also was present and perhaps likelier.

*Oulema melanopa* sensu auctt. – By sweeping uncut grass; not found until 12.v.61, and again 26.viii.67; these were singletons, but the following spring it was in some plenty and thereafter fairly general, though sparse. (I fear I cannot say which of the two micro-species into which the old *melanopa* has lately been split is involved.)

(*Gastrophysa polygoni* (L.)) – Another swept, 5.vi.51; the last one off dock, 13.v.52; making a grand (?) total of three examples of this allegedly common beetle for the whole 40-odd years! In fact I have never found more than one at a time anywhere.

*Lochmaea crataegi* (Forst.) – On a few occasions in the 1950s and 1960s from flowers of firethorn (*Pyracantha*); in the last few years more regularly on a young self-sown hawthorn, though never common (May, June, August).

(*Phyllotreta consobrina* (Curt.)) – Sporadic in later times, among weeds and mixed herbage; and perhaps off cuckoo-flower (*Cardamine pratensis*); 25.x.60, 6.x.64 etc.

(*P. aerea* All.) – A second example swept 22.ix.52; two more, 21.iv.56.

\**P. diademata* Foudr. – Twice by general sweeping: 4.vi.52, 14.v.65.

(*P. cruciferae* (Goeze)) – Very seldom found in later years, which accords with general experience; but a number from *Cardamine*, v.65.

*P. nemorum* (L.) – Used to be cited as the “turnip flea” *par excellence*, but to me has occurred only singly anywhere. One swept, 16.iv.61; another in rubbish, x.70.

(*P. vittula* (Redt.)) – Further captures: 22.ix.52, 24.iv.65; swept on the lawns.

(*P. undulata* Kuts.) – One at m.v.l., 19.vi.60, otherwise not seen latterly.

\**Aphthona atrocaerulea* (Steph.) – One under a leaf in the beech hedge, 24.v.65.

(*A. euphorbiae* Schrank) – Continued to increase and spread along with the next, over not only the whole garden but virtually all England at least. By general beating and sweeping, mostly the former. The outbreak, beginning in the mid-1940s, lasted until about the end of 1952 at Blackheath, and another smaller one seems to be currently in progress.

(*Longitarsus parvulus* (Payk.)) – The history of this coincides to a remarkable extent with that of the preceding, the two rising and falling together as a rule and that applies to the garden fauna.

\**L. kutscherae* (Rye) – Taken singly several times, e.g. 11.v.53, 3.v.69 (2), 19.v.69, 19.iii.72. Very like a small *L. melanocephalus*; seemingly on the same foodplant (*Plantago*) and tending to replace that species in the garden.

\**L. ferrugineus* (Foudr.) – A scarce species (= *waterhousei* Kuts.) which surprisingly turned up on 3.ix.59 on garden mint (*Mentha spicata*), and for the next few years could usually be found by sweeping the mint patch. (New records from other localities about that time.)

(*L. flavicornis* (Steph.)) – Must be substituted for *L. jacobaeae* Wat. in the list, the former being our common southern “*jacobaeae*” of authors, while the true species of that name has a more northerly range.

*L. pellucidus* (Foudr.) – A specimen of this local *Convolvulus*-feeding species swept from lawn-edge under overhanging trees, 11.viii.52.

*L. rubiginosus* (Foudr.) – On (mostly under) leaves of the large bindweed (*C. sepium*) in autumn; first found 1.ix.58, and afterwards in most years. (The foodplant was of very limited extent in the garden, not spreading.)

*Altica oleracea* (L.) – Singly by sweeping, first noted 20.vii.53; not common; one on rosebay willowherb, a likely foodplant, but elsewhere it can be associated with *Lathyrus pratensis* (absent from the garden).

*Sphaeroderma testaceum* (F.) – On or near field-thistles (*Cirsium arvense*), casual examples only: twice in August 1953 and a few times since. (The larger and commoner of the two species.)

*Psylliodes chrysocephala* (L.) – One off grass under apple trees, 25.viii.52; another (*v. anglica*) on a wall of the house, 16.x.55.

#### Attelabidae (one addition)

*Rhynchites germanicus* Hbst. – The first swept under apple trees, 18.v.52; a second near fence, 14.iii.61. (Another species, *R. aequatus* (L.), should have been found, since it is widespread in the area on hawthorn and fruit trees.)

#### Apionidae (seven additions)

(*Apion miniatum* Germ.) – As expected, found again but only a few times (dates not to hand) by sweeping, and once by searching its foodplant, common dock.

(*A. apricans* Hbst.) – Continued very rare, doubtless because red clover was absent.

(*A. trifolii* (L.)) – Of this, the *A. aestivum* of the list, a second was swept off white clover, 31.v.69.

*A. carduorum* sensu auctt. – On the field-thistle, scarce: 9.v.52, 16.ix.63, 15.iii.72.

*A. onopordi* Kby. – On the same plant, very rare: one, 15.v.52.

*A. virens* Hbst. – By sweeping clover, first in March 1960 and a few subsequently.

*A. ervi* Kby. – An example of this long-expected species swept on a lawn, 3.v.69.

*A. vorax* Hbst. – Again a solitary capture, by general sweeping, 28.vii.53. (Tends to occur singly in my experience, and without a definite foodplant being evident.)

*A. simile* Kby. One on a privet hedge, 20.vii.57, clearly a stray from birch trees in the next-door garden.

(*A. pubescens* Kby.) – The sole capture of later years was of one on the front lawn (22.ix.72), where all the earlier specimens had occurred. Now reckoned to be a clover feeder like so many others.

(*A. violaceum* Kby.) See the following.

*A. hydrolapathi* (Marsh.) – The periodic fluctuations undergone by this pair of species which share the same hostplant (dock) seem to suggest that they were in constant competition. In the earlier years I could record but one solitary *violaceum* (1951); later it was met with still very sparingly but increasingly often. From about 1960 or rather earlier *A. hydrolapathi*, first seen 30.iv.52, began in its turn to increase, while *violaceum* was now declining. By 1971, however, the latter had again become fairly general, and again at the expense of *hydrolapathi*. There seemed thus never to be a time when both were either quite absent or in similar numbers.

#### Curculionidae (36 additions)

*Otiorhynchus rugosostriatus* (Goeze) – First taken in a pile of loose hay on bare earth, 17.vii.53; then twice in 1966 (31.iii., 10.iv.); after that not infrequently, always singly. Under vegetable litter or other rubbish, in old grass-heaps, etc.

*Barypeithes araneiformis* (Schränk) – Occurred twice in 1966 in dryish debris of straw etc. along the base of a brick wall (28.iv., 17.v.). (The ordinary habitat is quite unlike that of the next species; it is a woodland insect found at tree roots, in moss, etc.)

(*B. pellucidus* (Boh.)) – Later found freely, often abundantly, in most kinds of vegetable refuse, heaps of pulled-up herbage and the like, in early summer, later in the year far more rarely. First taken 1927, not 1929 as given in the list.

*P. maculicornis* Germ. – Only in 1953 (6.vi., 12.vi.) singly by beating or sweeping. (The commoner *P. argentatus*, a woodland species, seems absent from this area.)

*P. viridiaeris* Laich. (*pomoniae* Fowler, Joy *et al.*) – Very erratic but gregarious, by sweeping low herbage, May-June; not before 1962. (This is the species thickly clothed with green scales beneath as well as above.)

(*P. roboretanus* Gredl. (*parvulus* auctt.)) – This common weevil soon became far more plentiful and met with most years by general sweeping, but was never found inter-mixed with the last species.

- Barynotus obscurus* (F.) – First appeared 28.iv.61, when eight were found in bunches of weeds, etc., placed as traps along the base of a fence behind a flowerbed. From then, singly or in small numbers but increasingly often up to 1973. One found eating a thistle leaf, 30.v.61; resting exposed on herbage, vii.63; two among small sticks, iv.71; two on the back lawn, 13.vi.73, etc. Appears partly diurnal, tolerating, if not seeking, sunshine. Supposed to be general, but I have never found it commonly elsewhere.
- Sitona macularius* (Marsh.) – One swept, 30.vi.55. Clearly a casual, the species being most at home in chalky districts.
- S. cylindricollis* (Fahr.) – One swept in May 1959 was an evident visitor likewise, there being no melilot in the garden.
- (*S. hispidulus* (F.)) – One rather high up on house wall, 22.ix.72. A larva and some pupae found (20.vi.72) under mats of white clover on a path by the house produced this species and *S. lepidus* Gyll. some ten days later.
- S. puncticollis* Steph. – A solitary example swept, August 1969. (Not at all a common species, though widespread.)
- S. sulcifrons* (Thunb.) – First taken 14 & 25.viii.52 and very sparingly in later years, in only one part of the garden, by sweeping and grubbing along base of fence. (In my experience this small *Sitona* is local and not common anywhere.)
- Hypera punctata* (F.) – One at roots of clover, 23.viii.57, is all that has occurred; but as the species conceals itself by day and is hardly ever found in the sweep-net, it may quite well have been a regular inhabitant of the garden.
- H. postica* (Gyll.) – One on 7.x.67, doubtless swept, is (curiously) the sole record.
- Leiosoma deflexum* (Panz.) – Not noticed until 26.x.52, when, and also on 1.xi., a very few were sieved from vegetable refuse. Thereafter not infrequent but never really common, also swept. A buttercup-feeder, widely dispersed in the garden.
- \**Dorytomus ictor* (Hbst.) (*validirostris* auctt.) – One at m.v.1., 26.vi.70; a very unexpected capture. The species doubtless breeds on the local hybrid poplars.
- \**Stenopelmus rufinatus* Gyll. – A very unexpected arrival at m.v.1., 6.viii.59. May have come from the Thames marshes, like the *Bembidion varium* which arrived the same night.
- \**Orthochaetes insignis* (Aubé) – Very rare, or more probably, hard to find. Has occurred three times singly: swept near edge of front lawn, 13.v.52; by grubbing on path outside front door, 16.ix.66; and in partly eaten-out apple lying in grass under tree, 29.ix.68.
- (*Anthonomus rubi* (Hbst.)) – I could record only one specimen in the list, but it later proved not very uncommon on blackberry and rose (both wild and cultivated).
- Ceutorhynchus contractus* (Marsh.) – This generally common weevil seems to have been found only in 1959: one sifted from half-dead grass, 28.ii; one floating on pond, 1.iii.
- (*C. assimilis* (Payk.)) – At intervals by sweeping the lawns, etc.; would have been expected far oftener.
- C. chalybaeus* Germ. (*timidus* auctt.) – One, July 1971. Occurs in the district, like the last, on *Sisymbrium* (but *assimilis* is the more common).
- C. turbatus* Schultz – A stray example swept off lush grass under apple trees, 21.vi.54. (Lives on *Cardaria draba*, not present in the vicinity; the species had only lately been added to our list, and in subsequent years became locally plentiful.)
- (\**C. punctiger* Sahlb.) – Remained very scarce by sweeping its foodplant, dandelion: singly on 17.vi.62 & 1.viii.71. (Most of my specimens come from the Oxford district, where it seems relatively frequent.)
- C. marginatus* (Payk.) – Very rare: a female swept in a flowery area with cat's-ear (*Hypochaeris radicata*), doubtless a foodplant, 3.viii.66. (Frequent enough in the south-east but usually met with singly.)
- C. pollinarius* (Forst.) – Periodically and sparingly on nettles between spring and autumn.
- (*C. litura* (F.)) – Very uncommon; singletons at intervals on or near field-thistles.
- \**Ceuthorhynchidius barnevillei* Bris. – A specimen at roots of its foodplant, yarrow, in an area of mixed vegetation, 5.ix.59. I have taken one similarly on Blackheath.
- (*Cidnorhinus quadrimaculatus* (L.)) – As soon as nettles became established this abundant insect duly appeared and remained common. Already listed on the strength of a single casual.
- Coeliodes rubicundus* (Hbst.) – A specimen caught on the wing, 18.v.69, must have come from the next-door birches like *Apion simile*.

- Phytobius quadrituberculatus* (F.) – One found on grass near fence, 3.v.71. (Attempted to fly when tubed.)
- Rhinoncus castor* (F.) – One swept on a weedy plot, 11.v.53. (Not rare in the district under *Rumex acetosella*.)
- (*R. pericarpus* (L.)) – Became not uncommon in later years; frequent, v.-vi.71; like other dock feeders, often at rest under the leaves.
- Mecinus pyraster* (Hbst.) – One by sweeping on the front lawn where plantain grew, 25.iii.53.
- Gymnetron antirrhini* (Payk.) – A stray example from the back lawn, 8.vii.68. (Common in the district on its hostplant, toadflax, which however was absent from the garden.)
- G. pascuorum* (Gyll.) – A single specimen swept off long grass under apple trees, 22.v.53; a common plantain-feeder.
- (*Magdalis barbicornis* (Latr.)) – I had noted this as “exclusively on pear”, but in later times an occasional one occurred on a small *Malus japonica*. The species is not really as rare as usually supposed.
- Curculio salicivorus* Payk. – One at m.v.l., 21.viii.60; it probably came from some willows not very far off.
- C. pyrrhoceras* Marsh. – Doubtless breeding in the garden by 1973, in which year it was swept, 3 & 4.vi; two on young self-sown oak by fence, 14.vi.
- Rhynchaenus quercus* (L.) – Twice at m.v.l.: 8.vii.59, 31.viii.60. A common oak feeder.
- R. fagi* (L.) – At m.v.l., 23.vi.59; by general sweeping, 22.iv.63.
- Rhamphus oxyacanthae* (Marsh.) – Singly, 16.viii.57 & 21.v.70, the latter from pear foliage.

#### Scolytidae (4 additions)

- (*Scolytus scolytus* (F.)) – A stray specimen swept near the pond, 3.vi.73, is the second garden record (contrast the next species).
- S. multistriatus* (Marsh.) – At m.v.l., 10.vi.70; others by sweeping (13.vi.70, 6.vi.72, 1.vi.73).
- S. intricatus* Ratz. – A solitary record of this oak-feeder at m.v.l., 19.viii.71.
- (*S. rugulosus* (Müll.)) – Undoubtedly bred on a young hawthorn from which a number were beaten, 15.vi.70.
- Hylesinus oleiperda* (F.) – One off golden-rod flowers, 5.viii.53. Though young ash was present in the garden, it seems unlikely to have been the source.
- Xyleborus saxeseni* Ratz. – One at m.v.l., 19.viii.71. (Not uncommon in the district.)

#### Platypodidae (one addition)

- \**Platypus parallelus* (F.) – A female at m.v.l., 15.viii.73, of this exotic species (*P. linearis* Steph.), first (and last) taken in Britain over 150 years ago (1976, *Ent. Rec.* **88**: 57-8).

The revised total of species for the garden stands at 805 (plus or minus a few), of which 239 are added in the present supplement. It is, perhaps, as much as could reasonably be expected, given the exigencies of the case. The true total for the same period, i.e. adding in the many species missed or overlooked, would doubtless be considerably greater, but the majority of those missed would be adventives or chance visitors. A larger country garden, worked over a similar period, could be expected to yield correspondingly more species.

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**NEPTIS MARCI SP. NOV. – AN UNUSUAL NEW SUB-MONTANE BUTTERFLY FROM KIVU, ZAIRE**STEVE C. COLLINS<sup>1</sup> & TORBEN B. LARSEN<sup>2</sup><sup>1</sup> P. O. Box 14308, Nairobi, Kenya.<sup>2</sup> 358 Coldharbour Lane, London SE9 8PL, UK.**Introduction**

THE GENUS *NEPTIS* is one of the most interesting butterfly genera in the world. It is also one of the most difficult. There is a large number of species in the Afrotropical Region, and many others in the Oriental Region. A smaller number has adapted to the temperate zone, and two of these occur even in Europe.

The genitalia of the *Neptis* are strongly differentiated, but genitalic characters do not necessarily match morphological characters. There are strong similarities between the genitalia of Oriental and Afrotropical species that share no morphological characters. There are strong genitalic differences between other species that are morphologically almost indistinguishable. I believe the genus must have evolved at the time during the Miocene, when a belt of tropical habitats stretched from London to Japan, after which a cooling of climate pushed them southwards, where the tropical species are currently disjunct (the only Arabian species is *Neptis serena annah* Larsen, 1982, and that is limited to Yemen). Some species, however, managed to adapt to Palaearctic conditions instead of moving south.

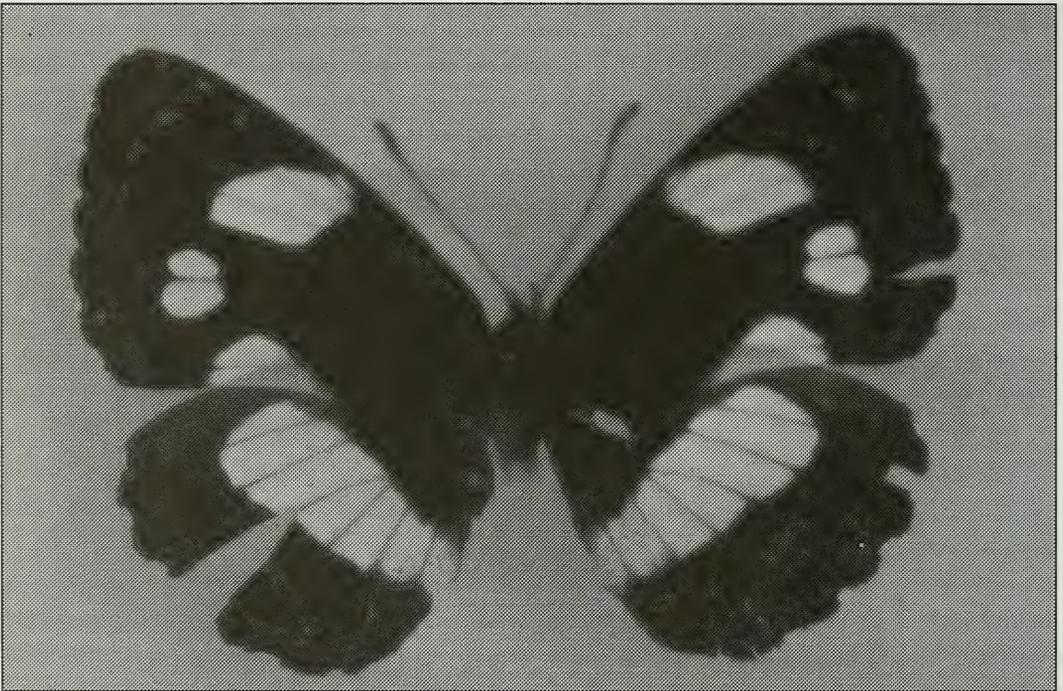
In Africa there is a group of species centred on *Neptis nysiades* Hewitson, 1868, which drove Eltringham (1922) to the following despair: The male armatures are as variable as the patterns, and the whole assembly must for the present be regarded as an unstable species, possibly modified by intra-generic mimicry of the kind so elaborately illustrated by the multiple forms of *Heliconius melpomene*. I can only suggest that any form that does not present the distinctive characteristics of better-defined species and of which the male armature is not well characterised should be referred to *nysiades*, until longer series from many localities may perhaps enable us to revise these forms in a more systematic manner.

The African Butterfly Research Institute (ABRI), Nairobi has a huge holding of African *Neptis*, and I have begun their revision. My findings so far match those of Eltringham, except that I am quite sure that the morphology/genitalia indicate that at least a dozen, and possibly two dozen, species are definitely involved in the *N. nysiades*-complex. There is one in the ABRI collection, however, which is so different from all other species, that it deserves an immediate description.

***Neptis marci* sp. nov.** (Plate A)

**Male upperside:** Forewing: 23 mm. The forewings are deep black, as is the case with other montane *Neptis* (e.g. *N. lugubris* Rebel, 1914), with the following white markings: On the forewing there is a well developed white double spot in spaces 1a and 1b, aligned with the end of the hindwing white band. There is a somewhat

smaller, fused double spot in spaces 2 and 3. There is a third group of fused spots in spaces 5-8, not quite reaching the costa. The three groups are better separated than in other species with such a pattern. The cell is unmarked. The shape of the forewing is more squat than in most *Neptis*. On the hindwing there is a white discal band from space 1a to space 6, broadening considerably towards space 5, as in *N. lugubris*. On all four wings the white markings are of the intense white typical of montane species and the usual submarginal white lines of the upperside are almost obsolescent.



**Plate A.** *Neptis marci* sp. nov. Holotype male (upperside). Butuohe, Kivu, Zaïre, 2000 m, vii.1987 (S.C. Collins – in African Butterfly Research Institute (ARRI), Nairobi).

**Male underside:** The ground colour is a deep chocolate-brown with no hint of reddish or orange. The white markings are as above, except for three narrow, continuous white submarginal lines on all four wings, just broken by the veins. The inner of these three lines is somewhat wider than the other two, broadening perceptibly towards the apex of the forewing. The inner half of the hindwing costa is broadly white. The basal markings in the forewing cell and on the hindwings are vestigial. The usual, obscure white band in between the main discal band and the submarginal lines is only just indicated.

**Male genitalia:** The male genitalia (Fig. 1) are vaguely intermediate between those of the *N. metanira* Holland, 1892 and *N. nysiades* Hewitson, 1868 groups, no members of which could conceivably be mistaken for the present species. The two other species with three groups of white markings on the forewing and no markings in the cell, *N. poultoni* Eltringham, 1921 and *N. triponophora* Butler, 1878 have very different genitalia and differ in several other respects as well.

The three compact groups of well-spaced, fused white spots of the forewings, coupled with the complete absence of white markings in the cell, make this species recognisable at a glance. The hindwing band, tapering strongly from the widest point in space 5 to the anal fold, is characteristic of only a few montane species (e.g. *N. lugubris* and some species as yet undescribed) and of *N. nina* Staudinger, 1896 from eastern Tanzania. It is one of the most distinctive African *Neptis*, probably limited to highland forest in eastern Zaïre and, possibly, Rwanda. We have no hesitation whatever in naming it after a single specimen.

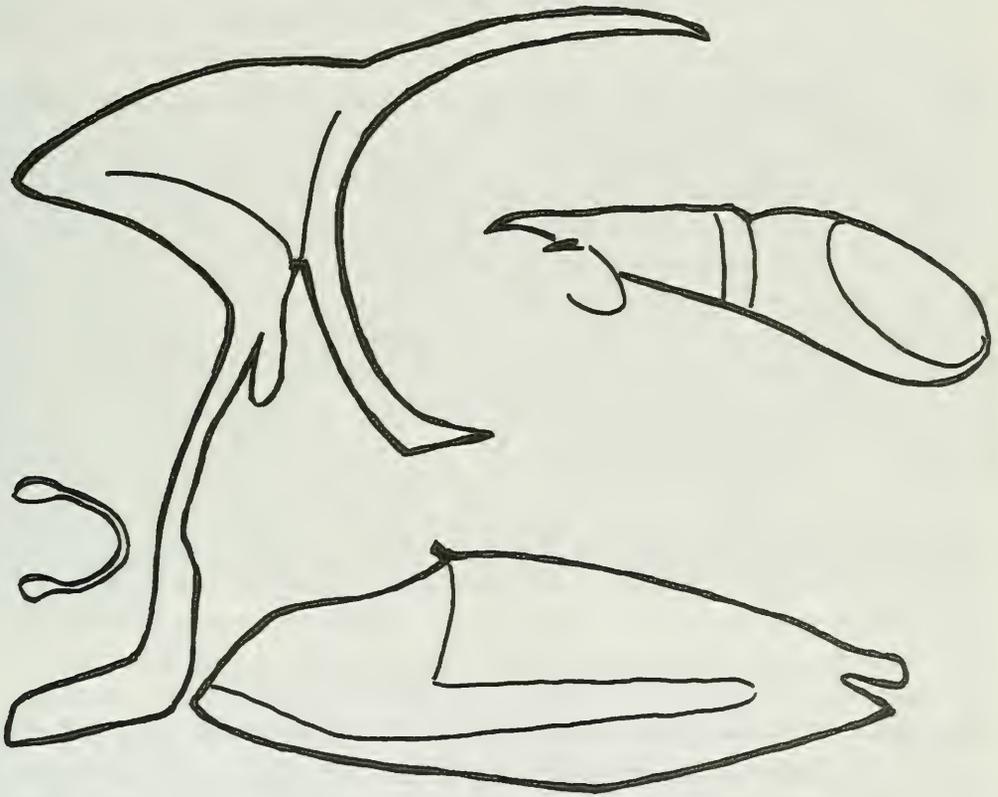


Fig. 1. Genitalia of Holotype male *Neptis marci* sp. nov.

**Etymology:** This species is dedicated to S.C. Collins' son, Marc, and should be pronounced with a hard c, as if the spelling was "marki".

**Holotype:** Male (see Plate A). Butuohe, Kivu, Zaïre, 2000 m, vii.1987 (S.C. Collins – in African Butterfly Research Institute (ABRI), Nairobi).

The submontane forests of eastern Zaïre are still not well researched and will continue to yield new endemic species as exploration continues.

### Acknowledgements

This paper is No. 26 to emerge from Larsen's project Butterflies of West Africa – origins, natural history, diversity, and conservation which has received generous support from the National Research Councils and the Carlsberg Foundation in Denmark.

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### *Dasytes puncticollis* Reitter (Col.: Melyridae), a much-declined species in Britain?

It is a curious fact that, during my sixty-odd years and more of collecting Coleoptera in southern England mainly, I have never encountered this species (formerly known as *D. flavipes*), despite its being regarded as widespread and rather common in the south at least. Some confusion in earlier times with its close ally *D. plumbeus* Müll. (the *D. oculatus* of Fowler) is certainly possible, but cannot well be the whole explanation. I first met with *plumbeus* in 1942, and at intervals since, most often in Windsor Great Park. A far likelier reason for my failure to find *puncticollis* is that it really has declined steeply – the change apparently setting in before about 1930. When one considers that, for instance, *Chrysomela tremula* F. (formerly not rare) can seemingly vanish from the fauna within a decade or so for no assignable reason, it is evident that something of the sort may happen occasionally with other species.

Of my six specimens of *Dasytes puncticollis* it is, again, curious that all five females are from the Scilly Isles: three from Bryher kindly sent me by the late G.E. Woodroffe, June 1966, and two from the H. Dinnage collection marked "Scilly Isles" with no date or collector's name. Whether this is significant or merely coincidental is not clear, but I incline to the former. They all have a tendency to darker tibiae than the male, one indeed having them all practically black. The single male is from Bearsted, mid-Kent, 1871 (J.A. Power). Reitter's name for the species seems well chosen; for a clear statement of the differences between it and *D. plumbeus*, see P.J. Hodge and R.A. Jones, 1995, *New British Beetles*: 84-5 (BENHS).– A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

### *Epiphyas postvittana* Walker (Lep.: Tortricidae)

I would like to put on record the capture of two perfect specimens of *Epiphyas postvittana* in my moth trap at Thundersley, Essex, on 24 February 1998. I had several specimens during October 1997 and odd records during previous autumns but this is the first time I have recorded the species so early in the year. I believe it is breeding nearby, but so far have not found the early stages. There is a very old apple tree two gardens from mine and I believe it to be the source of this local colony.– D.G. DOWN, 16 Wood End Close, Thundersley, Benfleet, Essex SS7 3YA.

**DATE PALMS AND THEIR PESTS IN KUWAIT**

W. AL-HOUTY

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P.O. Box 5969, Safat 13060, State of Kuwait.*

DATE PALM TREES *Phoenix dactylifera* (Arecaceae) originated in the northern parts of the Arabian Gulf where Kuwait is located, between 3000 - 6000 B.C. and were then distributed to the Indian continent in the east, to the Atlantic ocean in the west and between longitude of 35° North and 10° South. Generally the principle date producing countries of the world are Algeria, Egypt, Iran, Iraq, Pakistan and Saudi Arabia (Carpenter and Elmer, 1978).

The climate of Kuwait is a dry, hot desert type, the highest temperature ever recorded was 51°C, whilst the lowest was -6°C, the annual rainfall is 22 mm. Although Kuwait is primarily an oil producing country with harsh weather, no rivers, insufficient irrigation water and fertile soil, it still manages to achieve a good yield of certain vegetable crops which go some way towards meeting the requirements of its small population. Agriculture in Kuwait is not a main source of revenue for the country and it just plays a marginal role in the economy.

Palm trees are the most important growing tree in Kuwait because they suit the harsh climate of high temperature in summer and very low temperature in winter, the trees also can resist the high salinity water used for irrigation in Kuwait, and finally these trees reduce the effect of high wind on other plants growing near them. Kuwait produces 700 tons of dates annually, this contributes one tenth of the amount consumed locally, the rest being imported.

Date palm trees harbour different kinds of pests which attack many parts of the tree and destroy their products of dates, thereby decreasing the commercial yield of the palm trees.

**Insects and mites of date palm trees in Kuwait**

1. The Date-palm Scale Insect *Parlatoria blanchardii* (Targ) (Homoptera: Coccidae)  
Immature and mature stages feed on all parts of the palm trees, especially the green parts including the fruits. Insects attack trees of 3-10 years old and the period of their attack start at the end of March and reach its highest on end of April, decrease in May and then raise again mid of July then decrease for the rest of the season. *P. blanchardii* is considered of major economic importance in shady humid areas of Kuwait. This pest is controlled by using malathion 57% (200 cm<sup>3</sup>/100 lit. water) three times in case of heavy infestation. This pest was also recorded to be in Egypt, Mediterranean countries, Iraq, Iran and Arabia.

2. The Oriental Yellow Scale *Aonidiella orientalis* (Newstead) (Homoptera: Coccidae)

The oriental yellow scale occurs on both the upper and lower surfaces of the date palm leaves. This scale insect is of great economic importance in Kuwait and

abundant during spring (March-April) and early summer. It is controlled chemically as the previous scale insects. *A. orientalis* was recorded to occur also in Saudi Arabia (Hammad *et. al*, 1981).

3. The Red Date Scale *Phoenicococcus marlatti* Cockerell (Homoptera: Coccidae)  
Immature and females feed on bases of the leaves and fruits stalk, but it is of minor economic importance in Kuwait. *P. marlatti* was reported also from Iraq (Hussain, 1974) and Saudi Arabia (Hammad *et. al*, 1981); the latter authors reported that *Acaropsis docta* (Prostigmata-Acari) prey on it in Al-Qatif oasis of Saudi Arabia.

4. The Dubas Bug *Ommatissus binotatus lybicus* De Ber. (Homoptera: Tropiciduchidae)

Both young and adults suck the sap of the leaflets and fruits. It is of major economic importance in Kuwait, controlled by spraying Nogosé (200 cm<sup>3</sup>/100 lit. water) or malathion (250 cm<sup>3</sup>/200 lit. water). *O. binotatus* was also reported as a serious pest of date in Iraq, Oman, Iran, Egypt and Libya (Carpenter and Elmer, 1978) and in Saudi Arabia (Hammad *et. al*, 1981), the latter authors found the mite *Bdella* sp. (Prostigmata: Acari) preying on the eggs of this insect.

5. The Lesser Date Moth *Batrachedra amydraula* Meyr. (Lep.: Cosmopterygidae)  
This moth is known as humarah, because the larvae feed on all parts of the fruits, leaving the outside shell uneaten, these reddish perforated dry fruits hang to the tree with tiny silken belt of the larvae. The period of attack is from the end of March through April. *B. amydraula* is of major economic importance in Kuwait and controlled by spraying malathion 57% (200 cm<sup>3</sup>/100 lit. water). This pest was also reported from Iraq (FAO, 1966, Hurpin, 1970), Egypt (Michael, 1970), Saudi Arabia (Hammad *et. al*, 1981) and Bahrain (Abdul-Jabar, *et. al*, 1982).

6. The Larger Date Moth *Arenipses sabella* Hmps. (Lep.: Pyralidae)

This moth has been reported as pest of date palm tree in Egypt (Mohamed, 1964), Iraq, Iran Algeria (Batra, 1972) and Saudi Arabia (Arafat, 1974 and Hammad *et al*, 1981), where it can be found feeding on all parts of the tree. In Kuwait, *A. sabella* is only of moderate economic importance and feeds mainly on flowers during March and April. The control measures recommended against the lesser date palm moth can be effective against this pest as well.

7. The Fruit Stalk Borer *Oryctes elegans* Prell (Col.: Dynastidae)

Both larvae and adults feed on fruit stalks and in the bases of trunks, where they produces holes for adult to penetrate in the trunk and lay eggs. It is of major economic importance in Kuwait especially in high humid seasons and usually controlled by spraying malathion 57% or diazion 30% (200 cm<sup>3</sup>/100 lit. water) on the trunk and stalks. Hammad *et. al*, 1981, found two species of mites *Tyrophagus* spp. (Mesostigmata: Laelapidae) in large number underneath the wings of adults infesting palm trees in Saudi Arabia.

8. The Indian Palm Weevil *Rhynchophorus ferrugineus* Oliv. (Col.: Curculionidae)

Larvae of this pest attack the trunk producing holes, these holes may be used as entrance for the previous beetles as well to attack the tree.

The Indian palm weevil attack cause the palm tree to bend to one side. The pupae of this pest use the tree internal tissue for pupation; *R. ferrugineus* was recorded recently in 1994 to be of serious economic importance in Kuwait and can be controlled exactly like *oryctes*.

9. The Old World Date Mite *Oligonychus afrasiaticus* (McGr.)

(Prostigmata: Tetranychus)

Immature and mature stages suck the sap of the fruits causing damage which increases during the dry seasons of summer and spring. The infested fruits become brown and wrinkled and covered with sand particles that usually adhere to the mite silken web especially during the sand storm season, so the palm tree appear dusty.

This mite is of major economic importance and its control starts from first of May to mid of July by using diazoin or malothion, as for *Oryctes*. *O. afrasiaticus* is an important pest of date throughout Iraq (Hussain, 1970).

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***Aethes beatricella* Wals. (Lep.: Tortricidae) new to North Hampshire**

John Langmaid has kindly identified a tortrix which flew to mv light here on 12 July 1996, along with 86 other species, as *Aethes beatricella*. The food plant, *Conium maculatum*, is known to be abundant in several of the village gardens. I am grateful to Barry Goater for confirming this as the first record for VC12.– ALASDAIR ASTON, Wake's Cottage, 1 The Street, Selborne, Hampshire GU34 3JH.

**A very Early Grey**

On 11 January 1998 I noted a fresh specimen of the Early Grey Moth *Xylocampa areola* Esp. resting on the frame of my back door in Mitcham. This seems to be an exceptionally early date compared with those which I have for my moth trap run between 1981 and 1985 when the first dates for this species were 8.iv.1981, 21.iv.1982, 15.iv.1983, 9.iv.1984 and 3.iv.1985. Is this an indication of "global warming"? Perhaps not in itself because this winter seems to have been exceptionally mild but it does seem to be a further indication of a shift in emergence patterns with the increasingly warm springs experienced in recent years.– R.K.A. MORRIS, c/o, 241 Commonsides East, Mitcham, Surrey.

**The incidence of two species of *Corticeus* Pill. & Mitt. (Col.: Tenebrionidae): a comment**

In Brendell, 1975, Coleoptera Tenebrionidae (*Handbk. Ident. Br. Insects* 5(10): 19) it is stated that *Corticeus* (formerly *Hypophloeus*) *fraxini* (Kug.) occurs "very rarely" in the burrows of *Orthotomicus suturalis* (Gyll.) and *O. laricis* (F.) and is rare, occurring "nearly always" in those of *Ips sexdentatus* (Born.). Donisthorpe, on the other hand (1939, *A preliminary list of the Coleoptera of Windsor Forest*: 96), records *C. fraxini* "in the greatest profusion, with its larvae, under the bark of a number of large felled Scots pines infested by *Tomicus laricus*, *T. suturellus* [i.e. *suturalis*], etc." When that was written *Ips sexdentatus* was unknown in the Windsor Forest area, being only much later found there (and that rarely). This record relates to the Swinley Forest/Ascot Heath area, where I took *C. fraxini* somewhat freely with the two *Orthotomicus* spp. in 1936. On a visit to Chobham Common, Surrey, with my friend Prof J.A. Owen (2.x.1996), we found it sparingly under bark of a pine branch forming part of a stile, which had been formerly attacked by scolytids (species indeterminable) but certainly not *I. sexdentatus*).

The 1975 estimate above thus needs revising: it contrasts oddly with that given for *C. unicolor* Pill. Mitt. (*l.c.*): "locally quite common". This may have been true in the past, but few present-day collectors appear to have met with the species – or such at least is my impression. In Hyman & Parsons (1992, *A review of the status of the scarce and threatened Coleoptera of Great Britain*, 1: 413), it is accorded "rare" status with only four county-divisions listed for the post-1970 period.– A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

### Hazards of butterfly collecting – Wandering in Africa – February 1997

Martha Becham and I were staying in Science Camp, eight kilometres inside Korup National Park, Cameroon, one of the largest and most important of all national parks in Africa. It is contiguous with Cross River National Park in Nigeria. The combined butterfly fauna of these two parks is more than 1,100 species – more than a quarter of all African butterflies, a third of the butterflies of the African mainland (there are a lot of endemic species on Madagascar, in Arabia, and on the smaller islands), and about three-quarters of all butterflies in Nigeria and Cameroon. No other area in Africa of similar size has as many species. There are also many interesting endemic species (one more was found on the expedition). This is biodiversity writ large.

Martha is a research assistant at Korup and has had plenty of experience both with the park and with numerous biological research projects. She quickly adapted to butterflies, but kept an eye on other things, as well as being logistics coordinator. For instance, she spotted a mushroom that I had passed twice without noticing it. And not just any old mushroom, mind you . . . – this was a soft, *Boletus*-like affair with a cap almost a metre across, balancing on a stem not much thicker than my wrist. I have never seen anything remotely like it, but neither had any of the scientific staff. It could be new to science, so one of our porters was later sent back with a large cardboard box to collect the specimen – the weight was just over 10kg!

On our third day at Science Camp I had set off on a trek down an unused track six kilometres westwards, in the direction of nearby Nigeria. To my surprise, on returning I met a man heading the other way. He wore some tattered sandals and carried a small orange canvas sack on his head. My greetings were not returned . . . odd? Even the most hardened smugglers who used the forest for illegal traffic between Nigeria and Cameroon are invariably profusely polite.

At 17.00 he returned to Science Camp. He was lost. He had been there earlier in the day and had been pointed in the right direction by our guide/cook while we were collecting. The park obviously does not encourage the use of its Science Camps for casual itinerants, but he could not get back while it was still daylight, and most Africans are terrified of the forest at night. Martha and the guide/cook began an intensive interrogation. This proved less than easy, since the only common language was some very broken *Hausa*, spoken in the extreme north of Nigeria, Cameroon and in Niger. He produced his identity papers. He was Nigérien – Nigérien from Nigér, not Nigerian – an illegal immigrant in Cameroon, walking to Nigeria where his ID card was acceptable as part of the West African Economic Community (ECOWAS).

We went through his belongings, which were few and pitiful, and which included the equivalent of five or six pounds in cash (he may prudently have hidden some of his money before turning up). After sequestering his belongings and his ID card, we gave him dinner and allowed him to stay the night. He slept well.

We sent him back to the park entrance to wait for someone who actually knew the way to Nigeria. He was not terribly keen on this, since patrolling Cameroon gendarmes had taken a fiver off him the day before. When he reached there he would have walked 24km to be back at start . . . do not pass go, do not collect 200 pounds!

Martha's reaction was negative: "I don't trust this kind of people", and possibly with good right. My own reaction was more one of disbelief. Here is this guy, illegally in Cameroon (probably just for work), trekking about 60km in flimsy sandals through West Africa's largest wilderness to enter Nigeria unofficially, with virtually no possessions, with only a battered Niger ID card, speaking only broken *Hausa*, hardly understood in the south. Once he reaches Nigeria he faces a journey of some 800km to get back to Niger, punctuated by some 200 checkpoints, at each of which some level of harassment is to be expected. At least *Hausa* will be increasingly spoken as he works his way north.

I wonder what he thought of us, camping with all the (actually very modest) luxuries that our porters had carried. He certainly had only the haziest ideas about biodiversity surveys.

During ten other days inside the park Martha and I met no other intruders, but we did meet with lots of butterflies. About 400 species in less than a month. We established that the Oban Hills in Cross River and Korup are very similar in terms of species composition and may be treated as a joint biogeographical and ecological unit. Research in Nigeria and Cameroon can complement each other.

Figures differ, but the 18,000 butterflies known worldwide constitute just over one percent of all living organisms that have been graced with a scientific name. In a rough and ready way, butterflies can probably be used as proxy for overall diversity. So more than 1,000 butterflies means a minimum of 100,000 other organisms. But since butterflies are well known, while most other orders are not, there are probably at least 500,000 species in Korup/Oban Hills, probably 1,000,000, and possibly many more.

In the midst of such amazing richness, I still have a fond hope that our mushroom will prove new to science! Watch this space!!—TORBEN B. LARSEN, 258 Coldharbour Lane, London SW9 8PL.

### **An additional Surrey record of *Aleochara discipennis* Muls. & Rey (Col.: Staphylinidae)**

Professor J.A. Owen's note on this species among many other interesting beetles from Headley Warren, Surrey (1997, *Ent. Rec.* **109**: 304) in which he remarks that there appear to be no other recent Surrey records, reminds me that I met with very few examples in June 1948 at a site near Headley. They occurred singly at fresh cowdung near West Humble in the Box Hill area, where I was working for *Copris lunaris* (L.) in the cattle-pastures along either side of the road. Another notable beetle of which one was found at the same time and place is the staphylinid *Ocypus bero* Fald. (= *similis* auct.) – in south-east England an uncommon species of the chalk. From my experience I have no doubt that fresh dung (cow or horse) is the preferred habitat of *A. discipennis* with us (*cf.* also Welch, R.C., 1997, *Coleopt.* **6**(1): 36-7).—A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

A RECORD OF A RARE MALE OF THE PARTHENOGENETIC  
PARASITOID *DINOCAMPUS COCCINELLAE* (SCHRANK)  
(HYM.: BRACONIDAE)

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THE WASP *Dinocampus coccinellae* (Schrank) exclusively parasitises coccinellids of the subfamily Coccinellinae (Hodek and Honek, 1996). It is a solitary endoparasite, utilising mainly adult coccinellids (Hodek and Honek, 1996). Female wasps show thelytokous parthenogenesis, laying unfertilised eggs which almost always give rise to female progeny. We here record a male individual of this species.

The male emerged from an overwintered *Coccinella septempunctata* L. (7-spot ladybird). The ladybird was collected on 13 May 1997, in a sample of 100 *C. septempunctata* from a Scots pine *Pinus sylvestris* plantation surrounding Invergowrie Technology Park, Dundee (O/S ref. no. 352312). The sample was retained in captivity in Petri-dishes, at 20°C, and fed on *Acyrtosiphon pisum* (Harris) (pea aphid) to allow parasitoids to emerge. Forty of the ladybirds yielded *D. coccinellae* individuals, all save one of which were normal females. The exception was slimmer and darker than the rest, and lacked the characteristic ovipositor of the normal females. Microscopic examination of this wasp under CO<sub>2</sub> anaesthetic, showed that it had external genitalia similar to those of a male braconid wasp.

A literature search revealed that a small number of males of *D. coccinellae* have been reported previously. Some of the early records have been questioned. The oldest, referred to by Balduf (1926), was recorded by Nees in 1834, and is no longer in existence for checking. Another record from the nineteenth century (Weed and Hart, 1889) was in fact a male of another species (Balduf, 1926). Yet four more recent records appear to be genuine (Muesebeck, 1936 – two records from California; Hudon, 1959 – one male from British Columbia, Canada; Wright, 1978 – one male from Canada). These four verified specimens are retained in permanent museums (two in the US National Museum, one in the Canadian National Museum, Ottawa, and one in the collections of the Department of Environmental Biology, University of Guelph, Ontario. An additional male has recently been reported to us from Czechoslovakia (Oldrich Nedved *pers. comm.*).

The literature reports of previous males provide little detail of the morphology or behaviour of the specimens. Only Wright (1978) gives significant details, reporting on the mating behaviour of the species, and the morphological differences between the sexes. With respect to the sexual dimorphism, our observations are in accord with hers. Wright (1978) describes her male courting, mounting, and apparently copulating with four females. The Scottish male was offered a series of ten individual females, each for one hour, with a half hour interval between each, followed by five females together, which he was left with for ten hours. However, while the Scottish male exhibited pre-copulatory behaviour in the form of holding his wings out from the body at an angle of approximately 40°, and vibrating them intermittently, all his attempts at mounting females were rebuffed.

The male is currently the subject of further research entailing attempts to set up a cell-line culture to allow examination of the karyotype of the male in comparison with that of females, direct karyological examination of cells from females having failed to reveal dividing cells. The remnants of the male, and comparator females, are to be lodged in the Department of Zoology Museum, University of Cambridge, once the karyological examinations have been completed.

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#### The distribution of *Ectoedemia quinquella* (Bedell) (Lep.: Nepticulidae) in Berkshire

Previously I reported the occurrence of the nepticulid *Ectoedemia quinquella* in eastern Berkshire, in the area south of Reading (*Ent. Rec.* **109**: 187-188). During field work this autumn I searched for new sites for this moth. On 16 November 1997 I visited Baynes Wood nature reserve near Greenham Common in central Berkshire. Here, on a large oak growing beside the road at the entrance to the reserve I found mines of this species in abundance. Larvae were also found mining several oaks on the reserve. This site in central Berkshire together with the records for eastern Berkshire referred to above and those published by Baker (1994. *Butterflies and moths of Berkshire*) for Tubney Wood and Buckland Warren in the north-west of the county show that *E. quinquella* is widespread in the county. Indeed, it is abundant in several places.— I. SIMS, 2 The Delph, Lower Earley, Reading, Berkshire RG6 3AN.

#### *Digitivalva pulicariae* Klimesch (Lep.: Yponomeutidae) new to North Hampshire

On 27 April 1996, after a very warm day, an example of *D. pulicariae* flew to m.v. light here, along with twenty other species. I am grateful to John Langmaid, who identified the specimen for me, and to Barry Goater, who confirmed the record as new to VC12. Both the cited foodplants, *Pulicaria dysenterica* and *Eupatorium cannabinum*, grow in this neighbourhood.—ALASDAIR ASTON, Wake's Cottage, 1 The Street, Selborne, Hampshire GU34 3JH.

A SECOND IRISH RECORD OF *CTENOPHORA PECTICORNIS* (L.)  
(DIP.: TIPULIDAE)

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ON 16 JULY 1997, while searching for eucoilid Hymenoptera in a store box of miscellaneous unnamed insects collected by the late E.F. Bullock of Killarney, Co. Kerry, JPO'C noticed the remains of a large dipteran which resembled a ctenophorine tipulid. The head and thorax, complete with their appendages (antennae, legs and wings), were pinned on a large square of photographic paper. Subsequently, the abdomen of the specimen was located pinned to the cork in another section of the box. It had become detached due to the warping of the photographic paper caused by damp. When the specimen was reassembled, it became evident that it was indeed a ctenophorine and was readily identifiable by the authors as *Ctenophora pecticornis* (L.) using Coe (1950) and by comparing it with reference material in the collections of the National Museum of Ireland.

The specimen was labelled "Killarney Cahirane 6.32 EFB". The discovery of this specimen is very exciting since the species was only recently added to the Irish list (Speight & Nash, 1993). From 27-29 May 1992, ♂♂ ♀♀ were collected on the north shore of Doo Lough on the Muckcross Peninsula in the Killarney National Park. They occurred in old *Betula*/*Fraxinus*/*Quercus* woodland.

*C. pecticornis* is a large (body length 2.5-3 cm, wingspan 6 cm) long-legged, black and yellow fly. The larvae are known to inhabit the rotten wood of *Aesculus*, *Alnus*, *Fagus*, *Pyrus malus* and *Quercus* (Dufour, 1986). The Doo Lough specimens were thought to have emerged from rotten *Betula* trunks but it was impossible to confirm this. The adults may be found on the wing during daylight hours, particularly on warm, sunny, humid and still afternoons – conditions that are not frequent in Ireland during its flight-period of May – June. Nevertheless, Speight and Nash (1993) considered it surprising that such a large and dramatic insect had escaped notice until 1992, especially in the Killarney Valley where entomological activity has been more intensive than in most other parts of the island. Because of its extreme localisation, Speight and Nash (1993) stated that *C. pecticornis* would be a candidate for inclusion in any Red Data List of threatened Irish insects.

Bullock obtained his specimen at Cahirane (now spelt Cahernane) (Irish grid reference V9689) near Killarney town. This area is over 3 km distant from the Doo Lough and lies outside the Killarney National Park. Cahernane is near the River Flesk and according to the 1991 Ordnance Survey Map (1:25000) of Killarney, there are privately-owned natural woodlands in the area. Bullock probably took his specimen in the grounds of Cahernane House, the one-time residence of the Earls of Pembroke, which is now a hotel surrounded by parklands and pastureland.

It is remarkable that Bullock's specimen survived to the present day but it is less surprising that he managed to collect it. An Englishman, Edwin Bullock went to live

in Killarney in or before 1912. There he became a professional photographer – hence his use of photographic paper for carding some of his specimens. He was the last of the great local collectors in Ireland. He collected, when weather permitted, every day for more than 50 years usually within a few miles of his house due to the lack of a car. Indeed, Cahernane was but a short distance from his home Flesk View House (now sadly demolished) on the Muckcross Road. He eventually built up a collection of beetles unrivalled in Ireland. However, he also collected specimens of many other groups. For example, his keen eye detected in his garden the only Irish specimen of the beautiful little diapriid *Corynopria solida* Thomson (O'Connor & Ashe, 1992). A charming account of Bullock is given by Beirne (1985).

After his death in 1965 at the age of 86, his collection was initially stored locally where sadly it suffered from damp. When it was eventually transferred to the National Museum of Ireland in 1968, the contents of many store-boxes had been destroyed although the main collection housed in a cabinet and other material did survive intact. Curiously, the store-box containing *C. pecticornis* was not included in the 1968 donation. Instead, it was discovered by K.G.M. Bond in University College Cork many years later. It had been in the possession of Professor F.J. O'Rourke and the contents had suffered little damage. In 1989, the box with its specimens was presented to the National Museum of Ireland.

### Acknowledgements

The authors wish to thank K.G.M. Bond and the authorities of University College Cork for presenting the store-box to the National Museum. Without their foresight, this discovery could not have been made.

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### Information wanted: insects in poetry

As part of a research project into insects in poetry, I would like to hear from anyone who knows of poems by any poet, classical or contemporary, published or unpublished in which an insect or insects of any order are featured specifically or generally. All correspondence will be acknowledged.— JOHN TENNENT, 1 Middlewood Close, Fylingthorpe, Whitby, North Yorkshire YO22 4UD.

**Some inland records of *Agrotis trux lunigera* Stephens (Lep.: Noctuidae)**

Two males of this species have recently been recorded from Berkshire (administrative county) localities, the first from Slough, 16 Gilmore Close (VC24 – Bucks), 18.vii.1992 (data from MRH) and the second from a mercury-vapour light trap at Emmer Green, SU718773 (VC23 – Oxfordshire), 7.vii.1997, *leg.* DGN (specimen at the Museum of Reading). The occurrence of this species inland in Britain is puzzling as the British subspecies is reportedly both strictly coastal and sedentary. In Heath and Emmet (1979, *The Moths and Butterflies of Great Britain and Ireland*. 9. Harley Books) it is described as “Chiefly an inhabitant of sea cliffs . . . , but sometimes found a few hundred metres inland . . .”. On the continent *A. trux* regularly occurs inland (distribution map in Svendsen & Fibiger, 1992, *The distribution of European Macrolepidoptera* Fauna Lepidopterorum Europaeorum. 1. Noctuidae. 1: 215) but the two males agreed well with the British subspecies *lunigera* in having narrower, more oblong wings and darker coloration. While only two Berkshire specimens have been seen, additional literature records have been found for Bedfordshire – Aspley Heath, SP9436 (Arnold *et al.*, 1997, *The Butterflies and Moths of Bedfordshire*. Bedford: 327) and for Oxfordshire – Studley Village, near Bernwood Forest (Waring, 1990, *Ent. Rec.* 102: 233-238). This raises the possibility of at least one inland colony or perhaps dispersing adults. If there is such a colony, the favoured habitats are a matter of speculation, although cliff-like habitats such as railway cuttings and quarries would be worth investigating.— DAVID G. NOTTON, Reading Museum Service, Museum of Reading, Blagrove Street, Reading RG1 1QH & MARTIN R. HONEY, Department of Entomology, The Natural History Museum, London SW7 5BD.

**The mottled grasshopper *Myrmeleotettix maculatus* (Thunberg) (Orth.: Acrididae) new to the Isle of Arran**

Three new colonies of this species were found during 1996 at various localities on the Isle of Arran (VC 100). This species has apparently never been recorded before on Arran and there are no records in Marshall & Haes (1988. *Grasshoppers and allied insects of Great Britain and Ireland*. Harley Books) or the more recent work by Haes & Harding (1997. *Atlas of grasshoppers, crickets and allied insects in Britain and Ireland*).

A single female was initially found on 5 July 1996 at Shiskine Golf Course, Blackwaterfoot (OS grid ref. NR 887288) on a bare sandy patch on the south-facing side of an unvegetated dune. Further colonies were found on 20 July 1996 at Brodick Bay, Brodick (NS 013370) in a disturbed area between golf links and fore-dunes and at Sannox (NS 017453), where a single male was captured at the top of a sandy beach amongst sparse vegetation. All three colonies are apparently very small, with a maximum of six males stridulating at the Brodick colony on 20 July 1996.— ALEX RAMSAY, Dryfemount, Dundas Street, Bo’ness, West Lothian EH51 0DG.

***Depressaria ultimella* Stt. (Lep.: Oecophoridae) new to North Hampshire**

A smallish, rather reddish-brown depressariinid that flew to light here on 24 October 1996 turns out to be *Depressaria ultimella*, a species new to North Hampshire vice-county. Its foodplant in this locality would seem likely to be either *Apium nodiflorum* or *Oenanthe crocata*, since another cited pabulum, *Oenanthe aquatica*, is now regarded as very rare or extinct in Hampshire. I am grateful to John Langmaid for determining the identification and to Barry Goater for confirming the status as new to VC12.—ALASDAIR ASTON, Wake's Cottage, 1 The Street, Selborne, Hampshire GU34 3JH.

***Nothochrysa capitata* Fabr. (Neur.: Chrysopidae) at Selborne**

On the morning of 29 June 1997 I found an unusual lacewing in my moth-trap here. It was larger than familiar green species and dark-brown in colour except for the head and thorax which were reddish. As I had seen nothing like it before I took it to the Natural History Museum where Stephen Brooks kindly named it for me as *Nothochrysa capitata*, a dark-brown "green lacewing" which at one time had been considered rare and associated with pines. Recent research, however, using insecticide-fogging techniques in the tree-canopy has revealed that it can be locally abundant on oaks. It is perhaps worthwhile mentioning that, although my light is at ground level, it illuminates the top of next-door's tulip tree, which is at the same altitude as the crowns of nearby oaks.—ALASDAIR ASTON, Wake's Cottage, 1 The Street, Selborne, Hampshire GU34 3JH.

**EDITORIAL COMMENT:** There remains a minor controversy over the tree-associations of *Nothochrysa capitata*. Records received by me for the National Recording Scheme mostly support (on those rare occasions when such data is actually provided) the assertion of Killington (1937. *A monograph of the British Neuroptera*. Ray Society), that the insect is exclusively associated with *Pinus*. In many cases where records were made in association with deciduous trees the woodland containing those trees also contains pines in close proximity to the capture site. The fogging records from the single oak tree in Richmond Park, London which Alasdair mentions in his note contradict the bulk of available evidence, although that is no reason to ignore them. The insect is recorded in low number across a wide area of England and Wales with three known localities in Scotland (Plant, 1994. *Provisional atlas of the lacewings and allied insects (Neuroptera, Megaloptera, Raphidioptera and Mecoptera) of Britain and Ireland*. NERC). Nevertheless, Alasdair's record represents the first for VC12 (North Hampshire) and serves as an example of how important records can be made of non-Lepidopterous insects from light-traps. There are no Irish records. As recording scheme co-ordinator I positively welcome lacewings from light traps sited anywhere in the British Isles – particularly poorly recorded areas such as Scotland and Ireland.—COLIN W. PLANT, 14 West Road, Bishops Stortford, Hertfordshire CM23 3QP.

**AB. DISCOFLAVA, AB. NOV.: A PREVIOUSLY UN-DESCRIBED  
ABERRATION OF THE SWALLOWTAIL BUTTERFLY  
*PAPILIO MACHAON BRITTANICUS* SEITZ (LEP.: PAPILIONIDAE)**

MICHAEL A. SALMON

*Avon Lodge, Woodgreen, near Fordingbridge, Hampshire SP6 2AU.*

At least ninety aberrational forms of the Swallowtail butterfly have been named, some of them spectacular, but most consisting of minor colour or pattern changes only and, until recently, it seemed unlikely that there were any major aberrations as yet un-described. A few years ago I purchased a number of butterflies from Professor Alan Davies, among which was an unusual looking Swallowtail of the British subspecies, taken originally on 5 May, 1911, at Wicken Fen by G. Brookes. A thorough search of the British and European literature has failed to identify further examples of this, or, indeed, evidence of a previous description.



Plate B. *Papilio machaon brittanicus* Seitz ab. *discoflava* ab. nov.

**ab. *discoflava* ab. nov.**

**Male** Wingspan: 69mm. Emmet & Heath (1989) give the normal range as 76-83 mm. for the male and 86-93mm. for the female). Length of forewing: 35mm. Maximum width of forewings: 24mm. The ground-colour is pale (*cf.* ab. *pallida* Tutt), but the discoidal cells of all four wings are deep yellow, of a shade indistinguishable from the typical form. The underside is of a more uniform yellow colour, although the discoidal cells of the forewings are very slightly darker than the ground colour. The black markings are normal, as are the yellow marginal lunules and blue and red hindwing markings.

David Carter of the Natural History Museum, London, very kindly examined the specimen and demonstrated by light microscopy that the wing scales in the pale yellow areas were defective. Individual scales appeared curled along their long axes, which made them appear narrower than expected. The scales of the darker discoidal cells and from the black markings appeared normal. It was then suggested that the specimen might have been "treated" with a bleaching agent in order to manufacture the aberration.

With this in mind one recalls Charlton's Piltown butterfly (*Papilio ecclipsis* L.), the manufactured Brimstone "aberration", of which there are two specimens in the Linnean Collection. However, very careful microscopic examination failed to detect a single abnormal scale in the normal dark yellow areas encompassed by the discoidal cells. At the same time examination of the adjacent black markings failed to identify any defective scales. It would thus appear that this abnormal specimen does exhibit a true scale defect and not a "manufactured" abnormality. It seems inconceivable that anyone might possess the necessary skill to bleach the pale areas so accurately that not a single scale in the black markings or the discoidal cells was involved.

### Acknowledgments

I am most grateful to David Carter for his expertise in examining this specimen and to David Wilson for the photograph in Plate B.

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### Collecting notes 1997

I will begin these notes by completing the story of the Goat Moth *Cossus cossus* L. larvae which I introduced in my notes for 1996 (*Ent. Rec.* **109**: 144). About 140 larvae stopped feeding and began the winter diapause in silken tubes in mid-December. I left the five-litre plastic ice cream boxes in an unheated, frost-free, south-facing sun-room. On 13 February 1997 my eye was caught by a large, pink larva hurriedly crossing the sun-room floor. My worst fears were confirmed when I lifted up the boxes to discover several large holes through the plastic and a set of new tunnels in the carpet below, (fortunately, the sun-room has a concrete floor!). One enterprising group of larvae tunneled straight through a one-inch thick piece of soft wood upon which their box was standing. A sheet of glass prevented further escapes.

The larvae were hungry and I renewed the wood shavings, wholemeal bread and apple and left them to it. There was some evidence of cannibalism during the winter which was probably due to overcrowding. A swarm of small flies of biblical proportions prompted me to clean out the boxes in the middle of May. I was

astonished to find most larvae had pupated in tough cocoons in the wet mess which they called home. I moved the cocoons to a purpose-built emergence cage (actually, it's an old wooden beer crate with a glass top and lovely, rough wooden sides). The first three adult moths emerged on 30 May. To anyone foolish enough to attempt to rear these disgusting creatures a word of warning – pupae removed from cocoons always produce adults whose wings fail to develop. Leave them in the cocoons and spray regularly.

These Goats had taken less than one year to complete their development from the egg. The moths were as large, if not slightly larger, than those taken from the wild in France. I shared the cocoons between myself and two friends hoping that one of us would secure pairings. In this we were spectacularly unsuccessful as all the adult moths *appeared* to be females and produced only infertile eggs. Interestingly, when I returned to the area of France (see below) from where the stock originated, not a single Goat Moth visited the trap. Perhaps even the warmth of southern France does not compensate for a nutrient-poor diet of wood and wild Goat Moth development takes over one year.

The season began well in Somerset. An examination of moths attracted to the kitchen window on 9 February revealed only Winter Moths *Operophtera brumata* L. Presumably, their emergence had been delayed by the intense cold of late December and early January. A similar examination on 15 February revealed only male Early Moths *Theria primaria* Haw. Obviously, a climatic threshold had been crossed! A male Dotted Chestnut *Conistra rubiginea* D.&S. appeared in the trap on 26 March but despite the application of gallons of sugar to the trees around the paddock I failed yet again to attract a female of this species. The appearance of Holly Blues *Celastrina argiolus* L. on 27 March boded well for an early season. The warm afternoon of 24 April induced the emergence of Scarce Daggers *Acronicta auricoma* D.&S. and Scarce Swallowtails *Iphiclides podalirius* L. from overwintered pupae.

To escape the national madness of the General Election on 1 May, Keith Livings and I visited a site on the Gower Peninsula where Keith had observed Narrow-bordered Bee-hawks *Hemaris tityus* L. some ten, or more, years previously. We arrived in glorious sunshine and immediately found our quarry. Adult moths were flying rapidly about the site and all those netted proved to be males. Eventually, I found a freshly emerged female. We then examined our captives and selected two likely-looking young bucks for breedings and released the rest. We then moved to the nearby dunes where we found Brown Argus *Aricia agestis* D.&S., Common Blue *Polyommatus icarus* Rott., Dingy Skipper *Erynnis tages* L. and Red Admiral *Vanessa atalanta* L. Moths included Yellow Belle *Apitates ochrearia* Rossi, Grass Rivulet *Perizoma albulata* D.&S., Oblique Striped *Phibalapteryx virgata* Hufn. and a single larva of the Grass Eggar *Lasiocampa trifolii* D.&S.

I was pessimistic about our chances of breeding the Bee-hawk as I assumed (wrongly, as it turned out) that such active insects would require a large cage and plenty of sunshine. Keith placed the three moths in a small cage over a growing plant of Devils-bit Scabious. He walked away for a few minutes to answer the

telephone and returned to find the moths had paired. He had missed a rarely observed event and was not amused! Most of the subsequent eggs were deposited on the mesh of the cage thus destroying any remaining mystique about this beautiful insect.

Keith and I returned to the Gower site on 11 June to attempt to locate wild *tityus* larvae. A “hands and knees” search produced small larvae and eggs. The Devils-bit plants are small and the larvae seem to wander aimlessly until they bump accidentally into their next meal. Density of plants must therefore be critical to the survival of this moth. Parasitism rates amongst the larvae were high with over 50% succumbing whilst still small. Insects abounded on the dunes in the hot sunshine. We noted Dark Green Fritillary *Argynnis aglaja* L., Marbled White *Melanargia galathea* L. and Small Blue *Cupido minimus* Fuessly.

On 15 May I drove to Ashford, Kent to stay with Peter Smytheman. In all my years of moth-hunting, I had never visited those famous Kentish localities about which I had read as a child with an almost religious reverence. We spent two full days indulging ourselves in such diverse activities as searching for pupae of the Large Red-belted Clearwing *Synanthedon culiciformis* L., larvae of the White-letter Hairstreak *Satyrium w-album* Knoch and Dusky-lemon Sallow *Xanthia gilvago* D.&S. and eggs of the Duke of Burgundy Fritillary *Hamearis lucina* L. We trapped in Orlestone Forest and at Dungeness. Despite an ideal warm, thundery night, Dungeness produced little of interest but I was pleased to see Light Feathered Rustic *Agrotis cinerea* D.&S., Cream-bordered Green Pea *Earias clorana* L. and the white form of Tawny Shears *Hadena perplexa* D.&S. In contrast, Orlestone produced an abundance of moths including some good dark specimens of Pale Tussock *Calliteara pudibunda* L. ab. *obscura* Lempke and Pale Oak Beauty *Serraca punctinalis* Scop. ab. *humperti* Humpert. I managed to add Barred Hook-tip *Drepana cultraria* F. to the list that Peter is compiling for the site. During the day we searched Orlestone for Broad-bordered Bee-hawks *Hemaris fuciformis* L. but without success. Happily, Peter added this species to the list later in June.

On 11 July we set out *en famille* for France, spending the first week in the hills of the Auvergne at Pegotard near St. Germaine L'Herme. The scenery was reminiscent of Scotland and this impression was confirmed by moths such as Beautiful Brocade *Lacanobia contigua* D.&S. and Gold Spangle *Autographa bractea* D.&S. Other interesting species included a dark form of Pale Shining Brown *Polia bombycina* Hufn., Pine Lappet *Dendrolimus pini* L. and Dark Tussock *Dicallomera fascelina* L. I discovered damp meadows near Fournols where butterflies, especially fritillaries, abounded. Flying together were: Silver-washed *Argynnis paphia* L., Dark Green A. *aglaja* L., Niobe A. *niobe* L., Lesser Marbled *Brethnis ino* Rott., Titania's *Clossiana titania* Esp., Pearl-bordered *C. euphrosyne* L., Small Pearl-bordered *C. selene* D.&S., Weavers *C. dia* L., Glanville *Melitaea cinixia* L., Knapweed *M. phoebe* D.&S., False Heath *M. diamina* Lang and Heath *M. athalia* Rott. – try sorting that lot in the field! Altitude (c. 900m) appears to shorten the flight period – “early” species fly late and “late” species fly early. Also present were Arran Brown *Erebia*

*ligea* L., Piedmont Ringlet *E. meolans* de Prunner and Silver-spotted Skipper *Hesperia comma* L.

The mountains near the (awful) ski resort of Super Besse (the Col de Geneste 1372m) produced worn Apollos *Parnassius apollo* L., Small Mountain Ringlet *E. epiphron mnemon* Haw., Large Ringlet *E. euryale* Esp., the local form of the Brassy Ringlet *E. cassioides arvernensis* Oberth. and the pretty little geometrid *Psodis quadrifaria* Sulz. Lying to the north-east were the very attractive Monts du Forez. Unfortunately it was raining on the day that we visited this area. The sun appeared briefly as we reached the Col du Supeyres (1366m), allowing me to record Bright-eyed Ringlet *E. oeme* Hulon., Alpine Heath *Coenonympha gardetta* de Prunner and a distinctive buff-yellow day-flying geometrid *Crocata lutearia* F.

On 19 July we left the mist and 11°C of the Auvergne for the 22°C of Cordes-sur-Ciel in Tarn. This was a second trip to this productive area so most Lepidoptera were familiar. New species included the Marsh Dagger *Acronicta strigosa* D.&S. and the False Grayling *Arethusana arethusana* D.&S. which was flying in numbers over the dry limestone hills above St. Martin d'Urbens.

In 1996 I had forgotten, whilst in France, to look for the recently separated Lesser Broad-bordered Yellow Underwings *Noctua janthe* Borkh. and *N. janthina* D.&S. Using the hindwing characters given by Fibiger (1993. *Noctuidae Europaeae*) I found that all the specimens from the Auvergne were the non-British *janthina*. At Cordes, the 23 specimens consisted of 17 *janthina* and six *janthe*. I also took a short series of Broad-bordered Yellow Underwings to look for the newly separated southern species *Noctua tirrenica* Beibinger *et al.* but I was unable to make up my mind using superficial characters. Hopefully, the truth will be revealed when I prepare slides of their genitalia.

1997 began as a promising season which, because of poor weather, failed to live up to expectations. I added only Four-dotted Footman *Cybosia mesomella* L., Dingy Shears *Enargia ypsilon* D.&S. and Horse Chestnut *Pachycnemia hippocastanaria* Hb. to my garden list. The only migrants to the garden were two Delicates *Mythimna vitellina* Hb. on 17 and 23 August and a single White-speck *M. unipuncta* Haw. on 10 September. Most notable by its absence was the Silver Y *Autographa gamma* L. It was abundant in 1996 but in 1997 I did not see a specimen until the middle of July and the highest number of individuals in the trap was three on one night in September!— M.D. BRYAN, Extons, Taunton Road, Bishops Lydeard, Somerset.

**EDITORIAL COMMENT:** Mr Bryan's remarks concerning *Noctua janthe* and *N. janthina* at Cordes-sur-Ciel are interesting. I surveyed larger moths there in 1986 and again in 1996 and found the two species in roughly the same proportion that he did in 1997. It is perhaps worth adding that Cordes used to be (in 1986) a place where the Large Blue butterfly *Maculinea arion* L. could be found in extraordinary abundance. However, the recent acquisition of the hillside containing the breeding sites and the conversion of this to a stud farm, coupled with the ploughing of adjacent flower-rich meadows, by an Englishman, has apparently wiped out all trace of this species here. — COLIN W. PLANT.

**Observations concerning the early stages of *Sciota (Denticaria) divisella* (Duponchel, 1842) (Lep. : Pyralidae) in the Ebro Valley, north-east Spain**

On a visit to La Retuerta de Piña (Piña de Ebro, Zaragoza Province, at 161 metres) on 6.ix.1997 in the company of Javier Blasco Zumeta we came across several examples of *Euphorbia characias* L. (Euphorbiaceae), whose terminal shoots have been dried out and killed off, and which on being examined contained considerable quantities of caterpillar frass. On neighbouring plants in the terminal shoots we found early instar larvae of a pyralid feeding gregariously in the weakly spun-together shoots. It was also not infrequent to find second instar larvae of *Hyles euphorbiae* L. on the same plants.

One small group of larvae was taken home and reared in a plastic box on the host plant, the larvae developing quickly (Table 1) feeding together in a thin web which incorporated both frass and compost. When the larvae pupated (at the earliest, 12 days after being collected) they formed cocoons gregariously at the base of the box in the soil substrate. The first imagines emerged 2.x.1997; of ten examples which eclosed, none were male. The moths were noted to be very active in the sunshine with the females "calling" throughout.

**Table 1:** *Sciota (Denticaria) divisella* larvae in captivity.

Pupation	Emergence	Time spent as pupae (days)
18.ix.1997	2.x.1997 (7 females)	14
23.ix.1997	3.x.1997 (female)	10
23.ix.1997	5.x.1997 (escaped)	12
23.ix.1997	7.x.1997 (female)	14

In Spain there are three species described in the genus *Sciota* (vide Vives Moreno, 1994. *Catálogo sistemático y sinónimo de los Lepidópteros de la Península Ibérica y Baleares (Insecta: Lepidoptera)* (segunda parte), MAPA, Madrid, Spain). If we consider the host-plants known to be used by this genus, *S. (D.) divisella* seems to be an exception, as *S. rhenella* (Zincken) has been recorded on *Populus tremula* L. (personal observations) in common with the two species described in Britain, *S. hostilis* (Stephens) also on *Populus tremula* (Goater, 1986. *British pyralid moths*. Harley Books) and *S. adelphella* (Fisher von Röslerstam) on *Salix alba* L. (Skinner, 1994. 1993 Annual Exhibition; British Microlepidoptera. *Br. J. Ent. Nat. Hist.* 7: 158-159 and 1995. *Pyralid moths in profile: part 1- Sciota adelphella* (Fisher von Röslerstam). *Ent. Rec. J. Var.* 107: 147-149.), all belonging to the Salicaceae. The

species is also exceptional in terms of its known habitat as it would not appear to be a riverine species. *S. rhenella* in Spain is cited by Cifuentes (1994. Los microlepidópteros de Navarra (II). Familia Pyralidae (I): Pyralinae, Phycitinae, Crambinae, Nymphulinae y Scopariinae. *Revta. Lepid.* **22**: 299-316) from at least two localities in Baja Navarra along the river Ebro. Enrique Múrria has an example in his collection from La Alfranca (prov. Zaragoza, 200m), whilst I located a single caterpillar in Ascó along the banks of the River Ebro (prov. Tarragoza, 30m) 26.vii.1997. The area known as La Retuerta de Pina from where I collected the larvae of *S. (D.) divisella*, forms part of an area called Los Monegros, characterised by low annual rainfall of 200-400 mm and extreme annual temperature ranges of -10°C to +40°C (Ochoa, 1982. *Relaciones entre el medio y comunidades vegetales del sabinar continental árido en el Valle del Ebro*. INIA, Madrid). The original vegetation consisted of the association *Juniperetum phoeniceo-thuriferae* (Braun-Blanquet & Bolós, 1957. *Las comunidades vegetales de la Depresión del Ebro y su dinamismo*. Excmo. Ayto. de Zaragoza, Spain), although this plant association has practically disappeared from Los Monegros; the best example of it can still be seen in La Retuerta. Asselbergs (1997. A new *Euzophera* species from Turkey (Pyralidae: Phycitinae). *Nota Lepidopterologica* **20**: 305-309) describes dry-hot eremial regions as being particularly rich in the subfamily Phycitinae. I thank Barry Goater for identifying the *S. (D.) divisella* sent to him. I would also like to thank Enrique Múrria for allowing me access to his collection.— GARETH KING, c/. López Allúe, 2, 7°A, 50005 Zaragoza, Spain.

### ***Cochylis molliculana* Zell. (Lep.: Tortricidae) new to North Hampshire**

On 22 August 1996 I took at m.v. light here a moth which was later kindly identified for me by John Langmaid as *Cochylis molliculana*. The species, which feeds as a larva on *Picris echioides*, is now well-established on the coast but this occurrence would seem to be the first for North Hampshire vice-county. Since I am reliably informed that the foodplant does not grow in Selborne, it seems that my specimen may have flown in from some distance, possibly from as far away as the coastal habitats.— ALASDAIR ASTON, Wake's Cottage, 1 The Street, Selborne, Hampshire GU34 3JH.

### ***Doratura impudica* Horváth (Hem.: Cicadellidae) in East Kent**

*Doratura impudica* was recorded by Le Quesne (1969, *Handbooks for the Identification of British Insects*, **2(b)**) and Kirby (1992. *A review of the scarce and threatened Hemiptera of Great Britain*) as being confined to Norfolk. During a visit of the Kent Field Club to Sandwich Bay (TR36) on 5 August 1989 I swept several individuals of this species from the northern part of the reserve. As is often the case nothing significant was attached to the specimens at the time and it was some five years before their identity was determined. On 8 August 1996 I revisited the site with my friend John Badmin. Specimens were found by both of us over a wide area but particularly in areas of bare sand colonised by *Carex arenaria* L.— LAURENCE CLEMONS, 14 St. Johns Avenue, Sittingbourne, Kent ME10 4NE.

REARING *ODONTOGNOPHOS DUMETATA HIBERNICA* FORDER  
(LEP.: GEOMETRIDAE), THE IRISH ANNULET

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MY INTEREST IN *Odontognophos dumetata hibernica* has been considerable, ever since Peter Forder discovered it in 1991 – at a spot I had suggested to him as a good one for *Calamia tridens* Hufn.! Like several others, I had bred *dumetata* without difficulty from larvae found on buckthorn in the Burren in May, but no one, as far as I am aware, had bred from ova. The early life-history was not known at all, except that the eggs were scattered freely instead of being fixed to rocks or plants. No ova previously obtained had been fertile.

In the summer of 1996 I spent three weeks in Western Ireland. After three days and nights in Doolin (where *Hadena caesia* D.&S. were in numbers as small and full-grown larvae and as adults) and a delightful visit to the Aran Islands, I moved, as always, to Tom and Anne Martin's "moth-paradise" on the Clare-Galway border. When I arrived, on 25 July, the first (female) *dumetata* had just emerged in young Jerry Martin's breeding cage, in a wonderfully realistic setting of sand, sphagnum moss, *Rhamnus* and limestone slabs, to be joined by several more of both sexes in the next three days. It was very difficult to tell if any had paired. Jerry's tactic, sensible as it proved, was just to let them get on with it . . .

On 29 July I set off for five days in Connemara and Mayo, returning to the Burren on the evening of 2 August. Jerry's *dumetata* cage looked virtually undisturbed; only worn wing-tips showed that there had been any activity, and as the floor was of sand it was quite impossible to tell whether any of the female moths had laid.

On the very muggy evening of 3 August I went with Anne and Jerry Martin to an isolated stretch of the Burren where *dumetata* larvae had been found earlier in the year. A long stand of quite tall buckthorn was in easy reach of the track, at the edge of a turlough, and we set up three m.v. traps near it. Two male *dumetata* came quite early, both in perfect condition, and more than twenty male *Lithosia quadra* L., the first examples of an "explosion" of this species in all parts of the Burren.

We went back to the same place on Tuesday 6 August. This time it was a cool, clear evening that did not seem promising, but it was my last night in the Burren. Again we set up Robinson traps near the large *Rhamnus* bushes, and Jerry took one of the actinics nearly a quarter of a mile across the turlough onto a wide stretch of almost bare limestone, where stunted buckthorn grew in the fissures.

We only stayed two hours. In that time each of the Robinson traps attracted a male *dumetata* and several *L. quadra*, and an actinic right beside the car took a beautiful female *quadra* and a number of *C. tridens*. Our first trek across the limestone – rather a hair-raising journey, even when guided by torches and tilley – produced four *dumetata* (three males and a female), and after that, regular to-ing and fro-ing offered four or five more each time. They were not repeat captures: we boxed each specimen, and released the majority later. In all, the one actinic attracted 21 *dumetata*

in under two hours, 19 males and two females. We also found males feeding on scabious in the area (the first time this habit had been observed), with wings folded in “butterfly” fashion. No other moths came to this isolated actinic, despite the full range of Burren species at the traps nearer the roadway.

Both females laid fertile eggs, although I wasn’t convinced of this until 9 August, by which time they had changed colour. I was now at Inch, in County Kerry . . . I fed the moths regularly on sugar-water, and when I returned to Henley on 12 August they were still laying. By the 14th both had died, but between them had laid over 100 ova. These were small and lozenge-shaped, olive green at first, then darkening and finally turning reddish-brown.

In the Burren the sites frequented by *dumetata* are under water throughout most of the winter, so the early stages must spend several months submerged. It seemed probable, therefore, that the species would overwinter as an egg, rather than as a small larva – but no one knew for certain.

I gave most of the ova to friends to experiment with, keeping 35 myself. A few of these I put into a container of rainwater, where they sank quickly to the bottom (useful in fissures in limestone pavement with only limited supplies of the foodplant?). I left them there until February, then dried them out. Half of the rest I put in plastic boxes in the warmest part of the refrigerator; the others in a cool shed outside. Every three weeks I misted the lids of the boxes.

In late February I brought the “fridge” ova into cool room temperature, and also the “submerged” ones. The first larvae began to emerge on 3 April and all had hatched by the 8th. The “outdoor” larvae began to emerge on 19 April, by which time the first batch were nearly 1.5cms long. In captivity *dumetata* larvae feed up surprisingly rapidly. By 25 April most of the first batch were making cocoons in sand and litter, and by 30th all had pupated.

*O. dumetata* spends about a month (normally) in the pupal stage.

I was due to be in Scotland at the end of May, by which time the “outdoor” larvae had also pupated, so I left these in Henley, but the first lot had to travel with me. As a result the first ever captive bred-from-the-egg *dumetata* Forder made their appearance at Feshiebridge in the Cairngorms! At the time of writing this (10 July) 29 perfect specimens have emerged (12 male, 17 female) and there are two pupae from the earlier batch which are very much alive but have shown no signs of darkening prior to emergence. Perhaps they intend to overwinter again.

I have had several pairings, and intend to return at least 300 of the next generation of larvae to the Burren.

Full-grown larvae and pupae have been thoroughly described already. The young larvae are extremely mobile and athletic, much more slender than they later become. They move rapidly about the cage, and prefer to rest under the lid/netting rather than on the foodplant – presumably finding it safer under a limestone overhang in their natural surroundings, where heavy storms are common. The full-grown larvae are said not to hang by threads when dislodged from *rhamnus*. From experience I can say that this is not so; they are heavy and fall quickly, but they do remain attached, and can climb back later. In the case of young larvae these threads are very apparent.

At all stages of development, when disturbed they fall to the ground and assume a characteristic "U" shape.

Jerry Martin's moths did in fact produce countless ova, something that was only apparent when a mass of young larvae emerged in the spring. A few of these he is breeding through, under the "natural" conditions possible, but most of the larvae he released over a wide area. The Heritage Council of Ireland have given him a deserved award for his research work and conservation, no mean achievement for someone still at school.

*O. dumetata* is a very beautiful moth, restricted to one smallish area of the Burren, hence its having remained undiscovered for so long. If visitors to the area treat it (and other local species) with respect, it will survive. It is vital, however, that collecting of larvae should be kept to the absolute minimum. One *dumetata* area is already "collected out", although the Martins are doing their best to restock it. The moth seems to be an almost invariable species, so long series of set insects are a waste of time as well as destructive. It would be extremely sad if carelessness and greed led to the swift extermination of *O. dumetata hibernica* Forder.

#### ***Euproctis similis* Fuess. (Lep.: Lymantriidae) and *Ourapteryx sambucaria* L. (Lep.: Geometridae) in October**

A single male specimen of *Euproctis similis* appeared at m.v. light here on each of 1 and 2 October 1997. South (1961. *The Moths of the British Isles*. Warne) mentions that in 1947 there was quite a big second generation.

An *Ourapteryx sambucaria* in excellent condition flew to m.v. light here on 10 October 1997. South (1939. *The Moths of the British Isles*. Warne) remarks that "... sometimes an odd specimen or two will appear in the autumn; one was captured at Gravesend [Kent] on 22 October 1904".

It would be interesting to know whether there have been other similar observations in 1997.—ALASDAIR ASTON, Wake's Cottage, 1 The Street, Selborne, Hampshire GU34 3JH.

#### ***Aleochara kamila* Likovsky (Col.: Staphylinidae) in Hertfordshire**

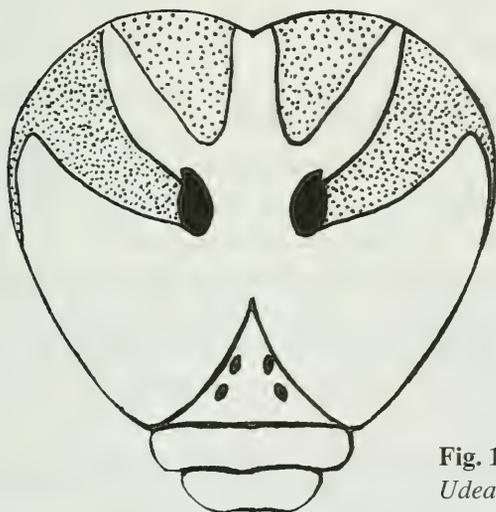
In 1969 Dr R. Colin Welch, our authority on this interesting genus, named for me a dissected male taken by the late Philip Harwood at Bishops Stortford (xi.1912) as *A. diversa* Sahib. — a name now replaced by the above on grounds of homonymy. As Dr Welch does not include the present record in his very welcome and thorough revision of the British species of *Aleochara* (1997. *Coleopterist* 6(1): 1-45), where the records known to him of this rare (RDB 3) species are listed (p.38), I think it worth noting the above as new for Hertfordshire. Unfortunately there is no indication of the conditions of capture — Harwood of course would have assumed the beetle to be the common *A. sparsa* Heer — but *A. kamila* appears to have a rather wide habitat-range, like its immediate allies.—A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

**THE FIRST WILD LARVA OF *UDEA FULVALIS* (HB.) (LEP.: PYRALIDAE)  
RECORDED FROM THE BRITISH ISLES**

MICHAEL JEFFES

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ONE ADVANTAGE of being a teacher interested in Lepidoptera is that children occasionally bring in interesting "finds". On 21 May 1997 a boy called Paul Jackson and his sister Lisa brought in a small green moth larva and asked me to identify it. This task I often find difficult with such small larva, but this particular specimen, at first glance, looked remarkably like the photograph, by Skinner (1996), of *Udea fulvalis*. The larva had been found on Parsley *Petroselinum crispum* growing in their garden, I did not have any of the French uncurled variety so I placed in the container two Labiate species I had in my garden, namely Bergamot *Monarda didyma* and Red Dead Nettle *Lamium purpureum*. During that night and the following day it fed sparingly only on the *Monarda* but spun no web of any sort. On the 23 May uncurled Parsley was provided. The larva fed on this but again no web was spun until 25 May when a loose web was constructed on the end leaflets joining it to the tissue. The larva was very similar to Skinner's description but also worth noting for identification purposes is that the thoracic legs are black except for the very tips which were pale.



**Fig. 1.** Head pattern of final instar of *Udea fulvalis* Hb. (front view).

During the night of 27/28 May the larva changed into the final instar and moved to the outside of its flimsy web. On 20 May it was placed on a large growing parsley plant. The larva stayed near the top of the plant and very loosely spun several of the outermost leaflets together making an angled hideaway. It lived deep inside this very loose tent-like structure, which was two or three times as large as the larva itself. On 2 June it descended to the bottom of the container and rolled itself in a decaying leaf. It pupated on the 6 June in muslin, having been disturbed. The moth, a female, hatched during the day on 25 June. The main flight period in Christchurch is usually

late July to mid August, the first specimens being seen on 19 July in 1997. The species was common this year with over ten being seen on a single *Buddleia* in one night.

In conclusion it is important to note how easy to recognise the larva is – in brief: light-green colour, two dark thoracic plates to the rear of the head, predominantly dark thoracic legs and distinctive head pattern (Fig. 1). Also, the larva is said (eg. Goater, 1986) to feed on Labiates but this larva was found on a plant belonging to the Compositae family. During May and early June the larvae were extensively searched for on all labiates on the nearby fields and in my garden on culinary sage and other cultivated labiates. As the larva is distinctive and was fairly conspicuous in its web I feel the natural foodplant in Britain may not be Labiate; either that or its web spinning habits may be different in the wild.

#### References

- Goater, B., 1986. *British Pyralid Moths*. Harley Books, Colchester.  
Skinner, B., 1996. Pyralid Moths in Profile: Part 3 – *Udea fulvalis* (Hübner). *Entomologist's Rec. J. Var.* **108**: 108-109.

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#### Two further notable beetles from Bexley, north-west Kent

*Lebia cyanocephala* (L.) (Carabidae): of this rare species, now considered endangered, my friend Keith C. Lewis took a specimen at Chalk Wood in the above district on 26.vi.1989 in a baited pitfall trap sunk in sandy soil with some moss, under mixed leaf canopy. The species is in general restricted to calcareous soils and in fact there is (as the name of the wood suggests) some chalky ground not far from the spot. My sole experience of *L. cyanocephala* is of an example taken by sweeping *Hypericum* at Box Hill, Surrey, 28.vii.1943. The Bexley capture is the only post-1970 record that I am aware of.

*Omalius septentrionis* (Thoms.) (Staphylinidae): I detected a specimen of this now uncommon beetle – mostly northern, as its name implies – among some of Mr Lewis's Bexley captures, taken at Joydens Wood (adjacent to Chalk Wood) again in a baited pitfall trap, sunk through two to three inches of pine needles. A considerable number of southern and midland records appeared for the first time in Fowler & Donisthorpe (1913. *Col. Brit. Isl.* **6**: 242), which is remarkable in view of its rarity today, at least in the former region. Carrion in woods seems the most usual habitat.

I am indebted to Mr Lewis for the details of these two notable finds and permission to publish them. On his capture of *Staphylinus caesareus* Ced. in Joydens Wood, see Allen, 1995. *Ent. Rec.* **107**: 101.– A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

**1992-1994 early emergences of moths**

I have written before of the tendency towards early emergences of moths at Selborne in 1992-94 (Aston, 1994. *Ent. Rec.* **106**: 116; 1995. *Ent. rec.* **107**: 4; 1995. *Ent. Rec.* **107**: 191; 1998. *Ent. Rec.* **109**). This list for the autumn species would seem to continue a trend that became more marked from 1995 onwards. The dates refer to the first observed specimen of each species: the m.v. light was run on most nights of the years covered by the survey. The dates are regarded as early in so far as they are early for this site (OS grid ref: SU 741337).

	1994	1993	1992	MBGBI imago
<i>Photedes pygmina</i>	27 Jul	20 Sept	none	Aug, Sept
<i>Agriphila geniculea</i>	7 Aug	14 Aug	14 Aug	Jul-Oct
<i>Colostygia olivata</i>	7 Aug	24 Aug	none	Jul, Aug
<i>Xestia sexstrigata</i>	7 Aug	14 Aug	15 Aug	Jul, Aug
<i>Hydraecia micacea</i>	7 Aug	14 Aug	2 Oct	Aug-Oct
<i>Ennomos alniaria</i>	9 Aug	21 Sept	none	Jul-Oct
<i>Eilema griseola</i>	9 Aug	none	23 Jun	Jul, Aug
<i>Noctua fimbriata</i>	9 Aug	21 Sept	14 Sept	Aug, Sept
<i>Ypsolopha scabrella</i>	10 Aug	21 Aug	none	Jul-Sept
<i>Ennomos fuscantaria</i>	11 Aug	21 Aug	20 Aug	Jul-Oct
<i>Hoplodrina ambigua</i>	16 Aug	28 Aug	6 Sept	Aug, Sept (2nd brood)
<i>Luperina testacea</i>	20 Aug	22 Aug	26 Aug	Aug, Sept
<i>Aporophyla nigra</i>	30 Aug	16 Sept	17 Sept	Sept, Oct
<i>Atethmia centrago</i>	3 Sept	2 Sept	16 Sept	Aug, Sept
<i>Omphaloscelis lunosa</i>	3 Sept	10 Sept	9 Sept	Aug-Oct
<i>Agrochola litura</i>	15 Sept	24 Sept	20 Sept	Sept, Oct
<i>Xanthia aurago</i>	18 Sept	20 Sept	2 Oct	Sept-Oct
<i>Agrochola lychnidis</i>	24 Sept	4 Oct	2 Oct	Sept, Oct
<i>Agrochola lota</i>	1 Oct	12 Oct	8 Nov	Oct-Feb
<i>Brachionycha sphinx</i>	26 Oct	27 Oct	4 Nov	Nov, Dec
<i>Poecilocampa populi</i>	2 Nov	3 Nov	14 Nov	Oct, Nov
<i>Operophtera brumata</i>	12 Nov	3 Nov	26 Nov	Nov-Jan

## BOOK REVIEWS

**The Butterflies of Morocco, Algeria and Tunisia** by **John Tennent**. Gem Publishing Company, Wallingford, Oxfordshire, 1996. I-XXXVI, 217 pp., 32 plates, numerous figures, 21.5 x 29 cm, hardbound; £ 67.00 (incl. postage and handling) ISBN: 0-906802-05-9

Tennent's book is made for interested lays, professional amateurs and for specialists. Particularly, a copy of this book should be in the shelf of anyone who intends to publish his or her own book on butterflies in the future, because *The Butterflies of Morocco, Algeria and Tunisia* is possibly the best butterfly book hitherto published: it covers (in best scientific and technical quality at a reasonable price) all fields of interest a book on butterflies could ever offer.

The work is divided into four sections: (1) to begin the book there are front papers comprising a frontispiece with illustrations of several butterflies (including photos of the pin-labels) of the Linnean collection (which were the samples used by Linnaeus when preparing his 1767 edition of *Systema Naturae*), an acknowledgement (it reads like an almanac of the most renowned butterfly collectors in the field), a figure on wing venation and wing area notation and a list of abbreviations used, chapters on the geography of Northern Africa, the history of butterfly collecting in this area (including rarely published pictures of important late collectors such as Charles Oberthür and Lord Walter Rothschild), a section on the major habitats (introduced by beautiful photos, several of which were taken from the same point of view in various seasons) and finally a list of taxa; (2) a systematic part dealing with the taxonomy and bionomics of northern African resident butterflies (including skippers) and occasional strays (in nature and in literature; i.e. the respective butterflies are figured and erroneous records and misidentifications are discussed) including the synonymy of each taxon, a verbal description of all of them (as if the plates would not be just enough), their variation, habitat/flight, hostplants and hitherto known distribution. With some taxa, a "note" gives additional information on taxonomic issues including current misidentifications and where a particular name comes from. There are many snapshots of butterflies in their natural habitats, a glossary of scientific terms, a gazetteer listing places where specimens were recorded including two maps and, last but not least, an alphabetical list of hostplants; part (3) contains the 32 plates. Exactly 1302 exceptionally good photographs (the famous butterfly photographer Bernard D'Abrebra had his hand in it) comprise 114 photos of types and show each of the 175 taxa of the area treated in natural size: topside, underside, male, female, forms, aberrations. Exact collecting data are given with each specimen figured. This part of the book simply contains all that is needed to identify any specimen in one's personal collection or in the collection of any museum. The concluding section (4) comprises some 600 publications, written in eight different languages. The bibliography contains not just the references to citations used in the running text but bears the full citations of all primary authorships from Austaut via Chnéour, Linnaeus, Fruhstorfer, Hemming and

Oberthür to Verity to mention but a few. The chapter on Journals Consulted is remarkable. With this chapter, we can learn a lot about obscure or (virtually) extinct magazines such as *The Aurelian*, which only appeared from 1778 until 1780 or the *Archiv der Insectengeschichte* (Fuessly), which disappeared in 1786. The book concludes with an index to the scientific names used (taxonomically valid and unavailable names are both listed). Last not least: since the book contains a terrific amount of information, two reading marks are provided. To compile this amount of data, Tennent spent two years in the field and visited all important collections.

As a matter of fact, even the best book has its shortcomings. In this case, however, they are almost negligible. There is one taxon newly described in the book, *Maurus vogelii insperatus* Tennent. The author has done his extremely brief description in complete agreement with the rules as published in the International Code on Zoological Nomenclature. Personally, however, I would have given a more complete description, which would allow an identification and a differential diagnosis of similar taxa without having to consider the figures. It is a pity that there are no maps on distribution provided along with each of the taxa mentioned in the book. Tennent tells us in his preface that the area covered is enormous (over three million square kilometres) and that plotting any distributional records would result in the presentation of inaccurate and potentially misleading data, because the known distribution of a given taxon may be incomplete and extrapolating wider areas of distribution might lead to biased results. There he is right, but I would have preferred bad maps than none at all. I am sure that Tennent did not omit such maps in order to minimise the costs of the book (then, he could have rather omitted other parts of the study), but that he actually wanted to exclude final-looking maps as long as vast parts of the area covered in the book remain virtually unexplored. Who ever wants to draw clues on the possible distribution of a particular taxon, however, may simply photocopy the map with a coded grid given on page 113 and earmark the localities where a particular taxon has been found.

This book comes right on time to open a new decade on butterfly books. It is not a field guide, because it is simply too large, too heavy and too expensive to fulfil this task (the good old true field guides – “pocket-books” - for the lay will have their own place in the future). Tennent’s *Butterflies* is not just a large, heavy and expensive work featuring beautiful pictures, because books without “meat” but just using a “backspine” of outmoded second-hand information and advertisingly showy good pictures are seemingly going to be outmoded.

*The Butterflies of Morocco, Algeria and Tunisia* is rather a welcome contribution to butterfly science, not only because much of it is based on the author’s personal experience in the Maghreb. Taxonomically, the book is THE number one reference for any other author dealing with butterflies in this field. Concluding, the book is at present the standard work on Northern African butterflies (many of which also occur in Europe), but it might, and ought to, become the standard reference for how to design a good book on butterflies in general.

**The Butterflies of Essex** by **David Corke**. 228 pages, including 50 colour plates. 216 x 152 mm. Hardbound ISBN 0 9530362 0 0. Published by Lopinga Books, 1997. Available from the author at Tye Green House, Wimbish, Essex CB10 2XE. £22 (plus £1.75 UK postage or £4.50 overseas postage)

I eagerly awaited the arrival of this book expecting an authoritative work containing comprehensive historical information and a modern knowledge of Essex butterflies. Instead the book is a mix of historical information, garden surveys and other records with serious omissions and errors.

The tetrad maps for the commoner species only include records made in the 1990s and little or no attempt is made to assess the coverage of the distribution maps or suggest parts of the county in which species may remain unrecorded because recorders have not looked. For the rarer species all records are said to be included but there are unexplained discrepancies between distribution maps in this new book and the maps given in the 1985 publication *The larger moths and butterflies of Essex* by A.M. Emmet, G.A. Pyman and assisted by the present author D. Corke. Records are shown in only twenty 10km squares compared to the thirty one shown for White Admiral in *The larger moths and butterflies of Essex* and for only seven 10km squares compared to twenty-four shown for Pearl-bordered Fritillary without explanation or reference to this earlier work and there are similar unexplained discrepancies for other species. No records of Pearl-bordered Fritillary in south-east Essex are shown on the distribution map or mentioned in the text despite the 1988 publication *Hadleigh Great Wood, the wildlife and history of Belfairs Nature Reserve* describing the species as formerly resident in the reserve and the commonest fritillary in Belfairs Woods until the early 1950s.

The author's knowledge of some other important sites is left open to question when on page 67 the Grizzled Skipper is said to have its sole Essex colony at Langdon Meadows NR, a large complex of meadowlands cut for hay, although the distribution map on page 68 shows three adjacent tetrads for this species which include the small colony known to exist in rough grassland at One Tree Hill Country Park and which is noted in the field trip reports of the Autumn 1995 Cambridgeshire and Essex Branch Butterfly Conservation Newsletter.

Information about the only remaining colony known in Essex and Cambridgeshire of Grayling butterflies discovered by myself at Mill Wood Pit, South Essex during July 1994 and the background to the development and survey of the site is incorrect and yet the discovery is mentioned in the November 1994, May 1995 and Spring 1996 Cambridgeshire and Essex Branch Butterfly Conservation Newsletters and details of this remarkable site and my discovery of the Grayling were described in the August 1994 issue of the Essex Field Club Newsletter. On page 151 of his book the Grayling is stated to have been discovered in 1996 in an old chalk quarry just as the site was about to be developed for housing. Apart from the incorrect year of discovery, the colony was not found in an old chalk quarry but rather an area of sparsely vegetated chalky ground with birch scrub along the western edge of an area of disturbed sand above the chalk and the idea that the site was *about* to be

developed for housing is also inaccurate. Although outline planning permissions were already in place for the very large Chafford Hundred housing development which included this site, English Nature had been made aware by myself in September 1993 of its possible importance, and my own private survey work during 1994 (as set out in the August 1994 Essex Field Club Newsletter) detailed a wealth of evidence to support this and English Nature committed themselves to the national importance of the fauna at this stage.

Whilst I agree completely with the statement by the author on page 44 of his book that “the attempt to translocate the Graylings to Grays Chalk Quarry nature reserve is almost bound to fail: if the habitat were suitable a mobile species like the Grayling would have colonised it naturally” his statement that Mill Wood Pit was not known to be one of the richest entomological habitats in Essex until after the area had been given planning permission and surveys were done on behalf of the developer is incorrect. It was only as a result of my own work that the developers employed their consultants to undertake further surveys to look at the aculeate Hymenoptera and Diptera fauna of the development area. The resulting report acknowledges the national importance of the fauna and recognises that the high diversity reflects the range of habitats present and in particular the extensive nature of the chalk and sand grassland, sand cliffs and scattered scrub communities in the south-west zone of Chafford Hundred, but on the other hand claims that the destruction of almost all this habitat will still result in the conservation of at least 73% of the RDB and Notable species. Although these consultants had undertaken extensive grassland translocation exercises and survey work for Chafford Hundred for many years, this remarkable faunal wealth with an Invertebrate Index greater than that of Salisbury Plain had apparently not previously been noticed.

The author’s statements about the occurrence of Brown Hairstreaks in Epping Forest and the reference to Plant (1987) regarding the failure to establish a population, perhaps through over-collecting are at odds with the description of its status given by Plant in *The Butterflies of the London Area* and I personally find that the failure to detect the species after repeated winter searches in the 1990s unconvincing evidence that it is certainly absent from the Forest. With such uncertainty and disagreement about its status the planned re-establishment by the Conservators of Epping Forest described in the Species Account would seem premature and unwise.

Discussion on the status and conservation of Essex butterflies and An Action Plan for Essex Butterfly Conservation (chapter 7) are good up-to-date necessities in a book of this type, but greater discussion on the types of management needed for butterflies and other invertebrates and the means to achieve the necessary long-term strategies for the different habitats and sites in Essex would have been beneficial. I agree with the author’s concern that not a single bit of the historic and important Writtle Forest is designated as an SSSI (at a time when English Nature consider that the process of notification is now substantially complete) and wholeheartedly endorse the need for attempts to be made to restore Mill Green Common to heathland.

The distribution maps are produced using Dr Alan Morton's DMAP for Windows and are very clear and well printed. The colour plates are nearly all well printed from good quality photographs. The checklist of Essex Lepidoptera by Brian Goodey is a valuable addition to the book and contains useful information on the status, occurrence, density and non-resident frequency of each species of moth and butterfly as well as highlighting the species which are listed with national or local priority in the Species Action Plan. Reference is also made to the appropriate page numbers for each species to be found in *The smaller moths of Essex* by A.M. Emmet (1981) and *The larger moths and butterflies of Essex* by A.M. Emmet, G.A. Pyman and D. Corke (1985).

Whilst this book does have a number of commendable points, as a comprehensive work on the butterflies of Essex it is disappointing and represents a lost opportunity that would have benefited from more research. It should perhaps have been published instead as the results of the garden butterfly survey of 1991-96. The definitive book on Essex butterflies remains to be written.

Peter Harvey

**The Natural History of Moths** by **Mark Young**. ix + 271 pp. 16 colour plates; 51 figs. 160 x 240 mm. Boards, ISBN 0 85661 103 4. 1997, T. & A.D. Poyser Ltd. £25.00.

Those interested in the taxonomy, distribution or identification of moths are fairly well served by available literature, but those with the irritating habit of asking "I wonder why. . . ?" have to search high and low to find anything approaching a satisfactory answer. *Old Moth Hunter* (P.B.M. Allan) wrote a series of books between 1937 and 1948 dealing with some aspects of moth natural history (*A Moth-hunter's Gossip*, *Talking of Moths* and *Moths and Memories*) with a fourth, *Leaves from a Moth-hunter's Notebook*, published posthumously in 1980. Much could be gleaned from these volumes, but for all their charm they were a very personal view of moths and did not seek to cover systematically any particular aspect.

In 1955, E. B. Ford's seminal work, *Moths*, appeared in the *New Naturalist* series, and did much to enhance the understanding of the natural history of these insects. Very little else was available until *Moths and Butterflies of Great Britain and Ireland* began publishing introductory essays on some aspects of moth natural history but now, more than 40 years "after Ford", Mark Young's book could be seen as a very worthy successor - well researched, up to date, and - most importantly - a jolly good read.

The coverage of this book is very wide; the traditional scene-setting chapter introducing moths is followed by a consideration of their origin and distribution, dispersal and migration (a fascinating chapter), life cycles and hibernation, plants as food, the defences plants have against larvae, mating behaviour and how pheromones can be used to control pests, moth predators (including the general causes of mortality, parasites and strategies to avoid being eaten) and the influence of these factors on population dynamics, catching and studying, a concluding chapter on conservation and an extensive bibliography.

The text is very well written and easy to digest. Text illustrations by Lyn Wells add both interest and informality, whilst the colour photographs by Roy Leverton are excellent and superbly reproduced, and the production standard of the book is high.

Many pages could be taken up discussing the various issues raised in this book. The reviewer enjoyed the read, learnt much, disagreed with some of the views, and wished there was time to follow up many of the interesting problems and questions remaining unanswered. Thoroughly recommended for all those with an interest in moths or insect natural history.

Paul Sokoloff

**Moths of Australia** by **I. F. B. Common**. 536 pp, including 44 pages of monochrome plates, 32 pages of colour plates and numerous text drawings. 255 x 184 mm. Hardbound ISBN 0 522 84326 3. £84.99. 1990, reprinted 1993, Melbourne University Press. Available in the UK from Gazelle Book Services Ltd, Falcon House, Queen Square, Lancaster LA1 1RN. Telephone orders on 01524 68765.

In a country where the habitats range from the temperate urban environment through desert to tropical rain forest, it may come as no surprise that there are quite a few moth species in Australia – some 20,000, in fact, and still counting as new species are described annually. With a mere 536 pages, then, this is not Australia's equivalent to "Skinner" and though there are 32 excellent colour plates depicting a large number of moths this book has no value in identification to species level. However, it contains just about everything else one might ever wish to know about Australian moths.

The book divides into two major sections, the first covering moths and their environment and the second dealing with the Australian moth fauna. In the first of these sections, the chapters on structure, life history, biology and population control contain much information relevant to other biogeographic regions of the world and are both readable and comprehensive; chapters on economic significance, evolution and geographical distribution are more relevant to the continent under study. The section ends with a family classification of the moths. In section two, the moths are described under four headings – homoneurous monotrysian moths, homoneurous exoporian moths, heteroneurous monotrysian moths and heteroneurous ditrysian moths. The book is rounded off with two appendices covering collection and study and a food plant and larval host list, followed by references, a glossary and the index.

I do not pretend to have read the book from cover to cover. This is a work of reference of high quality and surely a vital addition to the library of anyone interested in moths in the Australasian Region. As far as European Lepidopterists are concerned, it is likely to be an invaluable work of reference to those whose study of moths is in any way scientific but those who remain pure collectors are unlikely to feel the need to part with the large, but altogether reasonable, asking price. The book was the winner of the 1991 Whitley Medal for Best Book on the Natural History of Australian Animals, an accolade justly deserved.

Colin W. Plant

**Butterflies of Greater Manchester** by **Peter B. Hardy**. 128 pp, 16 monochrome habitat photographs, 15 colour photographs printed inside front and rear covers, 170 maps. A5 (209 x 148 mm), paperback, ISBN 0 9532374 0 0. Published 1998 by PGL Enterprises, 10 Dudley Road, Sale, Cheshire M33 7BB. £9 plus £1.20 UK postage and packing.

This book contains some rather innovative features – presented at a time when it is now rather difficult to think of something different to do in presenting a local or regional butterfly fauna. Distribution maps are presented for all butterflies recorded since 1980 in Greater Manchester using the standard 2 x 2 kilometres “tetrad” unit; older records are mapped to ten-kilometre square. Maps of environmental features such as urban cover, railways, roads and waterways accompany these to aid distribution. How good to see a *real* coverage map – not dots of different sizes to indicate the number of species found in each square but symbols depicting the actual number of *recording visits* made! Now, a 7 x 5 kilometre area is selected and butterfly distributions are mapped at 1 km scale, alongside grass and semi-natural vegetation potentially suitable as habitat, and urban cover, heavily grazed sites and formal open spaces as unsuitable habitats - all mapped at the 100 metre square level. Finally, for a 3 x 2 km zone within the 7 x 5 km zone, maps for species and for their food plants are presented for 100 x 100 metre squares.

The introductory text discusses Survey methods, Manchester’s environments, Species richness and distributions, Distribution changes and Conservation before embarking upon the species accounts. The day-flying Burnet moths (*Zygaenidae*) are also afforded a brief mention – I should think this is quite useful in a book aimed at a general readership. A Table records the species recorded in the 7 x 5 km zone indicating the number of 100 Km squares in which each species was recorded in each year from 1994 to 1997 and this is followed by a list of nectar sources for each species, as recorded during the survey.

There is much useful information in this book and it is evident that the author has done the work and got the results, rather than falling into the trap of so many authors of repeating phrases from existing texts. Thus, the larval food plants recorded in this book are those recorded in the Manchester area as are the nectar sources in Tables 2 and 3.

This book does not pretend to be something special. It is not a glossy hardbound tome to be admired by visitors; rather it is an honest attempt the record and analyse aspects of Manchester’s butterflies. In doing this, it actually *is* something special! In the words of R.H.L. Dennis who wrote the Foreword to this book, “Altogether, this atlas represents an original concept and a remarkable achievement, a testimony to Peter Hardy’s dedication and industry”.

Colin W. Plant

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# THE ENTOMOLOGIST'S RECORD

## AND JOURNAL OF VARIATION

(Founded by J.W. TUTT on 15th April 1890)

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PUBLISHED BI-MONTHLY

Vol. 110

Nos 9-10



THE  
ENTOMOLOGIST'S RECORD  
AND  
JOURNAL OF VARIATION

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

*Assistant Editors*  
R.A. JONES, F.R.E.S. & A. SPALDING, F.R.E.S.

*September/October 1998*

ISSN 0013-8916

# THE ENTOMOLOGIST'S RECORD AND JOURNAL OF VARIATION

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**THE IMMIGRATION OF LEPIDOPTERA TO THE BRITISH ISLES IN 1995**BERNARD SKINNER<sup>1</sup> AND MARK PARSONS<sup>2</sup><sup>1</sup> 5 Rawlins Close, South Croydon, Surrey CR2 8JS<sup>2</sup> Department of Entomology, The Natural History Museum, Cromwell Road, London SW7 5BD

COMPARED TO 1994 (reviewed by Skinner & Parsons, 1998) both the range of immigrant species recorded and the number of records received showed an overall increase. However, the status trend in all immigrant species is never consistent and whereas the Red Admiral *Vanessa atalanta* (Linnaeus) and the Painted Lady *Vanessa cardui* (Linnaeus) were reported in very good numbers, some species such as the Clouded Yellow *Colias croceus* (Fourcroy) were down on 1994. Record numbers, of between 150 and nearly 200 (depending on the summary accepted, see later), of the Monarch *Danaus plexippus* (Linnaeus) occurred in late September and October. The 300 plus examples of the Camberwell Beauty *Nymphalis antiopa* (Linnaeus), seen mostly in August, was a record annual total for this century.

Two comparatively recent visitors to Britain had record years in 1995. The Oak Processionary *Thaumetopoea processionea* (Linnaeus), with eleven records in August, had only previously been noted on three occasions since its first appearance in 1993. This species would appear to be expanding its range in recent years and it is now known to be resident on Jersey, Channel Islands. Three specimens of the Tree-lichen Beauty *Cryphia algae* (Fabricius) were reported in England around the middle of the last century. Over 100 years later two more were taken at light along the south coast in 1991, followed by two more in 1992. Two years passed without record until the record number of six appeared from mid July to mid August in 1995. Specimens have also occurred in the Channel Islands since 1990 with records from Jersey, Guernsey and Herm.

Among other species which fared well in 1995, two pyralids warrant special mention. *Margaritia sticticalis* (Linnaeus), a former resident of the Breck, has occurred as a probable migrant on about 80 occasions this century prior to 1995. These included an annual total of 28 examples in 1955. This record was shattered in 1995 by 100 records and there were few English counties without a record. The Old World Web-worm *Hellula undalis* (Fabricius) was the other species to break its previous best total of 12 in 1985 with over 30 examples reported in 1995.

Finally, two species appeared for the first time in Britain. A very worn male Streaked Plusia *Trichoplusia vittata* (Wallengren) was taken at light in East Sussex in July. This species, a resident of sub-Saharan Africa, has not been reported previously from Europe. The second newcomer was a male Spalding's Dart *Agrotis herzogi* Rebel taken in West Cornwall in November. This species, which is similar to a large male specimen of the Shuttle-shaped Dart *Agrotis puta* (Hübner) with pure white hindwings is resident from North Africa eastwards to India and has occasionally occurred, perhaps as a migrant, in southern Europe (Skinner, in press).

In the hope of aiding the compilation of the migrant reports for future years and enabling a quicker publication it is requested that records should be stated clearly with as full details as possible and ideally the Watsonian vice-county should be

given. If it is not possible to give the vice-county, a six figure grid-reference would aid the placing of the record within a vice-county at the compilation stage. The dates given for the records should be the day of the sighting, or if from a light trap it should be the date of the evening that the trap was operated. If the date given with the records is for the following morning, this should be stated clearly so that the records could be suitably amended to ensure a consistent approach.

The species listed in the annexes are laid out following Bradley & Fletcher (1979) with additions interpolated at the appropriate position. The nomenclature has been updated utilising Karsholt & Razowski (1996). Several records were supplied by more than one contributor and it is possible that some duplication of records has occurred, although every effort was made to eliminate this. Little attempt has been made to interpret locality data and it is possible that the same site is occasionally treated by different names. Records placed in square brackets either require confirmation, are known to be releases or, for example the Cypress Carpet *Thera cypressata* (Geyer), are of individuals that are considered to be resident but are included for interest. The abbreviations listed below are used in Annex 1.

### Abbreviations

E	Exotic introduction/escape
I	Primary immigrant
R	Resident
R(i)	Recent resident/Invader
R(t)	Temporary resident
V	Vagrant

## ANNEXE 1: RECORDS OF "SCARCER" SPECIES

### YPONOMEUTIDAE

#### *Yponomeuta rorella* (Hübner) [I?/V?]

DORSET (9): Fontmell Down, 30.7 (per PD); Gaunt's Common, 31.7 (PD); Portland Bird Observatory, 3.8 (MC).

#### *Y. sedella* Treitschke [I?/V?]

DORSET (9): Holt Forest, 2.8 (per PD).

### ETHMIIDAE

#### *Ethmia bipunctella* (Fabricius) [I?/V?]

EAST KENT (15): Sandwich Bay Bird Observatory, 5.8 (AJ); Sholden, Deal, 2.5 (TB).

### TORTRICIDAE

#### *Cydia amplana* (Hübner) [I?]

CHANNEL ISLANDS (113): St. Helier, Jersey, 7.8 (R. Burrow per Hancock (1996)).

### PYRALIDAE

#### *Euchromius ocella* (Haworth) [I]

WEST CORNWALL (1): St. Agnes, Isles of Scilly, 5.2; 27.7 (JH & MH<sup>2</sup>); Church Cove, The Lizard, 14.10 (Brown 1996a); Troy Town, St. Agnes, Isles of Scilly, 20.10 (JPM); EAST KENT

(15): Dungeness, 27.7 – 1 male (DW per SPC); SOUTH ESSEX (18): Thundersley, 22.10 (DD<sup>2</sup> per BFS); ORKNEY ISLANDS (111): Craigiefield, St Ola, 15.9 (Gauld 1996); Quoyberstane, St Ola, 9.9 (Gauld 1996); SHETLAND ISLANDS (112): Eswick, 17.9 (TDR, det. K.P. Bland per MGP).

(1): 4; (15): 1; (18): 1; (111): 2; (112): 1.

***Platytes alpinella* (Hübner) [I?/V?]**

DORSET (9): Portland Bird Observatory, 12.7 (MC).

***Evergestis limbata* (Linnaeus) [I/R(t)?]**

WEST SUSSEX (13): Portslade, 11.9 (A.R. Cronin per BFS); ISLE OF WIGHT (10): Chale Green, 14.7; 21.7 (SC); CHANNEL ISLANDS (113), Gorey, Jersey, 19.7 (Burrow 1996b).

***Evergestis extimalis* (Scopoli) [I?/V?]**

Note: Records outside Thames Estuary and Breckland only.

WEST CORNWALL (1): St. Agnes, Isles of Scilly, 5.8; 10.8; 18.8 – 2; 19.8 (JH & MH<sup>2</sup>); DORSET (9): Portland Bird Observatory, 1.8; 5.8 (MC); WEST SUSSEX (13): Walberton, 31.7 (JTR per CRP); EAST SUSSEX (14): Peacehaven, 27.7 (CRP); Rye Harbour, 29.7; 8.8; 12.8 (DF per CRP); EAST KENT (15): Sandwich Bay Bird Observatory, 27.7 to 16.8 – 11 (AJ); Sholden, Deal, 24.7; 30.7; 2.8; 5.8; 7.8; 9.8; 12.8 (TB); EAST SUFFOLK (25): Languard, 2.8 (RCK per BFS); SOUTH-EAST YORKSHIRE (61): Spurn, 1.8; 2.8 (Spence 1996).

(1): 5; (9): 2; (13): 1; (14): 4; (15): 18; (25): 1; (61): 2.

**Old World Web-worm *Hellula undalis* (Fabricius) [I]**

WEST CORNWALL (1): Church Cove, The Lizard, 26.10 (MT per AMD, also reported in Tunmore (1996a)); near Porthloo beach, St. Mary's, Isles of Scilly, between 9 to 15.10 – 1 (Turley 1996); St. Agnes, Isles of Scilly, 9.10 – 6; 10.10; 17.10 – 2; 18.10 (JH & MH<sup>2</sup>); 10.10 (AP & JP); [reported in error as 7.10 in Waring (1995d)]; The Lizard, 9.10 – 5; 10.10; 11.10; 15.10; 16.10 – 2; 17.10 – 2 (Brown 1996b); 30.10 – 3 (DB, given as Coverack by MT per AMD); NORTH SOMERSET (6): Whitchurch, Bristol, 13.10 (R. Andrews per R. Barnett per Waring (1995d)); DORSET (9): Durlston, 26.10 (AK per DB); Gaunt's Common, 11.10 (PD); Portland, south of Bird Observatory, 10.10 (BG); Portland Bird Observatory, 11.8 (MC); EAST KENT (15): Lydd, 14.9 – 1 female (KR per SPC).

Summary: (1): 28; (6): 1; (9): 4; (15): 1.

***Loxostege sticticalis* (Linnaeus) [I]**

SOUTH DEVON (3): Starcross, 5.8 (BW per BFS); 8.8 or 15.8 (AHD per BFS); NORTH SOMERSET (6): Berrow, 4.8 – 2 (BES); NORTH WILTSHIRE (7): Wroughton, 10.8 or 16.8; 22.8 (D.J. Brotheridge per DJLA and BFS); DORSET (9): Badbury Rings, 16.8 (R. Surrey per BFS); Gaunt's Common, 5.8 – 4 (PD); 20.8 (PD per BFS); Portland, 14.8 (BE per BFS); Portland Bird Observatory, 6.8; 15.8; 17.8 (MC); ISLE OF WIGHT (10): Binstead, 7.8; 21.8 (BJW); Chale Green, 12.8; 20.8 (SC); Freshwater, 8.8 (SAKJ per BFS); SOUTH HAMPSHIRE (11): Beaulieu, 3.8; 6.8 (BIJ per DJLA); Chandlers Ford, 22.8 (BG); Stockbridge, 6.8 (E. Sadler per BFS); Woolston, Southampton, 5.8 (ARC per DJLA); WEST SUSSEX (13): Ebernoe Common, 14.8 (SC<sup>2</sup> per CRP); Walberton, 15.8 (JTR per CRP); EAST SUSSEX (14): Peacehaven, 3.8 (CRP); EAST KENT (15): Dungeness, 13.10 – 1 by day (DW per SPC); Dymchurch, 13.8 (JO per BFS); Sholden, Deal, 4.8 (TB); WEST KENT (16): Shoreham, 5.8 (DOK per BFS); SURREY (17): Denbies, 2.8 – 1 female (Dr J. Pontin per AMD); Milford, 3.8 (DB<sup>2</sup>); Richmond Park, 11.8 (MSP); Wisley Common, 3.8 (D.W. Baldock per AMD); SOUTH ESSEX (18): Bradwell-on-Sea, 1.8; 2.8 – 4 (AJD); 1.8; 2.8 – 2; 3.8 (SD); NORTH ESSEX (19): Jaywick, Midway, 12.7 (J. Young per BG<sup>2</sup>); Mistle, 17.8 (I.C. Rose per BG<sup>2</sup>); St. Osyth, (RWA per BG<sup>2</sup>); HERTFORDSHIRE (20): Bishops Stortford, 3.8 – 2 males & 1 female (JF, JR & CWP); BERKSHIRE (22): Upper Basildon, 3.8 – 2 (M. Harvey & B. Baker per BFS); EAST SUFFOLK (25): Felixstowe, 2.8 or 3.8 (RCK per BFS); Grimstons Clump, Minsmere, 2.8 (RCK per AMD); Orford, 1.8 – settled in bright sunshine on lavender (Aston 1996); WEST SUFFOLK (26):

Foxhole Heath, 12.8 – 1 female (BLS); Wangford, 12.8 (BLS); EAST NORFOLK (27): Brundall, 8 (G. Rondel per DH); Great Yarmouth, 4.8 (M. Shardlow per Hipperson (1995)); Scole, 31.7; 1.8; 2.8; 3.8; 4.8; 12.8; 14.8 (MH per DH); Wroxham, 31.7; 12.8 (NB<sup>2</sup> per DH); WEST NORFOLK (28): Emily's Wood, Brandon, 12.8 – 1 male (BLS); Hockwold, 3.8 – 3; 5.8 (J.L. Fenn); Terrington, 31.7 (RW per DH); CAMBRIDGESHIRE (29): Cambridge, 12.8 (RJR); BEDFORDSHIRE (30): Cockayne Hartley, 31.7 (Woiwod & Manning 1996) [reported as 18.7 and also as 31.8 in Riley (1998)]; NORTHAMPTONSHIRE (32): Salcey Forest, 18.8 (D.V. Manning per AMD); EAST GLOUCESTERSHIRE (33): Bishop's Cleeve, 9.8 (J.S. Brock per RG); Churchdown, Gloucester, 12.8 (R. & J. Phillips per RG); WEST GLOUCESTERSHIRE (34): Doughton, Tetbury, 2.8 (M. Townsend); Leckhampton, 9.8 (MRY); WARWICKSHIRE (38): Charlecote, 14.8; 17.8 – 2; 26.8 (A. Gardner per BFS); SHROPSHIRE (40): Pennerley, between 2 to 31.7 – 1; 1.8 (D.J. Poynton per BFS); CAERNARVONSHIRE (49): Glaslyn Estuary, nr. Porthmadoc, 5.8 (JPM); SOUTH LINCOLNSHIRE (53): Locality not given, undated (Agassiz, Heckford & Langmaid 1997); NORTH LINCOLNSHIRE (54): Furzehill, Roughton Moor, 18.8 (JJ per RJ); Woodhall Spa, 15.8 – 1 male (BLS); SOUTH-WEST YORKSHIRE (63): Hooton Roberts, Rotherham, 18.8 (H.E. Beaumont per Cooper (1996)); NORTH-WEST YORKSHIRE (65): Allerthorpe Common, 1.8 – 4 (N. Gill); 3.8 (BE per BFS); ISLE OF MAN (71): Castletown, 7.8 (GDC); NORTH ABERDEENSHIRE (93): Oldmeldrum, 2.8 (MRY); BANFFSHIRE (94): Ordiquhill, Cornhill, 6.8 (RL<sup>2</sup>); Cornhill, 7.8 (RL<sup>2</sup> per MRY per BFS); Whitehills, 14.8 – 1 put up from shoreline vegetation (RL<sup>2</sup>); WEST SUTHERLAND (108): Melvich, 2.8 (DW<sup>3</sup> per BFS).

Summary: (3): 2; (6): 2; (7): 2; (9): 10; (10): 5; (11): 5; (13): 2; (14): 1; (15): 3; (16): 1; (17): 4; (18): 9; (19): 3; (20): 3; (22): 2; (25): 3; (26): 2; (27): 11; (28): 6; (29): 1; (30): 1; (32): 1; (33): 2; (34): 2; (38): 4; (40): 2; (49): 1; (53): 1; (54): 2; (63): 1; (65): 5; (71): 1; (93): 1; (94): 2; (108): 1.

#### *Uresiphita gilvata* (Fabricius) [I]

WEST CORNWALL (1): Coverack, The Lizard, 17.10 (DB, also reported in Brown (1996b)); DORSET (9): Charmouth, 8.10 (BLS per AMD).

#### *Sitochroa palealis* ([Denis & Schiffermüller]) [I?/R?/R(t)?]

Note: Possible immigrant examples only.

WEST CORNWALL (1): St. Agnes, Isles of Scilly, 3.7 – 1 by day (JH & MH<sup>2</sup>); NORTH SOMERSET (6): Timsbury, undated (M. Bailey per Barnett, Edmondson & Evans (1996a)); NORTH WILTSHIRE (7): Cricklade, 27.7 – 1 male (Foster 1996b); SOUTH WILTSHIRE (8): Harnham Lines, Warminster, 27.7 – 2 (EGS & MHS); DORSET (9): Lulworth Cove, 27.7 (per PD); Portland Bird Observatory, 28.7; 1.8; 5.8 – 2 (MC); Woolgarston, 27.7 (per PD); ISLE OF WIGHT (10): Chale Green, 1.8; 6.8 (SC); Newton Rifle Ranges, 20.7 (Warne 1996); SOUTH HAMPSHIRE (11): Kings Somborne, 31.7 (TJN per BG); Magdalen Hill Down, 29.7 – on ragwort by day (PAB per BG); Woolston, 23.7 (ARC per BG); EAST KENT (15): Dungeness, 30.7 (DW per SPC); Sandwich Bay Bird Observatory, 28.7; 31.7; 3.8 – 1 or 2 “in the field” (AJ); Sholden, Deal, 10.7 (TB); SURREY (17): Raynes Park, 22.8 (MSP); NORTH ESSEX (19): Purfleet, Dolphin Quarry, 29.6 (CWP per BG<sup>2</sup>); EAST NORFOLK (27): Scole, 15.8 (M. Hall per Hipperson 1996); WEST NORFOLK (28): Magdalen, 7 (C. Sheppard per Hipperson 1996).

Summary: (1): 1; (6): 1; (7): 1; (8): 2; (9): 6; (10): 3; (11): 3; (15): 4+; (17): 1; (19): 1; (27): 1; (28): 1.

#### *Ostrinia nubilalis* (Hübner) [I?/R?]

Note: Records outside Thames Estuary only.

DORSET (9): Portland, 30.6 (per PD); Portland Bird Observatory, 1.8 (MC); Woolgarston, 14.7; 27.7 (per PD); ISLE OF WIGHT (10): Binstead, 23.8 – 2; 25.8 (BJW); Chale Green, 7 – 18; 17.8 – 2; 30.8 (SC); SOUTH HAMPSHIRE (11): Gosport, undated – 2 (DW<sup>2</sup> per BG); Magdalen Hill Down, 30.6 (PAB per BG); Pennington, 11.7 (RC per BG); Woolston, 28.6 to undated – 11 (ARC per BG); NORTH HAMPSHIRE (12): Greywell Moors Reserve, 8.7 (AHD per BG); Selborne, 16.9 (AEA); EAST SUSSEX (14): East Grinstead, 11.10 (JC); Peacehaven, 4.7; 10.7 – 3; 12.7; 31.8; 1.9; 2.9 (CRP); EAST KENT (15): Sholden, Deal, between 28.6 to 18.7; between 10 to 14.9

(TB); SURREY (17): Lingfield, 7.9 – 1 male; 17.9 – 1 male (JC); Milton, 8.9 (DB<sup>3</sup>); EAST NORFOLK (27): Cart Gap, 12.7 (JC); Catfield Fen, 28.7 (MT per Hipperson (1996)); East Ruston, 5.8 (KS per DH); Winterton Dunes, 12.7 (JC); BEDFORDSHIRE (30): Cockayne Hartley, 1.8 (Woiwod & Manning 1996); NORTHAMPTONSHIRE (32): Kingsthorpe, 20.6 (Agassiz, Heckford & Langmaid 1997); EAST GLOUCESTERSHIRE (33): Hemsted, Gloucester, 28.6 (GA per RG); WEST GLOUCESTERSHIRE (34): St. Briavels, Lydney, 7.9 (RG).  
Summary: (9): 4; (10): 24; (11): 15; (12): 2; (14): 9; (15): 2+; (17): 3; (27): 4; (30): 1; (32): 1; (33): 1; (34): 1.

***Udea fulvalis* (Hübner) [I?/R(t)/R?]**

DORSET (9): Swanage, 30.7 (L. Price per Skinner (1996)); ISLE OF WIGHT (10): Freshwater, 11.7; 17.7, probably temporarily established (SAKJ); Totland, 8 (SAKJ per Skinner (1996)); [SOUTH HAMPSHIRE (11): Christchurch, “frequent in 1995” (MJ per BG)].  
See Skinner (1996) for a summary of the history of this species in Britain.

***Psammotis pulveralis* (Hübner) [I]**

DORSET (9): Sixpenny Handley, 28.7 (PD); SOUTH HAMPSHIRE (11): Matley Bog, New Forest, 28.7 (DOK per BFS); EAST KENT (15): Dymchurch, 1.8 (JO per BFS).

***Antigastra catalaunalis* (Duponchel) [I]**

DORSET (9): Gaunt’s Common, 11.10 (PD); Parkstone, 21.10 (AB per BFS); Portland Bird Observatory, 9.10 (MC); EAST KENT (15): Dungeness, 12.10 – 1 male (SPC).

***Spoladea recurvalis* (Fabricius) [I]**

WEST CORNWALL (1): The Lizard, 17.10 (Brown 1996b); DORSET (9): Portland Bird Observatory, 10.10; 11.10 (MC); West Bexington, 11.10 (RE per BFS).

***Palpita unionalis* (Hübner) [I]**

WEST CORNWALL (1): near Porthloo beach, St. Mary’s, Isles of Scilly, between 9 to 15.10 – 3 (Turley 1996); St. Agnes, Isles of Scilly, 5.8 (Hale & Hicks 1995); 9.10; 10.10 – 2; 12.10 – 2; 18.10; 19.10; 20.10 – 3; 21.10 (JH & MH<sup>2</sup>); The Lizard, 9.10; 10.10; 11.10 – 3; 12.10 – 3; 13.10; 14.10 – 2; 17.10; 18.10 – 2 (Brown 1996b); 30.10 (DB) (recorded as 19 between 9 to 30.10 from Church Cove, Coverack and Lizard village by MT per AMD); Troy Town, St. Agnes, Isles of Scilly, 20.10 (JPM); SOUTH DEVON (3): Prawle Point, 10.10 (RMc); DORSET (9): Durlston, 26.10 – 6 (AK per DB); Durlston Head, 14.10 (DD<sup>2</sup>); 14.10 (RMc); Freshwater Bay, Portland, 14.10 – 4 (MSP & APF); Portland, 14.10 (BG & JRL); Portland Bird Observatory, 10 to 27.10 – 7 (MC); Studland, 26.10 (Brown 1996b); ISLE OF WIGHT (10): Bonchurch, 10.10 (JH<sup>2</sup> per BFS); Chale Green, 27.9; 30.9 (SC); Freshwater, 18.10; 20.10 (SAKJ); SOUTH HAMPSHIRE (11): Gosport, 25.10 (DW<sup>2</sup> per BG); Kings Somborne, 14.10 (TJN per BG); North Hayling Island, 27.10 (per BG); Southsea, 13.10; 17.10; 23.10; 26.10 (JRL per BG); Woolston, 12.10 (ARC per BG); WEST SUSSEX (13): Climping, 12.10 – 1 to ivy blossom (MSP); Walberton, 25.10; 26.10 (JTR per CRP); EAST KENT (15): Dungeness, 14.10 (BFS); 12.10 – 2 (SPC); Greatstone, 23.9; 13.10 – 2; 8.11 (BB per SPC); Hamstreet, 25.10 (Riley 1998); New Romney, 18.9 – 2; 13.10 (KR per SPC); SURREY (17): Milton, 12.11 (DB<sup>2</sup>); SOUTH ESSEX (18): Bradwell-on-Sea, 26.9; 25.10 (AJD); MIDDLESEX (21): Enfield, 5.8 (Ms A. Hughes per CWP); DUMFRIESHIRE (72): Connansknowe, Kirkton, 27.10 (RM & BM); CHANNEL ISLANDS (113): Trinity Cottages, Pleinmont, Guernsey, 28.10; 13.11 (JH<sup>3</sup> per Austin (1995)).  
Summary: (1): 31 (or 35); (3): 1; (9): 21; (10): 5; (11): 8; (13): 3; (15): 11; (17): 1; (18): 2; (21): 1; (72): 1; (113): 2.

***Etiella zinckenella* (Treitschke) [I]**

SOUTH HAMPSHIRE (11): Christchurch, 10.8 (Jeffes 1995).

***Dioryctria abietella* ([Denis & Schiffermüller]) [I?/V?/R?]**

WEST CORNWALL (1): St. Agnes, Isles of Scilly, 3.7 (JH & MH<sup>2</sup>); DORSET (9): Portland, 28.6; 30.6 (per PD); EAST SUSSEX (14): Cow Gap, Eastbourne, 13.7 – 2 (MSP & CRP); EAST

KENT (15): Dungeness, 4.9 (DW per SPC); Greatstone, 11.7; 14.7 (BB per SPC); Lydd, 13.7; 18.7; 20.8 (KR per SPC); NORTH HAMPSHIRE (12): Selborne, 18.7 (AEA); CHANNEL ISLANDS (113): La Carriere, Guernsey, 14.9 (GH<sup>2</sup> & FH per Austin (1995)).

Summary: (1): 1; (9): 2; (12): 1; (14): 2; (15): 6; (113): 1.

***Conobathra tumidana* ([Denis & Schiffermüller]) [I]**

SOUTH HAMPSHIRE (11): Southsea, 30.7 – 1 male (Langmaid 1996a); WEST SUSSEX (13): Walberton, 2.8 (JTR per CRP); [WEST SUFFOLK (26): Wolves Wood NR, 8.7 – 5, confirmation required (per AMD)].

***Ancylosis oblitella* (Zeller) [I?/R(t)?/R?]**

Note: Possible immigrant examples only.

WEST CORNWALL (1): St. Agnes, Isles of Scilly, 19.8 (JH & MH<sup>2</sup>); NORTH SOMERSET (6): Slimbridge, undated (Barnett, Edmondson & Evans 1996b); DORSET (9): Hartland Moor, 6.8 (PD); Portland Bird Observatory, 18.8 – 2; 20.8; 31.8 (MC); ISLE OF WIGHT (10): Binstead, 15.8 (BJW); Chale Green, 17.8 – 2; 19.8; 22.8; 2.9 (SC); 22.9 (SC per BG); Freshwater, 21.8; 22.8; 2.9 (SAKJ); 31.8 (SAKJ per BG) (possible error of date?); SOUTH HAMPSHIRE (11): Southsea, 10.8 (Agassiz, Heckford & Langmaid 1997); WEST KENT (16): Green Street Green, Orpington, 1.9 (Sokoloff 1995); SOUTH ESSEX (18): Bradwell St Peters, 12.8 (GS per BG<sup>2</sup>); NORTH ESSEX (19): Frinton-on-Sea, 16.8 (B. Lock per BG<sup>2</sup>); OXFORDSHIRE (23): Henley-on-Thames, 21.8 (DW<sup>3</sup> per BFS); NORTHAMPTONSHIRE (32): Kingsthorpe, 8.9 (Agassiz, Heckford & Langmaid 1997); NORTH LINCOLNSHIRE (54): Furzehill, Roughton Moor, 12.8 (GW).

Summary: (1): 1; (9): 5; (10): 10 (or 11?); (11): 1; (16): 1; (18): 1; (19): 1; (23): 1; (32): 1; (54): 1.

**PTEROPHORIDAE**

***Oxyptilus laetus* (Zeller) [I]**

DORSET (9): Gaunt's Common, 12.10 (PD).

See Hart (1996) for a review of the known records of this species in Britain.

**PAPILIONIDAE**

**The Swallowtail *Papilio machaon* Linnaeus [I?/E?]**

Note: Except where stated, the subspecies was not given for the following records.

Locality not given, early 7 – 2 (continental form) (Bowles 1995d); ISLE OF WIGHT (10): Carisbrook, Lukely Stream, 4.8 – 1 subsp. *gorganus* (Dr D. Biggs per BA, also reported in Knill-Jones & Angell (1996)); EAST SUSSEX (14): Firlie Beacon, 13.8 – 1 feeding on thistles (R. Meredith per CRP); Pevensey Bay, 12.8 – 1 out to sea flying north (R. Charlwood per CRP); EAST KENT (15): The Chequers, between Sandwich and Deal, 2.8 – 1 of the continental form (per DMB); St Margaret's Bay, 7.8 (J. Chandler per JM); WEST KENT (16): Farningham, 19.8 (Mr & Mrs Bowers per JM); [SURREY (17): Leigh, 28.6 – “probably a released or escaped specimen” (Jeffcoate & Gerrard 1996)]; NORTH ESSEX (19): Colchester, 11.8 (A.E. Gentle per BG<sup>2</sup>); SHETLAND ISLANDS (112): Upper Leogh, Fair Isle, 9.9 – “a brief view” (Newell 1996); CHANNEL ISLANDS (113): Quanterraine, Guernsey, 11.8 (R. Sangan per Austin (1995)); St. Saviour, Guernsey, 20.8 (J. Barnes per Austin (1995)); 30.8 (N. Lewis per Austin (1995)).

Summary: Unknown county/vice-county/site: 2; (10): 1; (14): 2; (15): 2; (16): 1; [(17): 1]; (19): 1; (112): 1; (113): 3.

**[Scarce Swallowtail *Iphiclides podalirius* (Linnaeus) [I?/E?]**

ISLE OF WIGHT (10): Great Combley Wood, 6 – 1 possible sighting (per SAKJ).]

**PIERIDAE**

**[Berger's Clouded Yellow *Colias alfacariensis* Ribbe or Pale Clouded Yellow *Colias hyale* (Linnaeus) [I]**

WEST CORNWALL (1): Bryher, 19.10 – 1 male (JPM); EAST KENT (15): Faggs Wood, Ashford, 31.7 (A. Cooper per JM).]

**Clouded Yellow *Colias croceus* (Fourcroy) [I]**

[Unconfirmed reports in North West – end 6 (Bowles 1995c), possible misidentification (per NB)]; CORNWALL: Truro, 17.10 (RDP); WEST CORNWALL (1): Bass Point, The Lizard, 15.10 – at least 1, possibly 3 (per RL); cliff top nr. Gunwalloe, 31.10 (Brown 1996a); Lamorna Cove, 19.9 (CH); Looe Bar, undated (DW<sup>3</sup>); Isles of Scilly, 8 to 21.10 – almost daily, sometimes 2 (per DD); Penance Point, Budock, 12.11 – 2 (1 being *f. helice*) (RDP); EAST CORNWALL (2): Bodmin Moor, 30.8 – 1 male (JC); Holmbush, St. Austell, 20.7; 14.9 – 1 male; 15.9 – 1 male (same as 14.9); 9.10; 10.10 – 2 (1 being *f. helice*) (RL); DEVON: Locality not given, 1.11 (Bowles 1995e); SOUTH DEVON (3): Slapton, 31.8 – 2 males (JC); Wembury, near Plymouth, 14.10 (per DD); DORSET (9): “southern coast” – 23.3 (Bowles 1995b) (site is nr. Piddletrenthide (per NB)); Portland Bird Observatory, 21.7; 8.10 (MC); SOUTH HAMPSHIRE (11): Pennington Marshes, 14.10 (DB<sup>3</sup>); SUSSEX: Brighton, 18.10 (G. Champion per CRP); WEST SUSSEX (13): Pagham, 18.6; 21.8 (S. Knapp per CRP); EAST SUSSEX (14): Cuckmere Haven, 23.9 (M. Tucker per RL); EAST KENT (15): Cinque Prts Golf Course, Deal, 11.8; 12.8 (DMB per JM); Dungeness, 27.7; 3.8 (DW per SPC); New Downs Farmland, 4.7; 6.7; 14.8 (DMB per JM); New Richborough Farm, 17.7 (DMB per JM); Sandwich, 29.7; 2.8; 3.8 (per DMB); Sandwich Bay Estate, 4.8 (DMB per JM); Sholden Downs, Deal, 3.8 (DMB per JM); Stonar near Sandwich, 4.7 (DMB per JM); WEST KENT (16): Brasted Chart, 7.10 (I. Ferguson per JM); SURREY (17): just south of Leigh, 16.6 (Jeffcoate & Gerrard 1996); NORTH ESSEX (19): Dovercourt, 23.10 (C. Gibson per BG<sup>2</sup>); Howlands Marsh Nature Reserve, 14.9 – 5 sightings (Firmin & Arthur 1997); BUCKINGHAMSHIRE (24): Aston Abbots, 4.8 (V. Scott per GEH); STAFFORDSHIRE (39): Saltwells LNR, 4.5 (T.G. Beynon); LEICESTERSHIRE (55): Leicester, undated (S.J. Close per KJO); CHESHIRE (58): Macclesfield, 30.6 (D. Kitching per SHH); WESTMORLAND (69): Grange-over-Sands, 8.10 (Dr N.L. Birkett per DWK); CUMBERLAND (70): Irthington, Carlisle, 14.7 (K. Clark per DWK); [NORTH EBUDES (104): Isle of Canna, 10.7 – 1 possible; 30.7 – 1 possible (per JLC)]; MID CORK (H4): Clogheenmilcon, 10.4 (per T. O’Byrne per KGMB).  
Summary: Cornwall: 1; (1): 8+; (2): 6; Devon: 1; (3): 3; (9): 3; (10): 1; Sussex: 1; (13): 2; (14): 1; (15): 14; (16): 1; (17): 1; (19): 6; (24): 1; (39): 1; (55): 1; (58): 1; (69): 1; (70): 1; [(104): 2]; (H4): 1.

**Bath White *Pontia daplidice* (Linnaeus) [I]**

[Locality not given, mid 8 – 2 (Bowles 1995d), these refer to Chichester, 6.8 – a probable sighting (per J. Gay per NB) and 1 record deleted because of mistaken identification (per NB)]; WEST SUSSEX (13): Levin Down, 6.8 (R. Hinks per CRP).

**LYCAENIDAE****Long-tailed Blue *Lampides boeticus* (Linnaeus) [I/E?]**

SOUTH DEVON (3): Mannamead, Plymouth, 9.10 (Archer-Lock 1996); Locality(s) not given, 10.10; 11.10 (possible deliberate introductions) (Bowles 1995e) (refers to Plymouth, also on 9.10 (see earlier) (A. Archer-Lock per NB)); [Locality(s) not given, 19.10; 20.10 (possible deliberate introductions) (Bowles 1995e), refers to Prawle (possibly a Short-tailed Blue *Everes argiades* (Pallas) (M. Catt per NB)]; SOUTH SOMERSET (5): near Crewkerne, 9.10 (N. South per Batty (1995)); WEST SUSSEX (13): Chelwood Gate, near Haywards Heath, 8.10 (C. Johnson per Elvidge (1996)); EAST KENT (15): Sugarloaf Hill/Castle Hill complex, Folkestone, 27.8 (Dickerson 1996); Worth, Sandwich, 7.8 (DMB per JM); SOUTH HAMPSHIRE (11): near Cadnam, 30.8 (Mrs J. Gifford).

**[Mazarine Blue *Polyommatus semiargus* (Rottemburg) [I?]**

Locality not given, undated (N. West per Batty 1995).]

**NYMPHALIDAE****American Painted Lady *Vanessa virginiensis* (Drury) [I]**

Note: None of the records was confirmed by either a photograph or a voucher specimen, so perhaps all should be treated with caution.

WEST CORNWALL (1): The Lizard, 15.10 (Bowles 1996); Kynance Cove, 15.10 (Nelson 1996) (possibly the same record as Bowles (1996)); [EAST CORNWALL (2): Holmbush, St. Austell, 17.10 – 1 possible (RL); SOUTH DEVON (3): Prawle Point, 13.10 – at least 1, probably 2 (Bowles 1995e) (Prawle Village, 13.10 (per DD), probably refers to the same record); Locality not given, 5.11 (Bowles 1996), refers to Prawle (M. Catt per NB)].

#### **Large Tortoiseshell *Nymphalis polychloros* (Linnaeus) [I?/E]**

[WEST SUSSEX (13): Worthing, 14.3 – a possible sighting (Sheldon 1995)]; EAST KENT (15): Elmsted, 9.4 (Burness 1995); [WEST KENT (16): Locality not given, early 7 (suspected release) (Bowles 1995d), refers to Beckenham 27.7 (per NB)]; SURREY (17): Merstham, 25.6 (S. Gibson per Jeffcoate & Gerrard (1997)); over 3 or 4 days around 31.7 (Jeffcoate & Gerrard (1996)); [South Holmwood, end 10 – considered to be “almost certainly a captive-bred specimen which has been released into the wild” (Jeffcoate & Gerrard (1996))]; SOUTH ESSEX (18): Bradwell-on-Sea, 24.4 (S. Dewick per Anon (1995)); CHANNEL ISLANDS (113): Belvedere House, Guernsey, 14.8 (Mr Housden per Austin (1995)); nr. Passiflora, Guernsey, 29.7 (C. & A. Smith per Austin (1995)).

#### **Camberwell Beauty *Nymphalis antiopa* (Linnaeus) [I]**

Note: Bowles (1996) reports that there were probably as high as 300 sightings, whereas Tunmore (1996b) gives the total at around 350 sightings for the year.

Summary only: The vice-county number is given in brackets, followed by the number of individuals sighted in each vice-county (county or in some cases site). Where no numbers were given for an individual record, it was taken to be 1. Hence, the totals are likely to be approximate. This is followed by the monthly representation of the records. In a few cases it was impossible to assign a given record to an individual month. As with the totals for the vice-counties, the monthly totals are likely to be approximate.

Unknown county/vice-county/locality: 1; (1): 1; (2): 2; (3): 4; Bristol: 1; (5): 1; (7): 1; (9): c.12; (10): 4; (11): 10; Sussex: 2; (13): 6; (14): 13; (15): c.23; (16): c.8; (17): 13; Essex: 15 records (BG<sup>2</sup>); Dawes Heath: 1; (18): 9; (19): 13; (20): 2; (21): 10; (22): 2; (23): 2; (24): 6; Suffolk: 30 (per RCK); (25): 11; (26): 3; (27): 37; (28): 6; (29): 5; (30): 3; (32): 1; (33): 6; (34): 2; (35): 2; (38): 16; (39): 1; (40): 2; (43): 2; (50): 1; (54): 4; (55): 9; (56): 6; (57): 17; (58): 17; Baccup: 1; Stodder: 1; (59): 11; (60): 13; Leeds: 1; (61): 1; (63): 3; (65): 1; (66): 2; Tyne & Wear: 1; (69): 5; (70): 13; (71): 1; Dumfriess & Galloway: 1; (75): 1; (79): 1; Barons Haugh, Strathclyde: 1; (82): 1; (85): [1]; (91): 1; (92): 6; (93): 1; (94): 2; (95): 1; (100): 1; (107): 1; (112): 3; (H4): 1; Co. Donegal: 1; (H37): 1; (H38): 2; (H39): 2.

March: 1; April: 1; June: 2; July: 10[1]; August: 282; September: 53; October: 10.

Earliest date: SOUTH ESSEX (18): “a north London cemetery”, 24.3 (Bowles 1995b), refers to East Ham Cemetery (A. Wyndham per NB).

Latest date: BERKSHIRE (22): Reading, 28.10 (C. Faulkener per M. Slater per NB).

#### **Map *Araschnia levana* (Linnaeus) [I?/E?]**

EAST KENT (15): Westbere, nr. Canterbury, 5.8 (FS per BFS); [OXFORDSHIRE (23): Locality not given, early 7 (suspected release) (Bowles 1995d) (refers to Wallingford, 29.7 (per NB))].

#### **Queen of Spain Fritillary *Issoria lathonia* (Linnaeus) [I]**

Locality not given, early 7 – 3 (Bowles 1995d); DORSET (9): Locality(s) not given, undated – 2 (per SP) (locality not given, 14.10 (Bowles 1996) (probably refers to one of the 2 previous records); EAST KENT (15): Greatstone, 6.8 (RET per SPC); WEST KENT (16): Bore Place, Bough Beech, 4.8 (per JM); ESSEX: Locality not given, 14.10 (Bowles 1996), given as Gt. Bromley (J. Healey per NB); SOUTH ESSEX (18): Bradwell, 23.7 (G. Smith per BG<sup>2</sup>); NORTH ESSEX (19): Kelvedon, 20.8 (E.H. Smith per BG<sup>2</sup>); Landermere, 22.8 (R. Wood per BG<sup>2</sup>); Thorrington, 9.8 (R. Catford per BG<sup>2</sup>); BUCKINGHAMSHIRE (24): Buckingham, 6.8 (D. Louge per NB); SUFFOLK: Bradfield Woods, undated (RCK per BFS), given as 21.8 (per R. Stewart per NB); EAST SUFFOLK (25): Holbrook, 12.8 (per R. Stewart per NB); Minsmere, 6.8 (per RET per SPC); 16.9 – 2 (per NB); Locality not given, 10.9 (Bowles 1995e) (refers to

Walberswick, (M. Cowley per NB)); EAST NORFOLK (27): Cley, 6.8 (per RET per SPC); NORTH LINCOLNSHIRE (54): Donna Nook, 23.9 (per SP), Locality not given, 23.9 – 2 (Bowles 1995e) (refers to the Donna Nook record (per NB)).

Summary: Unknown county/vice-county/site: 3; (9): 2(3?); (15): 1; (16): 1; (18): 1; Essex: 1; (19): 3; (24): 1; Suffolk: 1; (25): 5; (27): 1; (54): 2?.

### The Monarch *Danaus plexippus* (Linnaeus) [I]

There has been a great deal of confusion over the records and it is obvious that there has been multiple reports of the same record. Consequently it has been very difficult to interpret accurately the records and give an exact total to the number of individuals reaching these shores. Vanholder (1996) states that “more than 150 butterflies were reported”. Bowles (1996) gives 170-200 sightings. Nelson (1996) summarises the October records only, stating a total of 200, and reports a total of 204 sightings of c. 180 individuals for the year. Coombes *et al* (1996) give a total of 173 or 174, depending on which summary is accepted, and discuss their origins and give historical perspective.

Locality not given, 6.8 (Vanholder 1996); Devonworth High School, 13.10 (per DD); CORNWALL: Pendine, 8.10 – 3 (per DD); WEST CORNWALL (1): Church Cove, The Lizard, ?10.10; ?18.10 (Brown 1996a); Cock Valley, nr. Lands End, 8.10 (per DD); Isles of Scilly, 9 to 20.10 – 12; 22.10; 23.10 (per DD); Lands End, 9.10 (per DD); Looe, 14.10 (Archer-Lock 1996); Nanquidno, 14.10 (JPM); St. Agnes, Isles of Scilly, 10.10; 16.10 (per DD); St. Just, undated – 2 (Brown 1996a) (a record given as 8.10 (per DD)); St. Mary’s, Isles of Scilly, 8.10; 9.10; 15.10; 20.10; 21.10 (per DD) 22.10 – 2 (Bowles 1995e); The Lizard, 10 to 14.10 – 6 (Bowles 1995e) (also 14.10 – 6+ sightings (per RL)); Treen, 7.10 (per DD); Tresco, Isles of Scilly, 8.10; 15.10 (per DD); 17.10 (per RL); Locality not given, 19.10 (per RL); EAST CORNWALL (2): Calstock, 3.10 (Nelson 1996); St. Austell, 8.10 (per DD); SOUTH DEVON (3): Beesands, 8.10 (per DD); Darwish (=Dawlish?), undated – a fertile female (Vanholder 1996); nr. Plymouth, 3.10 (per DD); Prawle, 8.10 (per DD); Prawle Point, 10.10 – 2 (per DD); Prawle Point, 13.10 (Bowles 1995e) (possibly the same as Prawle Village, 13.10 (per DD)); Slapton Ley, 8.10 (per DD); Start Point, 6 to 7.10 (R. Simington per CRP); 8.10 (VT); Strete, 10.10 (Baldwin 1996); Stokenham, 12.10 (Baldwin 1996); DORSET (9): Ballard Down, 8.10 (per BS); Bellevue Farm, near Durlston, 19.10 (per BS); Bournemouth, 8.10 (per DD); Bridport, 8.10 (M. Murless per CRP); Burton Cliffs, 10.10 (Mrs Surrey per BS); Durdle Dor, 3.10 (B. Wilkinson per BS); Durlston, 8.10 – 4 sightings; 9.10 – 3 sightings; 11.10; 20.10; 21.10 (per BS); Durlston Lighthouse, 13.10; 19.10 (per BS); East Knowle(?), 12.10 (per BS); Eggardon Hill, 8.10 (N. Spring per BS); Lodmoor, 8.10 (per DD); 9.10 – 3; 10.10 (per BS); Lulworth, 9.10 (per DD); Lulworth Cliffs, 13.10 (Lady Redman per BS); North Chideock, 10.10 (S. McDougal per BS); north of Langton Matravers, 7.10 (T. Adams per BS); North Swanage, 8.10 (Mrs Hardley per BS); Overcombe, 10.10 (PHS per BS); Portland Bird Observatory, 8 to 20.10 – 6 (MC); Southborne, 8.10 (Mrs Gibbons per BS); Southwell, Portland, 10.10 (per BS); St. Aldhelm’s Head (=St. Alban’s Head), 16.10 (per BS); Studland Beach, 9.10 (Ms Nunn per BS); Swanage, 9.10 (per DD); The Glebe, Studland, 9.10 (per BS); Weymouth, 10.10 (per DD); Winspit, 11.10 – 4; 12.10 – 3; 13.10 – 3 (given as 2 per BS) (per DD); 14.10 – 2 (per BS); Wyke Regis, 10.10 (P. Harris per BS); ISLE OF WIGHT (10): Culver Cliff, 9.10 (per DD) (possible duplication for another record); Luccombe, 8.10 (D.A. Britton per Knill-Jones & Angell (1996)); Shanklin, 9.10 – 1 coming in off the sea (Mrs J. Cheverton per Knill-Jones & Angell (1996)); Tennyson Down, Freshwater, 9.10 (Mr Woodread per Knill-Jones & Angell (1996)); Tennyson Monument, Tennyson Down, 10.10 (B. Ransom per Knill-Jones & Angell (1996)); Totland, 8.10 (Ms C. Hack per BA); SOUTH HAMPSHIRE (11): Christchurch, 11.10 (per BS); Hurst Beach, 13.10 – 1 flying south (per DD); Keyhaven, 8.10 (per DD); Winchester, 6.8 (Vanholder 1996); WEST SUSSEX (13): Littlehampton golf course, 8.10 (G. Champion per CRP); Pagham Harbour, 8 to 13.10 (T. Edwards per CRP); 21.10 ((S. Knapp per CRP); Sidlesham, near Pagham, 29.6 (Mrs Purchase per CRP); EAST SUSSEX (14): Beachy Head, 10.5 – 1 feeding on apple-blossom (P. Wilson per CRP); 11.10 (R. Charlwood per CRP); 13.10 (J. Lyes per CRP); Glynde, 7.10 (J. Langdon per CRP); Lewes, 21.7 – 1 feeding on buddleia (J. Deaykin per CRP); Seaford, 10.10 (D. Hamilton per CRP); EAST KENT (15): Abbots Cliff,

Dover, 10 (P. Chandler per JM); Folkestone, 12.10 – 1 flying east (per DD); St. Margaret's Bay, 14.10 (Bowles 1995e); SURREY (17): Haslemere, 9.10 (Mrs L. Richardson per Jeffcoate & Gerrard (1996)); [NORTH ESSEX (19): Jaywick, 23.8 (possibly an escaped example) (J. Young per Goodey BG<sup>2</sup>); [CAMBRIDGESHIRE (29): TL415609, 16.7 – 1 (possibly an escape and possibly *D. chrysippus* (O. Cheesman)]; NORTHAMPTONSHIRE (32): [Ashton Wold, 7 – c.30 escaped from a greenhouse. Some bred in the garden, but only a few fresh examples were seen in September (Dr M. Rothschild per Green (1995))]; Finedon, 10.8 (per DD); 11.8 (T.K. Dunkley per Jarvis (1996)) (possibly both the same record); [Oundle, 7 (a probable escapee from Ashton Wold) (Dr M. Rothschild per Green (1995))]; GLAMORGANSHIRE (41): Cardiff, undated (Nelson 1996); CARMARTHENSHIRE (44): Pembrey, 8.10 (per DD); DERBYSHIRE (57): Swanick, 9.10 (Nelson 1996); SOUTH LANCASHIRE (59): Liverpool city centre, 29.9 (Bowles 1995e); WESTMORLAND (69): Barrow, Walney Island, 9 (per DD); [Barrow-in-Furness, 27.7 – 1 “probable” (D. Greenway per DWK)]; South Walney Reserve, 20.10 – 2 separate sightings (possibly 2 individuals) (Makin 1996) (Walney, nr. Barrow, 20.10 (per DD) probably refers to the same record); CUMBERLAND (70): Cockermouth, 13.10 – 1 male (S. Asquith per DWK); [Pelham House, Calder Bridge, 4.8 (Ms V. Borino per DWK) (possibly not a genuine immigrant; West Cumbria, early 8 (per DD) (possibly refers to same record)]; SUTHERLAND: an un-named loch, undated – 3 (Nelson 1996); MID CORK (H4): Fountainstown, 15.10 (A. Myers); CO. CLARE (H9): Locality not given, 12.10 (Vanholder 1996); CO. DOWN (H38): Belfast, 12.10 (Vanholder 1996); Downpatrick, 14.10 (Vanholder 1996); Locality not given, 15.10 (Vanholder 1996).

**Summary:** The summary is given in tabular form, comparison being made to the summaries of Coombes *et al* (1996) and Nelson (1996). Neither of these articles gave the totals on a vice-county basis. In order to enable some comparison to these articles, the county totals gleaned from the records received/researched are given in brackets. Direct comparison can be made by those counties that are in *italics*. Totals in square brackets represent unconfirmed records, escaped or released individuals.

Vice County number (or County or site)	Total from records received or researched	Total given in Nelson (1996)	Total given in Coombes <i>et al.</i> (1996)
Devonworth High School	1		
(1)	40		
(2)	2		
<i>Cornwall</i>	5(47)	82	62
(3)	12		
<i>Devon</i>	(12)	23	22
(9)	57	50	51
(10)	5(6?)	5	
(11)	4		
<i>Hampshire</i>	(9 or 10)	13(18)	19
(13)	4		
(14)	6		

Vice County number (or County or site)	Total from records received or researched	Total given in Nelson (1996)	Total given in Coombes <i>et al.</i> (1996)
<i>Sussex</i>	(10)	6	6
(15)	3		
<i>Kent</i>	(3)	1	1
(17)	1	1	1
(19)	[1]		
(29)	[1]		
(32)	1 (?) [c.31]		
(41)	1		
<i>Glamorgan</i>	(1)	2	1
(44)	1		
<i>Dyfed</i>	(1)	2	1
<i>Gwynedd</i>		1	
(57)	1	1	1
(59)	1		
<i>Lancashire</i>	(1)	1	3
(69)	3[1]		
(70)	1[1]		
<i>Cumbria</i>	(4[2])	3	2
(71)		1	
<i>Sutherland</i>	3	3	
<i>Cork</i>	(1)	1	
(H4)	1		
(H9)	1		
<i>Eire</i>	(2)	(1)	1
(H38)	3	3	2
<i>Northern Ireland</i>	(3)	(3)	1(3)
<b>Totals</b>	<b>155[c.35]</b>	<b>199</b>	<b>174</b>

**DREPANIDAE****Dusky Hook-tip *Drepana curvatula* (Borkhausen) [I]**

WEST NORFOLK (28): Stiffkey, 2.8 (TC per DH).

**GEOMETRIDAE****Blair's Mocha *Cyclophora puppillaria* (Hübner) [I]**

WEST CORNWALL (1): Coverack, The Lizard, 13.10 (DB, also reported in Brown (1996b)); Isles of Scilly, St. Mary's, 20.10 (M. Powell per J. Martin per BFS); SOUTH DEVON (3): Abbotskerswell, 19.10 (BH); DORSET (9): Parkstone, 12.10 (AB per PD & PHS); Weymouth, 15.10 (per PD); SOUTH HAMPSHIRE (11): near Bransgrove, 27.10 (G. Martin); WEST SUSSEX (13): Walberton, 27.6 (JTR per CRP); EAST SUSSEX (14): East Grinstead, 16.10 (JC); Peacehaven, 12.10; 13.10 (CRP).

(1): 2; (3): 1; (9): 2; (11): 1; (13): 1; (14): 3.

**Sub-angled Wave *Scopula nigropunctata* (Hufnagel) [I/V?]**

Note: Possible immigrant or vagrant examples only.

DORSET (9): Arne, 26.7 (B. Pickess per PD & PHS); WEST SUSSEX (13): Walberton, 1.8 (JTR per CRP); EAST KENT (15): Greatstone, 14.7 (BB per SPC).

**Tawny Wave *Scopula rubiginata* (Hufnagel) [I]**

Note: Probable immigrant examples only.

EAST SUSSEX (14): Cow Gap, Eastbourne, 4.8 – 1 put up by day (MSP); EAST KENT (15): Birchington, 31.8 (FS per BFS); Dungeness, 26.7 (SPC); Greatstone, 26.7 (RET per SPC); EAST SUFFOLK (25): Woodbridge, 19.7 (RCK per BFS); EAST NORFOLK (27): Hethersett, 26.7 (MB per DH); Stiffkey, 27.7 (TC per DH).

**Least Carpet *Idaea rusticata* ([Denis & Schiffermüller]) [I?/R?/R(t)?]**

Note: Record outside south-east England only.

ISLE OF WIGHT (10): Chale Green, 22.7 (SC).

**The Vestal *Rhodometra sacraria* (Linnaeus) [I]**

Summary only: The vice-county number is given in brackets, followed by the number of individuals sighted in each vice-county (county). Where no numbers were given for an individual record, it was taken to be 1. Hence, the totals are likely to be approximate. This is followed by the monthly representation of the records. In a few cases it was impossible to assign a given record to an individual month. As with the totals for the vice-counties, the monthly totals are likely to be approximate.

Cornwall, Truro: 3; (1): 366+; (3): 21; (8): 4; (9): 24; (10): 23; (11): 39; (12): 2; (13): 25; (14): 7; (15): 14; (17): 9; (18): 6; (19): 1; (20): 1; (23): 11; (27): 2; (31): 1; (32): 1; (33): 1; (34): 1; (38): 2; (54): 3(?); (55): 3; (56): 3; (61): 1; (71): 34; (72): 2; (113): 13+.

July: 9; August: 34(+1?); September: 20; October: 465+; November: 1.

Earliest date: ISLE OF WIGHT (10): Chale Green, 3.7 – 2 (SC).

Latest date: NOTTINGHAMSHIRE (56): Wollaton Park, Nottingham, 1.11 (SW).

Possibly significant records: WEST CORNWALL (1): near Porthloo beach, St. Mary's, Isles of Scilly, 9 to 15.10 – up to 50 per night (Turley 1996); The Lizard, 9.10 – 39; 10.10 – 19; 11.10 – 25; 12.10 – 17; 14.10 – 15; 17.10 – 29; 18.10 – 36 (Brown 1996b); DORSET (9): Portland Bird Observatory, 9.10 – 11 (MC).

**The Gem *Orthonoma obstipata* (Fabricius) [I]**

WEST CORNWALL (1): Church Cove, The Lizard, 8.11; 9.11; 15.11; 2.12 (MT); Loe Pool, Penrose, between 18.9 to 31.12 – 13 (RH<sup>2</sup> per Tunmore (1996a)); near Porthloo beach, St. Mary's, Isles of Scilly, between 9 to 15.10 – 3 (Turley 1996); St. Agnes, Isles of Scilly, 23.3; 3.4; 18.7; 20.7; 19.8; 20.9; 22.9; 9.10; 12.10; 14.10; 18.10 – 2; 20.10 – 2; 21.10 (JH & MH<sup>2</sup>); 9.10 – 1 female (AP & JP); The Lizard, 11.10 – 2; 14.10 – 5; 16.10 – 5; 17.10 – 2; 31.10 (Brown 1996b);

26.10 (Tunmore 1996a) (between 18.9 to 31.12 – a total of 41 (Tunmore 1996a)); Troy Town, St. Agnes, Isles of Scilly, 18.10; 20.10 – 3 (JPM); DORSET (9): Durlston Head, 14.10 (DD<sup>2</sup>); Portland Bird Observatory, 11.10 to 31.10 – 4 (MC); Studland, 26.10 (Brown 1996b); ISLE OF WIGHT (10): Binstead, 26.11 (BJW); Bonchurch, 10.10 (JH<sup>2</sup> per BFS); Freshwater, 18.10; 20.10 (SAKJ); SOUTH HAMPSHIRE (11): Beaulieu, 19.10 (BIJ per BG); Woolston, 11.10 (ARC per BG); SUSSEX: Hassocks, 23.11 – 1 female (DD); WEST SUSSEX (13): Atherington, 29.10 (BFS & MSP); Walberton, 27.7; 16.10; 17.10; 15.11 (JTR per CRP); EAST KENT (15): Greatstone, 16.10 (BB per SPC); Littlestone, 11.10 (KR per SPC); Lydd-on-Sea, 13.10 (SPC); New Romney, 13.10 (KR per SPC); Sandwich Bay Bird Observatory, 1.12; 2.12 (AJ); Sholden, Deal, 7.10 (TB); SURREY (17): Lingfield, 12.10 – 1 male (JC); EAST NORFOLK (27): Scole, 12.10 (M.Hall per Hipperson (1996)); WARWICKSHIRE (38): Bearley, 7.9 (I. Reid per DB); [LEICESTERSHIRE (55): Lingdale Golf Course, 24.6 – 1 (unconfirmed) (A.N. Main & D. Taylor per Russell (1996))]; WESTMORLAND (69): New Hutton, 31.10 (R. Petley-Jones per DWK); CHANNEL ISLANDS (113): Les Sages, St. Peter's, Guernsey, 22.10 (J. Brehaut per Austin (1995)).  
Summary: (1): 64; (9): 6; (10): 4; (11): 2; Sussex: 1; (13): 5; (15): 7; (17): 1; (27): 1; (38): 1; [(55): 1]; (69): 1; (113): 1.

[*Cypress Carpet Thera cupressata* (Geyer) [R(i)/I/?/V?]

Note: The majority of records probably represent resident examples.

WEST CORNWALL (1): Coverack, 26.10 (Tunmore 1996a); DORSET (9): Durlston Country Park, 22.10; 23.10 (RP); Freshwater Bay, Portland, 14.10 (MSP & APF); Portland Bird Observatory, 12.10 (MC); ISLE OF WIGHT (10): Chale Green, 22.7 (SC); Freshwater, 13.10; 11.11; 12.11 – 2 (SAKJ); SOUTH HAMPSHIRE (11): Brockenhurst, New Forest, 26.6 – 1 male; 2.12 – 1 male (JEC); Guttner Point, 12.10 (per BG); Lower Pennington, 1.11 – 4; 8.11 – 5 (BG); Pennington, 10.6 to 9.11 – at least 8 (10.6 – 4) (RC per BG); 28.10 (BG); CHANNEL ISLANDS (113): St. John, Guernsey, 2.5; 19.5 – 2; 23.5; 26.5 – 2; 1.6 (Austin 1995); four sites (exact localities not given), 26.9 to 13.11 (Austin 1995).]

[The Channel Islands Pug *Eupithecia ultimaria* Boisduval [R(i)]]

WEST SUSSEX (13): Walberton, 28.7 (JTR per Langmaid 1996b); SOUTH HAMPSHIRE (11): Hayling Island, 7.8 – c.24 larvae beaten from tamarisk (Langmaid 1996b); Southsea, 29.6; 30.7 (Langmaid 1996b); CHANNEL ISLANDS (113): Locality not given, Guernsey, larvae beaten from tamarisk but not bred through (TNDP per Austin (1995)).]

Langmaid (1996b) summarises the history of the species in Britain.

Large Thorn *Ennomos autumnaria* (Werneburg) [I/?/V?]

DORSET (9): West Bexington, 15.9 (per PD); NORTH LINCOLNSHIRE (54): Furzehill, Roughton Moor, 14.9 (GW); Muckton, 21.9 (GW).

## SPHINGIDAE

*Convolvulus Hawkmoth Agrius convolvuli* (Linnaeus) [I]

Summary only: The vice-county number is given in brackets, followed by the number of individuals sighted in each vice-county (county). Where no numbers were given for an individual record, it was taken to be 1. Hence, the totals are likely to be approximate. This is followed by the monthly representation of the records. In a few cases it was impossible to assign a given record to an individual month. As with the totals for the vice-counties, the monthly totals are likely to be approximate.

(1): 35 (+ 4 larvae); (7): 1; (9): 8; (10): 13; (11): 5; (13): 14; Sussex, Brighton: 2; (14): 26 (+ 1 larva); (15): 24 (+ 1 larva); (17): 2; (19): 3; (23): 1; (25): 1; (27): 5 (+1 larva); (28): 2; (33): 1; (39): 1; (54): 7; (55): 3; (56): 1; (61): 1; (69): 3; (71): 5; (72): 1; (93): 1; (107): 1; (111): 9; (112): 13; (113): 11+(?) (+ 1 larva); (H4): 1; Additional records: Conoco Logs, Gas Platform (52°25'N 02°05'E), 16.9 (MRY); Piper Bravo, Oil Platform (58°28'N 0°15'E), 20.9.

March: 1; June: 1; July: 1; August: 15 (+ 1 larva); September: 113 (+ 4 larvae); October: 64 (+ 3 larvae); December: 1.

Earliest date: EAST NORFOLK (27): Surlingham, 15.3 (per K. Durrant per DH).

Latest date: WEST CORNWALL (1): Loe Pool, Penrose, 15.12 (RH<sup>2</sup> per Tunmore (1996a)).

**Death's-head Hawkmoth *Acherontia atropos* (Linnaeus) [I]**

WEST CORNWALL (1): near Porthloo beach, St. Mary's, Isles of Scilly, between 9 to 15.10 – 1 (Turley 1996); St. Mary's, Isles of Scilly, 12.10; 14.10 (per DD) (1 possibly a duplication of that given in Turley (1996)); SOUTH DEVON (3): Idford, nr. Luton, 22.6 (RMc); DORSET (9): Portland Bird Observatory, 13.10 – 1 found at rest on a hut; 14.10 (MC); Weymouth, 25.8 (per PD); SUSSEX: Brighton, 4.10 (per Booth Museum of Natural History per CRP); WEST SUSSEX (13): Selsey, 23.10 (Mrs Southgate per CRP); EAST KENT (15): Dungeness, 10.10 – 1 male (SPC); SOUTH ESSEX (18): Maldon, 2.7 – 2 (in cop.) (per S. Patient); EAST NORFOLK (27): Smalburgh, 7 (D. Stephen per DH); CHANNEL ISLANDS (113): Les Ozouets, Guernsey, 9.10 (per A. Howell per Austin (1995)); ADDITIONAL RECORD: Conoco Logs, Gas Platform (52°25'N 02°05'E), 13.9 (MRY).

Summary: (1): 2(or 3); (3): 1; (9): 3; (13): 1; Sussex: 1; (15): 1; (18): 2; (27): 1; (113): 1; Additional record: 1.

**Pine Hawkmoth *Hyloicus pinastri* (Linnaeus) [I?/V?]**

Note: Possible immigrant example only.

SOUTH-EAST YORKSHIRE (61): Spurn Head, 29.7 (Spence 1996).

**Humming-bird Hawkmoth *Macroglossum stellatarum* (Linnaeus) [I/R(t)?/R?]**

Summary only: The vice-county number is given in brackets, followed by the number of individuals sighted in each vice-county (county or in some cases site). Where no numbers were given for an individual record, it was taken to be 1. Hence, the totals are likely to be approximate. This is followed by the monthly representation of the records. In a few cases it was impossible to assign a given record to an individual month. As with the totals for the vice-counties, the monthly totals are likely to be approximate.

Cornwall, Tolgullow: 1; (1): 147+; (2): 3; (3): 8; (8): 3; (9): 8; (10): 3; (11): 7; (12): 1; Sussex, Brighton: 5; (13): 9; (14): 49+; (15): 24+; (17): 1; (18): 22; (19): 3; (20): 2; (20): 1; (24): 1; (25): 4; (27): 8; (28): 6; Gloucestershire: 5; (33): 1; (39): 1; (49): 11; (53): 4; (54): 6; (55): 10; (57): 1; (61): 1; (69): 3; (70): 1; Coombs Wood: 1; (81): 2; (104): 1; (111): 1; (113): 17; (H4): 1; (H11): 1. January: 1; February: 1; March: 2; April: 6; May: 8; June: 19+; July: 26; August: 91+; September: 80+; October: 142+; November: 1; December: 2.

Earliest dates: SOUTH HAMPSHIRE (11): Millbrook, 18.1 – 1 found hibernating (PAB per BG); Warnford, 19.2 (R. Chester per J. Taverner per BG).

Latest dates: WEST CORNWALL (1): St. Agnes, Isles of Scilly, 12.12 – 1 “hibernating in ... porch .... Still present an active on warm days during January 1996”; 13.12 – 1 “prospecting the inside of a farm building” (JH & MH).

Possibly significant records: WEST CORNWALL (1): St. Agnes, Isles of Scilly, 11.9 – to light; 30.10 – to light, 3.11 – to light, (JH & MH); The Lizard, 11.10; 12.10; 14.10, all to mv light (DB, also reported in Brown (1996b)); SOUTH DEVON (3): Start Point, 21.10 – 1 at mv light (AMD); DORSET (9): Portland Bird Observatory, 11.10 – 1 at mv light; 14.10 – 2 at mv light, (MC); EAST KENT (15): Dungeness, 12.10 – 1 at mv light (SPC); New Romney, 12.10 – 1 at mv light (KR per SPC).

**Willowherb Hawkmoth *Proserpina proserpinus* (Pallas) [I?/E?]**

MIDDLESEX (21): St. Katherine Dock, 18.7 (T. Moore per BFS).

**Oleander Hawkmoth *Daphnis nerii* (Linnaeus) [I]**

EAST SUSSEX (14): Bexhill, 15.6 – “found at rest at the base of a privet hedge” (D. Freeman per CRP); NORTH LINCOLNSHIRE (54): Donna Nook, 20.7 (S. Lorand per RJ).

**Bedstraw Hawkmoth *Hyles gallii* (Rottemberg) [I]**

SOUTH DEVON (3): Prawle Point, 12.8 (RMc); DORSET (9): Chalbury, 20.8 (S. Amos per PD & PHS); Gaunt's Common, 1.9 (PD per BFS); Portland Bird Observatory, 21.8; 24.8 (MC); Woolgarston, 1.9 (DB<sup>3</sup> per BFS); SOUTH HAMPSHIRE (11): Chandlers Ford, 30.6 – 1 male (BG); NORTH HAMPSHIRE (12): Odiham Common, 27.6 (AMD); EAST SUSSEX (14): Eastbourne, around 22.8 (JP<sup>2</sup> per CRP) (probably the same record as Holywell, end 8 (per DD));

Pett Level, 2.8 – 1 at rest in a greenhouse (J. Goodman per CRP); Woodingdean, 6.8 – 1 larva (BBCS field trip per CRP); EAST KENT (15): Greatstone, 20.7 – 1 female (BB per SPC); Sandwich Bay Bird Observatory, 7.7 (AJ); Sandwich Bay, 18.7 (per DMB); SOUTH ESSEX (18): Bradwell, 4.8 – 2 (AJD per BG<sup>2</sup>); Bradwell-on-Sea, 4.9 – 1 male (SD); EAST NORFOLK (27): Hethersett, 26.7 (MB per DH); WEST NORFOLK (28): Wells, 8 (I. Read per DH); WORCESTERSHIRE (37): Droitwich, 20.8 (P. Darch); WESTMORLAND (69): South Walney Reserve, 31.8 (Makin 1996); Walney, nr. Barrow, 4.8 (per DD); ISLE OF MAN (71): Cranstal Bride, 30.6 (LK per GDC); SHETLAND ISLANDS (112): west cliffs of Fair Isle, 11.7 (Anon 1996).  
 Summary: (3): 1; (9): 5; (11): 1; (12): 1; (14): 2 (+1 larva); (15): 2(or 3?); (18): 3; (27): 1; (28): 1; (37): 1; (69): 1 (or 2?); (71): 1; (112): 1.

**Striped Hawkmoth *Hyles livornica* (Esper) [I]**

DORSET (9): Portland Bird Observatory, 24.6 (MC); HUNTINGDONSHIRE (31): St. Neots, 21.8 (A. Booth per PW); WARWICKSHIRE (38): Knowle, Birmingham, 26.11 (A. Divett per DB<sup>3</sup>); CHESHIRE (58): Manchester Airport, 10 (Rutherford 1996).

**Silver-striped Hawkmoth *Hippotion celerio* (Linnaeus) [I]**

DORSET (9): Portland, 12.10 (G. Senior per BFS); 13.10 (per DD); Studland, 26.10 (Brown 1996b); ISLE OF WIGHT (10): Wootton, 17.10 (G. Morey per Knill-Jones (1997a)).

**NOTODONTIDAE**

**Dusky Marbled Brown *Gluphusia crenata* (Esper) [I]**

CHANNEL ISLANDS (113): Gorey, Jersey, 28.7 (Burrow 1996b).

**Scarce Chocolate-tip *Clostera anachoreta* ([Denis & Schiffermüller]) [I?/V?]**

EAST KENT (15): Folkestone Warren, 5.8 – 1 male (JC).

**Oak Processionary *Thaumetopoea processionea* (Linnaeus) [I]**

EAST KENT (15): Ramsgate, 10.8 (FS per BFS); Sholden, Deal, 10.8 – 2 males (TB); SOUTH ESSEX (18): Bradwell-on-Sea, 3.8 – 2 males (AJD); EAST SUFFOLK (25): Landguard, 4.8 – 2; 12.8 (Odin 1996); EAST NORFOLK (28): Sea Palling, 12.8 (AK per DH); CAMBRIDGESHIRE (29): Meldreth, 13.8 (J. Reid per PW per BFS); NORTHAMPTONSHIRE (32): Helpston, 11.8 (M. Hillier per Waring (1995c)).  
 (15): 3; (18): 2; (25): 3; (28): 1; (29): 1; (32): 1.

**LYMANTRIDAE**

**Brown-tail *Euproctis chrysorrhoea* [I?/V?]**

SOUTH-EAST YORKSHIRE (61): Spurn, 29.7 (Spence 1996).

**White Satin *Leucoma salicis* (Linnaeus) [I?/V?]**

ISLE OF MAN (71): Cranstal Bride, 26.7 (LK per GDC); Ballaugh Wildlife Park, 28.7 (GDC).

**[Gypsy Moth *Lymantria dispar* (Linnaeus) [E?]**

SOUTH ESSEX (18): South Woodford, nr. Ilford, 23.6 onwards – c.400 larvae in a group of 11 gardens (a probable accidental introduction) (Waring (1995b), see also Nettleton (1996)).]

**ARCTIIDAE**

**Dotted Footman *Pelosia muscerda* (Hufnagel) [I]**

DORSET (9): Woolgarston, 12.7 (DB<sup>3</sup> per PD & PHS); WEST SUSSEX (13): Petworth, 27.7 (JTR per CRP); NORTH ESSEX (19): Saffron Walden, 11.8 (A.M. Emmet per BFS); SOUTH-EAST YORKSHIRE (61): Spurn, 12.7 (Spence 1996).

**Hoary Footman *Eilema caniola* (Hübner) [I?/V?]**

DORSET (9): Portland Bird Observatory, 28.7 (MC).

**Four-spotted Footman *Lithosia quadra* (Linnaeus) [I]**

WEST CORNWALL (1): Coverack, The Lizard, 11.10 – 7; 14.10 (DB, also reported in Brown (1996a & b)); The Lizard, 12.10; 13.10 – 2 (Brown 1996b); ISLE OF MAN (71): Kentraugh Arbory, 26.7 (GDC).

**Speckled Footman *Coscinia cribraria arenaria* Lempke [I]**

EAST KENT (15): Dungeness, 26.7 – 1 male (SPC).

**Crimson Speckled *Utetheisa pulchella* (Linnaeus) [I]**

WEST CORNWALL (1): Annet, 18.10 (per JPM per BFS); Bryher, 19.10 (per JPM); Kynance Cove, The Lizard, 15.10 – 1 female netted by day (Brown 1996b); Lower Lanner, 29.10 – 2 (RH<sup>2</sup> per FHNS) (reported as Loe Pool, Penrose, 29.10 – 2 in Tunmore (1996a)); St. Mary's, 10 (Waring (1995d)); St. Agnes, Isles of Scilly, 16.10 (P. Fraser per JPM); 17.10 (per JPM); 17.10 (JH & MH<sup>2</sup> per JPM) (St. Agnes records possibly all refer to the same individual (per JPM)); SOUTH DEVON (3): Prawle Point 19.10 – 1 male put up from edge of field of winter wheat (JC); CHANNEL ISLANDS (113): Trinity Cottages, Pleinmont, Guernsey, 28.10 (JH<sup>3</sup> per Austin (1995)).

(1): 7+(?); (3): 1; (113); 1.

**Jersey Tiger *Euplagia quadripunctaria* (Poda) [I?/R(t)?/V?]**

DORSET (9): Portland Bird Observatory, 9.8 (MC); [ISLE OF WIGHT (10): Chale Green, 11.8 – 1 ab. *lutescens* (SC); Freshwater, 16.8; 30.8 (now established on the island) (SAKJ); Rocken End, 8 (Knill-Jones 1997a)].

**Scarlet Tiger *Callimorpha dominula* (Linnaeus) [I?/V?]**

WEST SUSSEX (13): Paghham Harbour Visitors Centre, 30.5 – 1 at rest (L. Holloway per CRP).

**NOLIDAE****Kent Black Arches *Meganola albula* ([Denis & Schiffermüller]) [I?/V?]**

Note: Probable immigrant or vagrant examples only.

SOUTH WILTSHIRE (8): Steeple Ashton, 27.7 (EGS & MHS); NORTH LINCOLNSHIRE (54): Gibraltar Point NNR, 15.7 (RJ); 15.7 (K.M.S. Wilson per RJ); Saltfleetby-Theddlephore, 15.7 (JJ & GW per RJ).

**Scarce Black Arches *Nola aerugula* (Hübner) [I]**

EAST SUSSEX (14): Rye Harbour, 12.7 (DF per CRP); EAST KENT (15): Dungeness, 12.7 (KR per SPC); Greatstone, 12.7 (BB per SPC); EAST NORFOLK (27): Winterton Dunes, 11.7 – 2 (JC); SOUTH-EAST YORKSHIRE (61): Spurn, 20.7 (Spence 1996).

**NOCTUIDAE****Spalding's Dart *Agrotis herzogi* Rebel [I]**

WEST CORNWALL (2): Tremayne, 22.11 (Spalding 1997).

**Great Dart *Agrotis crassa* (Hübner) [I]**

WEST CORNWALL (1): St. Mary's, Isles of Scilly, 24.8 (BE per BFS); DORSET (9): Portland Bird Observatory, 27.7; 8.8 (MC); NORTH ESSEX (19): Saffron Walden, 13.8 (J. Reid per BFS).

**Purple Cloud *Actinotia polyodon* (Clerck) [I]**

EAST KENT (15): Littlestone, 24.5 – 1 male (KR per SPC).

**Radford's Flame Shoulder *Ochropleura leucogaster* (Freyer) [I]**

WEST CORNWALL (1): The Lizard, 31.10 (Brown 1996b).

**Great Brocade *Eurois occulta* (Linnaeus) [I/V?]**

NORTH SOMERSET (6): Berrow, 10.8 (BES); EAST SUSSEX (14): Eastbourne, around 22.8 (JP<sup>2</sup> per CRP) (probably refers to the same record as Holywell, end 8 (per DD)); Icklesham, 6.8

(IH per CRP); EAST KENT (15): Chestfield, end 8 (per DD); Sandwich Bay Bird Observatory, 21.8; 26.8 (AJ); Sholden, Deal, 21.8; 23.8 (TB); SURREY (17): South Croydon, 22.8 (GAC); SOUTH ESSEX (18): Bradwell-on-Sea, 22.8 (AJD); 22.8 (SD); Harlow, Parndon Wood, 19.8 (CWP per BG<sup>2</sup>); NORTH ESSEX (19): Ardleigh, 21.8 (I.C. Rose per BG<sup>2</sup>); Dovercourt, 8.8 (MEA); Parndon Wood N.R., 19.8 – 1 female (CWP); HERTFORDSHIRE (20): Balls Park, nr. Enfield, 5.8 (B. Taggart per CWP); Bishops Stortford, 6.8 – 1 female (JR, JF & CWP); Marshall's Heath, 7.8 (J. Murray per CWP); Stansted Abbots, 22.8 – 1 male at sugar (M. Pledger per CWP); BUCKINGHAMSHIRE (24): Stony Stratford, 6.8 (M. Killeby per GEH); SUFFOLK: Locality not given, early 8 (R. Ely per Waring (1995c)); EAST SUFFOLK (25): Minsmere, 22.8 (Kendrick 1996); EAST NORFOLK (27): Scole, 6.8; 8.8; 13.8; 17.8 (MH per DH); Sea Palling, 12.8 (AK per DH); Wheatacre, 21.8 – 2 (RH per DH); Winterton, 4.8 (P. Cawley per DH); 4.8 – 3 (MT per DH); Wroxham, 8.8 (NB<sup>2</sup> per DH); WEST NORFOLK (28): Caston, 21.8 (GH per DH); Emily's Wood, 11.8 – 1 to sugar (BLS); Swanton Novers, 21.8 (MT per DH); NORTHAMPTONSHIRE (32): Locality not given, early 8 (P. & D. Sharpe per Waring (1995c)); EAST GLOUCESTERSHIRE (33): Cheltenham, 6.8 (R. Homan per RG); WARWICKSHIRE (38): Bidford on Avon, 4.8 (R. Cox per DB); Charlecote, 7.8 (DB); Solihull, Birmingham, 6.8 (A. Pollard per DB); NORTH LINCOLNSHIRE (54): Dalby, 6.8 (Mrs M.E. Dawson per RJ); Furzehill, Roughton Moor, 12.8 (JJ per RJ); Loughton, 22.8 (RJ & WJJ); Loughton Forest, 10.8 (RJ & WJJ); Little Cawthorpe, 5.8 (GW); Messingham Sand Quarry, 17.8 (RJ & WJJ); Muckton, 19.8 – 2 (GW); LEICESTERSHIRE (55): Preston, 8.8 (P. Willson per Russell (1996)); Ullesthorpe, 5.8; 6.8 (C.A. Stace per Russell (1996)); NOTTINGHAMSHIRE (56): Bunny Village, 8.8 (MM per SW); Burton Joyce, Nottingham, 5.8 (G. Joyce per DB); Colwick Country Park, 6.8 (M. Dennis per SW); Misson Bombing Range, 19.8 – 2 (K. Cooper, J. Parkes & SW per SW); Wollaton Park, Nottingham, 7.8; 24.8; 19.9 (SW); DERBYSHIRE (57): Matlock, undated (BLS); SOUTH-EAST YORKSHIRE (61): Allerthorpe Common, 3.8; 4.8 (BE per BFS); MID-WEST YORKSHIRE (64): Malham Tarn, 5.8 – 9; 6.8 – 3; 7.8 – 4; 8.8 – 2; 9.8 – 5 (DB); WESTMORLAND (69): South Walney Reserve, 6.8; 7.8 (Makin 1996); DUMFRIESSHIRE (72): Connansknowe, Kirkton, 23.8 (RM & BM); ORKNEY ISLANDS (111): Echna View, Burray, 1.8 (T. Dean per Gauld (1996)); Holland Farm, North Ronaldsay, 6.8; 15.9 (M. Gray per Gauld (1996)); SHETLAND ISLANDS (112): Eswick, 9.9 (TDR per MGP).  
 Summary: (6): 1; (14): 2; (15): 5; (17): 1; (18): 3; (19): 3; (20): 4; (24): 1; Suffolk: 1; (25): 1; (27): 12; (28): 3; (32): 1; (33): 1; (38): 3; (54): 8; (55): 3; (56): 8; (57): 1; (61): 2; (64): 23; (69): 2; (72): 1; (111): 3; (112): 1.

#### **White Point *Mythimna albipuncta* ([Denis & Schiffermüller]) [I]**

WEST CORNWALL (1): St. Agnes, Isles of Scilly, 5.8 (Hale & Hicks 1995); 10.8 (JH & MH<sup>2</sup>); The Lizard, 11.10 – 2; 12.10; 14.10; 15.10 (Brown 1996b); 31.10 (DB); SOUTH DEVON (3): Prawle Point, 10.10 (RMc); DORSET (9): Durlston, 24.10 (DB & AK); Freshwater Bay, Portland, 5.8 (JEC, JMS & R. Cook); 14.10 – 2 (MSP & APF); Locality not given, between 14.8 to 22.8 – 1+ (per PD); Portland Bird Observatory, 11 to 21.10 – 4 (MC); ISLE OF WIGHT (10): Bonchurch, 7.7 (JH<sup>2</sup> per BFS); Chale Green, 13.8; 1.9; 3.9 (SC); Freshwater, 5.7; 27.7 (SAKJ); SOUTH HAMPSHIRE (11): Beaulieu, 16.6 (BIJ per BG); Sandy Point, Hayling Island, 13.7; 14.7; 15.7; 16.7; 17.7 (per BG); WEST SUSSEX (13): Walberton, 3.6; 26.10 (JTR per CRP); EAST SUSSEX (14): Loughton, 14.7 (R. Fitton per CRP); Peacehaven, 7.9 (CRP); Rye Harbour, 14.7; 25.8 (DF per CRP); EAST KENT (15): Dungeness, 26.8; 13.9 (KR per SPC); Littlestone, 18.7; 19.7; 25.8; 26.8; 7.9 (KR per SPC); Lydd, 19.7 – 2 (KR per SPC); Lydd-on-Sea, 12.10 (SPC); New Romney, 10.9; 13.9; 18.9 (KR per SPC); Sandwich Bay Bird Observatory, 29.6; 3.9 (AJ); SURREY (17): Buckland, Betchworth, 16.8 (CH); SOUTH ESSEX (18): Bradwell-on-Sea, 13.8 – 2 males; 20.8 – 1 female; 8.10 – 1 female; 10.10 – 1 female (AJD); 2.7 – 1 female (SD); NORTH ESSEX (19): 27.7 (B. Lock per BG<sup>2</sup>); EAST SUFFOLK (25): 1.8 (AEA); EAST NORFOLK (27): Wroxham, 3.8 (NB<sup>2</sup> per DH); WEST NORFOLK (28): Docking, 13.8 (R. Skeen per Hipperson (1996)); BEDFORDSHIRE (30): Cockayne Hartley, 3.8 (Woiwod & Manning 1996); CHANNEL ISLANDS (113): Guernsey, four sites (exact localities not given), 2.9 to 3.11, at least 10 (Austin 1995).  
 Summary: (1): 8; (3): 1; (9): 9+; (10): 6; (11): 6; (13): 2; (14): 4; (15): 15; (17): 1; (18): 6; (19): 1; (25): 1; (27): 1; (28): 1; (30): 1; (113): c.10.

**Delicate *Mythimna vitellina* (Hübner) [I]**

WEST CORNWALL (1): Coverack, The Lizard, 18.9; 20.9 – 2; 21.9 – 2; 22.9 – 2 (DB); near Porthloo beach, St. Mary's, Isles of Scilly, between 9 to 15.10 – 24 (Turley 1996); St. Agnes, Isles of Scilly, 31.5; 15.6; 28.6 – 1 by day; 30.8; 5.9; 8.9 – 2; 11.9 – 2; 16.9 – 3; 20.9; 21.9 – 3; 22.9; 25.9 – 2; 28.9 – 2; 4.10; 8.10; 12.10; 13.10 – 2 (JH & MH<sup>2</sup>); The Lizard, 9.10; 10.10; 11.10 – 2; 12.10; 13.10; 14.10 – 3; 15.10 – 2; 16.10; 17.10 – 2; 18.10 – 2 (Brown 1996b); 30.10 (DB); 31.10 (Brown 1996b) (between 18.9 to 31.12 – a total of 33 (Tunmore 1996a)); Troy Town, St. Agnes, Isles of Scilly, 18.10 (JPM); SOUTH DEVON (3): Abbotskerswell, 30.9; 3.11 (BH); DORSET (9): Abbotsbury, 11.10 (Foster 1996a); Durlston, 23.10; 24.10 (DB & AK); Durlston Country Park, 2.9; 14.10 – 2; 24.10; 25.10 (RP); Durlston Head, 14.10 – 2 (DD<sup>2</sup>); 14.10 (RMc); Portland Bird Observatory, 9.6 to 28.10 – 19 (with a peak of 3 on 7.10 and 9.10) (MC); ISLE OF WIGHT (10): Binstead, 8.10 (BJW); Bonchurch, 6.7; 7.7; 3.9 (JH<sup>2</sup> per BFS); 8.10 (BJW per BG) (a possible duplication of the Binstead record); Chale Green, 2.9; 8.9; 19.9; 21.9; 27.9; 2.10 (SC); Cranmore, 14.10 – 2; 18.10; 19.10 – 2; 24.10; 27.10 (SAKJ); Freshwater, 6.10; 7.10; 12.10 (SAKJ); SOUTH HAMPSHIRE (11): Beaulieu, 17.10; 18.10 (BIJ per BG); Kings Somborne, 18.10; 20.10 (TJN per BG); Needs Ore, 11.10 – 2 (BG); NORTH HAMPSHIRE (12): Selborne, 19.9; 14.10 (AEA); WEST SUSSEX (13): Atherington, 26.10 – 1 to ivy blossom (MSP); Climping, 29.10 (BFS & MSP); Ebernoe Common, 16.10 (SC<sup>2</sup> per CRP); Walberton, 1.6; 30.9; 6.10; 15.10; 24.10; 25.10; 26.10 (JTR per CRP); EAST SUSSEX (14): Peacehaven, 18.9; 9.10 (CRP); Rye Harbour, 21.9 (DF per CRP); EAST KENT (15): Dungeness, 14.10 (BFS); 10.9; 7.10; 9.10; 13.10 (DW per SPC); 13.9 – 2; 14.9 – 3; 6.10; 7.10; 8.10; 9.10; 14.10; 29.10; 10.11 (KR per SPC); 11.9; 14.9; 22.9; 30.9; 2.10 (SPC); Greatstone, 12 to 28.10 – 5 (BB per SPC); Littlestone, 17.10; 26.10 (KR per SPC); Lydd, 16.9; 10.10; 11.10 – 2 (KR per SPC); Lydd-on-Sea, 8.10 (SPC); New Romney, 17.9; 18.9; 23.9; 11.10; 13.10; 27.10 (KR per SPC); Sandwich Bay Bird Observatory, 23.9; 15.10 (AJ); SOUTH ESSEX (18): Bradwell-on-Sea, 14.10; 26.10 (AJD); 16.10 (SD); OXFORDSHIRE (23): Long Wittenham, Abingdon, 8.10 (DO); CHANNEL ISLANDS (113): Guernsey, four sites (exact localities not given), 10.6 to 28.10 – at least 14; La Broderie, St. Peter's, Guernsey, exact date not given – several (PC per Austin (1995)); Le Chêne, Guernsey, 10 – 3 (TNDP per Austin (1995)).  
Summary: (1): 85; (3): 2; (9): 30; (10): 20 (or 21); (11): 6; (12): 2; (13): 10; (14): 3; (15): 42; (18): 3; (23): 1; (113): 18+.

**[L-album Wainscot *Mythimna l-album* (Linnaeus) [R?]**

Note: Records from outside Sussex to Cornwall and not including the Channel Islands. Probably now resident on the Kent coast.

EAST KENT (15): Dungeness, 14.10 (BFS); Dymchurch, 7 – 3; 9 – 100's (9 seen on a single night); 14.10 (JO); Sandwich Bay Bird Observatory, 20.9; 21.9; 23.9; 6.10 (AJ); Sholden, Deal, 4.7; 2.10; 10.10 (TB).]

**White-speck *Mythimna unipuncta* (Haworth) [I]**

WEST CORNWALL (1): Church Cove, The Lizard, 14.11; 15.11; 21.11; 23.11; 27.11; 2.12; 19.12; 22.12 (MT); Loe Pool, Penrose, between 18.9 to 31.12 – 3 (RH<sup>2</sup> per Tunmore (1996a)); near Porthloo beach, St. Mary's, Isles of Scilly, between 9 to 15.10 – 18 (Turley 1996); St. Agnes, Isles of Scilly, 30.3; 15.6; 3.8; 18.8; 19.8; 4.9; 16.9; 30.9; 6.10; 11.10; 12.10 – 1 by day; 12.10 – 3; 15.10; 17.18 – 3; 20.10; 21.10 – 2; 26.10 – 2; 30.10 – 3; 1.11 – 3; 7.11 – 2; 21.11 – 3 (JH & MH<sup>2</sup>); 9.10; 11.10 (AP & JP); The Lizard, 14.10 (Brown 1996b); 26.10 – 4 (Tunmore 1996a); 30.10 (DB); 31.10 – 2 (Brown 1996b); 8.11; (MT per DB) (between 18.9 to 31.12 – a total of 26 (Tunmore 1996a)); SOUTH DEVON (3): Dunsford, 10.10 (J. & J. Woodland); Teignmouth, 29.9 (RMc); DORSET (9): Portland Bird Observatory, 15.9 to 21.12 – 7 (MC); West Bexington, around 30.11 (per PD); ISLE OF WIGHT (10): Chale Green, 27.9 (SC); Freshwater, 17.9 (SAKJ); EAST KENT (15): Dungeness, 12.9 (SPC); Lydd-on-Sea, 19.10 (SPC); CHANNEL ISLANDS (113): L'Ancrese, Guernsey, 7.10 (Austin 1995); Trinity Cottages, Pleinmont, Guernsey, 17.12 (JH<sup>3</sup> per Austin (1995)).

Summary: (1): 80; (3): 2; (9): 8; (10): 2; (15): 2; (113): 2.

**The Cosmopolitan *Mythimna loreyi* (Duponchel) [I]**

WEST CORNWALL (1): Loe Pool, Penrose, between 18.9 to 31.12 – 7 (RH<sup>2</sup> per Tunmore (1996a); St. Agnes, Isles of Scilly, 10.8 (Hale & Hicks 1995); 10.10; 18.10 – 2; 20.10; 21.10; 7.11 (JH & MH<sup>2</sup>); The Lizard, 9.10; 10.10; 11.10; 14.10; 17.10 – 2 (Brown 1996b); 26.10 – 2 (Tunmore 1996a); 30.10 – 2 (DB); 31.10 (Brown 1996b) (between 18.9 to 31.12 – a total of 23 (Tunmore 1996a)); Troy Town, St. Agnes, Isles of Scilly, 18.10 (JPM); SOUTH DEVON (3): Prawle Point, 10.10 (RMC); DORSET (9): Durlston, 26.10 (AK per DB); Durlston Country Park, 13.10 (RP); Portland Bird Observatory, 15.10 to 8.11 – 12 (with a peak of 4 on 27.10) (MC); ISLE OF WIGHT (10): Freshwater, 28.10 (SAKJ); SOUTH HAMPSHIRE (11): Solent Court, 8.6 (PMP per Waring (1995b)); WEST SUSSEX (13): Walberton, 26.10 (JTR per CRP); CHANNEL ISLANDS (113): Vaux de Monel, Guernsey, 8.9 (Austin 1995).

Summary: (1): 31; (3): 1; (9): 14; (10): 1; (11): 1; (13): 1; (113): 1.

**Golden-rod Brindle *Lithomoia solidaginis* (Hübner) [I]**

NORTH LINCOLNSHIRE (54): Far Ings Reserve, 25.8 (A.T. McGowan per RJ); Gibraltar Point NNR, 19.8 (Wilson 1996).

**Red Sword-grass *Xylena vetusta* (Hübner) [I]**

ISLE OF WIGHT (10): Chale Green, 14.4 (SC per Knill-Jones (1997a)).

**Sword-grass *Xylena exsoleta* (Linnaeus) [I]**

DORSET (9): Portland Bird Observatory, 3.12 (MC per BFS).

**Flame Brocade *Trigonophora flammea* (Esper) [I]**

DORSET (9): Freshwater Bay, Portland, 14.10 (APF & MSP); Portland Bird Observatory, 28.10 (MC); ISLE OF WIGHT (10): Freshwater, 18.10 (SAKJ, see also Knill-Jones (1997b)); SOUTH HAMPSHIRE (11): Highcliffe, 27.10 (R.A. Chapman per BG); EAST KENT (15): Littlestone, 25.10 – 1 male (KR per SPC).

**Red-headed Chestnut *Conistra erythrocephala* ([Denis & Schiffermüller]) [I]**

EAST KENT (15): Beltinge, 15.11 (B. Matlock per T.W. Harman per BFS).

**[Oak Rustic *Dryobota labecula* (Esper) [R(i)?]**

CHANNEL ISLANDS (113): Jersey, 25.10; 27 to 29.10; 30.10 (Riley, 1998); Les Sages, Guernsey, 21.10; 22.10 – 4 (Burrow 1996a); Trinity Cottages, Pleinmont, Guernsey, 27.10; 31.10 (JH<sup>3</sup> per Austin (1995); Pleinmont, Guernsey, 13.10; 28.10 (Burrow 1996a).]

Burrow (1996a) covers the history of this species on the Channel Islands.

**Scarce Dagger *Acronicta auricoma* ([Denis & Schiffermüller]) [I]**

CHANNEL ISLANDS (113): St. Martin's, Guernsey, 31.5 (Ms W. Angel per Austin (1995)).

**Tree-lichen Beauty *Cryphia algae* (Fabricius) [I]**

DORSET (9): Weymouth, 10.8 (PHS); SOUTH HAMPSHIRE (11): Warsash, 2.8 (PMP per BFS); Southsea, 26.7 (JRL per BFS); WEST SUSSEX (13): Walberton, 1.8 (JTR per CRP); EAST KENT (15): Dungeness, 19.7 – 1 male (DW per SPC); 1.8 – 1 male (KR per SPC); CHANNEL ISLANDS (113): Gorey, Jersey, 28.7 (Burrow 1996b).

Burrow (1996b) summarises the records of this species in the British Isles.

**The Orache *Trachea atriplicis* (Linnaeus) [I]**

SOUTH HAMPSHIRE (11): Christchurch, 31.7 (Jeffes 1996); HERTFORDSHIRE (20): Bishops Stortford, 10.8 (JR & JF per CWP); CHESHIRE (58): Irby, 15.7 (T. Paxton per A. Creaser, also reported in Creaser (1996)).

**The Latin *Callopietria juvenina* (Stoll) [I]**

CHANNEL ISLANDS (113): La Broderie, St. Peter's, Guernsey, 29.7 (PC per Austin (1995), also reported in Costen (1996)).

**Angle-striped Sallow *Enargia paleacea* (Esper) [I]**

NORTH ABERDEENSHIRE (93): Newburgh, 2.8 (migratory colour form) (MRY).

**Mere Wainscot *Chortodes fluxa* [I?/V?]**

DORSET (9): West Bexington, 10.7 (per PD); NORTH ESSEX (19): St Osyth, 15.7 (RWA per BG<sup>2</sup>); SOUTH-EAST YORKSHIRE (61): Spurn, 27.7 (Spence 1996).

**Small Mottled Willow *Spodoptera exigua* (Hübner) [I]**

WEST CORNWALL (1): Church Cove, The Lizard, 22.11 (Tunmore 1996a); near Porthloo beach, St. Mary's, Isles of Scilly, between 9 to 15.10 – 2 (Turley 1996); St. Agnes, Isles of Scilly, 20.6; 20.7; 27.7; 29.7 – 3; 31.7; 3.8; 5.8; 18.8 – 2; 26.8 – 2; 11.9; 20.9; 9.10 – 5; 10.10; 11.10 – 6; 12.10; 14.10; 17.10 – 22; 18.10 – 33; 19.10 – 2; 20.10 – 4; 21.10 – 2; 21.11 (JH & MH<sup>2</sup>); The Lizard, 9.10 – 4; 11.10; 14.10 – 12; 15.10 – 5; 16.10 – 2; 17.10 – 5; 18.10 – 4 (Brown 1996b); Troy Town, St. Agnes, Isles of Scilly, 16.10; 18.10; 19.10; 20.10 – 2 (JPM); EAST CORNWALL (2): Widemouth Bay, 27.8 – 4 (DW<sup>3</sup>); SOUTH DEVON (3): Prawle Point, 10.10 (RMc); DORSET (9): Durlston Country Park, 2.9; 23.9; 24.9; 25.9 (RP); Durlston Head, 23.10 (RMc); Portland, 15.10 (Hall 1996); Portland Bird Observatory, 19.6 to 29.10 – 15 (with a peak of 4 on 20.10) (MC); West Bexington, 15.5 (per PD); Woolgarston, 20.7 (per PD); ISLE OF WIGHT (10): Binstead, 29.6; 6.8; 9.9 (BJW); SOUTH HAMPSHIRE (11): Beaulieu, 24.8 to 8.11 – 5 (BIJ per BG); Gosport, 19.8 (DW<sup>2</sup> per BG); Needs Ore Point, 19.10 (BG); Sparsholt, 18.7 (RAB); WEST SUSSEX (13): Woods Mill, Henfield, 25.9 (SC<sup>2</sup> per CRP); EAST SUSSEX (14): Icklesham, 16.8 (IH per CRP); Peacehaven, 28.7 (CRP); EAST KENT (15): Dymchurch, 8 – c.150 (JO); Greatstone, 24.8 (BB per SPC); Littlestone, 24.8 (KR per SPC); Sandwich Bay Bird Observatory, 17.7 (AJ); SURREY (17): Banstead, 10.10 (S. Gale per Plant (1997)); Milford, 31.7 (DB<sup>2</sup>); SOUTH ESSEX (18): Bradwell-on-Sea, 21.7; 20.8; 17.9 (AJD); 20.6; 13.7; 23.7; 31.7; 7.9 (SD); WEST NORFOLK (27): Holme-Lark Rise, 19.7 – 1 male (JC); NORTH LINCOLNSHIRE (54): Furzehill, Roughton Moor, 26.8 (JJ per RJ); LEICESTERSHIRE (55): Birstall, 21.9 (Ms J.R. McPhail per Russell (1996)); Kirby Muxloe, 9; 10 (Mrs J.R. McPhail per Russell (1996)); NOTTINGHAMSHIRE (56): Wollaton Park, Nottingham, 23.8 (SW); SOUTH-EAST YORKSHIRE (61): Spurn, 1.9 (Spence 1996); ISLE OF MAN (71): Dhoon Maughold, 15.10 (LK per GDC); CHANNEL ISLANDS (113): Trinity Cottages, Pleinmont, Guernsey, 15.10 (JH<sup>3</sup> per Austin (1995)).

Summary: (1): 133; (2): 4; (3): 1; (9): 23; (10): 3; (11): 8; (13): 1; (14): 2; (15): c.153; (17): 2; (18): 8; (27): 1; (54): 1; (55): 3+; (56): 1; (61): 1; (71): 1; (113): 1.

**Dark Mottled Willow *Spodoptera ciliium* (Guenée) [I]**

WEST CORNWALL (1): Coverack, The Lizard, 8.10 (DB, also reported in Brown (1996b)); Coverack, The Lizard, 13.10 (DB, also reported in Brown (1996b)); Perrancombe, 12.10 (FHNS per BFS); DORSET (9): Portland Bird Observatory, 9.10 – 2 (MC); Stoborough, 13.10 (BW per BFS); West Bexington, 14.10 (RE per PD & PHS).

**Scarce Bordered Straw *Helicoverpa armigera* (Hübner) [I/E]**

WEST CORNWALL (1): near Porthloo beach, St. Mary's, Isles of Scilly, between 9 to 15.10 – 3 (Turley 1996); St. Agnes, 12.10 (AP & JP); The Lizard, 11.10 – 2; 13.10; 14.10; 16.10; 17.10 (Brown 1996b) (between 18.9 to 31.12 – a total of 7 (Tunmore 1996a)); EAST CORNWALL (2): Widemouth Bay, 27.8 (DW<sup>3</sup>); SOUTH DEVON (3): Abbotskerswell, 13.10 (BH); Prawle Point, 10.10 (RMc); SOUTH WILTSHIRE (8): Steeple Ashton, 15.10 (EGS & MHS); DORSET (9): Durlston, 23.10 (DB & AK); 26.10 (AK per DB); Durlston Country Park, 12.10 – 2; 14.10; 17.10; 24.10; 26.10 – 2; 27.10 (RP); Durlston Head, 14.10 – 3 (DD<sup>2</sup>); 14.10 (RMc); Freshwater Bay, Portland, 14.10 (MSP & APF); Portland Bird Observatory, 11.9 to 8.11 – 14 (MC); West Bexington, 15.9 (per PD); ISLE OF WIGHT (10): Binstead, 11.9; 12.10 – 3; 14.10 – 2; 15.10; 17.10 – 2; 27.10 – 2 (BJW); Chale Green, 19.9 (SC); Cranmore, 12.10 (SAKJ); [Freshwater, 1.2 – larva on imported tomatoes (SAKJ)]; SOUTH HAMPSHIRE (11): Allbrook, undated (M. Laux per BG); Sandy Point, Hayling Island, (per BG); Southsea, 11.10; 14.10 (JRL per BG); Sparsholt,

15.10 – 1 male and 1 female; 21.10 – 1 female (RAB); Woolston, 11.10 (ARC per BG); WEST SUSSEX (13): Walberton, 25.10 (JTR per CRP); EAST SUSSEX (14): Peacehaven, 11.9 – 2; 15.9; 12.10; 21.10 (CRP); EAST KENT (15): Dungeness, 14.10 (BFS); 14.10 (DW per SPC); 11.10; 12.10 (KR per SPC); 14.10 (SPC); Greatstone, 16.8; 14.10; 26.10 (BB per SPC); 20.9 (SPC); Lydd, 11.10 (KR per SPC); Lydd-on-Sea, 16.10 (SPC); New Romney, 23.9; 18.10 (KR per SPC); Sandwich Bay Bird Observatory, 9.9; 21.9; 13.10; 15.10; 17.10 (AJ); Sholden, Deal, 7.9; 11.9 (TB); SURREY (17): Banstead, 15.10 (S. Gale per Plant (1997)); Lingfield, 12.10 – 1 male (JC); SOUTH ESSEX (18): Bradwell-on-Sea, 15.10 (AJD); 17.10 (SD); NORTH ESSEX (19): Dovercourt, 18.10; 22.10; 25.10; 26.10 (MEA); OXFORDSHIRE (23): Long Wittenham, Abingdon, 14.10 (DO); EAST SUFFOLK (25): Languard, 13.10 (Odin 1996); NORFOLK: Magdalen, 20.9 (may refer to *H. peltigera*) (CS per DH); EAST NORFOLK (27): Wheatacre, 12.10 (may refer to *H. peltigera*) (RH per DH); NORTH LINCOLNSHIRE (54): Muckton, 4.10 (GW); [LEICESTERSHIRE (55): Wigston, 6 – larva imported (M. Paul per Russell (1996))]; ISLE OF MAN (71): Dhoon Maughold, 18.9 (LK per GDC); CHANNEL ISLANDS (113): Jersey, 20 to 22.10 – 1 (Riley, 1998); La Broderie, St Peter's, Guernsey, 13.10 – 2 (PC per Austin (1995)); La Carriere, Guernsey, 19.9 (GH<sup>2</sup> & FH per Austin (1995)); L'Ancrese, Guernsey, 29.10 (Austin 1995); Le Chêne, Guernsey, 10.10 – 3; undated – 1 (TNDP per Austin (1995)).

Summary: (1): 12; (2): 1; (3): 2; (8): 1; (13): 1; (14): 5; (15): 20; (17): 2; (18): 2; (19): 4; (23): 1; (25): 1; (27): 1?; Norfolk: 1?; (54): 1; (71): 1; (113): 9.

#### **Marbled Clover *Heliothis viroplaca* (Hufnagel) [I?/V?]**

SOUTH WILTSHIRE (8): Harnham Lines, Warminster, 27.7 (EGS & MHS); DORSET (9): Melbury Down, 9.8 (per PD); SOUTH HAMPSHIRE (11): Wood Crates, New Forest, 19.10 (JEC & JMS); OXFORDSHIRE (23): Long Wittenham, Abingdon, 17.8 (DO); WEST NORFOLK (28): Terrington, 27.7 (RW per DH); CAMBRIDGESHIRE (29): Cambridge, 2.8; 5.8 (RJR).

#### **Bordered Straw *Heliothis peltigera* ([Denis & Schiffermüller]) [I]**

WEST CORNWALL (1): Looe Bar, undated – 2 (DW<sup>3</sup>); St. Agnes, Isles of Scilly, 5.2 – 1 by day; 20.5; 27.7 – 2 (JH & MH<sup>2</sup>); 5.8 (Hale & Hicks 1995); The Lizard, 18.10 (Brown 1996b); EAST CORNWALL (2): Widemouth Bay, 27.8 – 3 (DW<sup>3</sup>); DORSET (9): Locality not given, between 14.8 & 22.8 – 1+ (per PD); Portland Bird Observatory, 22.9 (MC); SOUTH HAMPSHIRE (11): Southampton, 25.3 – 1 dead in a window PAB per BG); Sandy Point, Hayling Island, 24.6 (per BG); NORTH HAMPSHIRE (12): Selborne, 21.7 (AEA); EAST SUSSEX (14): Rye Harbour, 16.6; 19.8 (DF per CRP); 31.7; 3.8 (K. Palmer per CRP); EAST KENT (15): Denge Beach, 9.9 – c.20 larvae on sticky groundsel (JEC & JMS); Dungeness, 13.7 (BFS); 10.7 – 2 (DW per SPC); 1.8 (KR per SPC); 11.10 (SPC); SURREY (17): Buckland, Betchworth, 30.7 (CH, see also Plant (1997)); EAST SUFFOLK (25): Languard, 5.6 to 6.7 – 5 (Odin 1996); EAST GLOUCESTERSHIRE (33): Gloucester, 5.7 (GA per RG).

Summary: (1): 8; (2): 3; (9): 2+; (11): 2; (12): 1; (14): 4; (15): 5 (+c.20 larvae); (17): 1; (25): 5; (33): 1.

#### **Spotted Clover *Schinia scutosa* ([Denis & Schiffermüller]) [I]**

CAMBRIDGESHIRE (29): Cambridge, 2.8 (RJR).

#### **Purple Marbled *Eublemma ostrina* (Hübner) [I]**

WEST CORNWALL (1): Coverack, The Lizard, 11.10; 15.10 – 2 (DB, also reported in Brown (1996b)); Perranporth, 12.10 (FHNS); near Porthloo beach, St. Mary's, Isles of Scilly, between 9 to 15.10 – 2 (Turley 1996); St. Agnes, Isles of Scilly, 10.10; 14.10; 17.10; 18.10 – 2 (JH & MH<sup>2</sup>) (erroneously reported as 6 by Waring (1995d)); The Lizard, 18.10 (Brown 1996b); EAST CORNWALL (2): Tremayne, 3.11 (A. Spalding per BFS); DORSET (9): Durlston Country Park, 13.10 (RP per BFS); Portland Bird Observatory, 20.10 (MC); SOUTH HAMPSHIRE (11): Beaulieu, 15.10 (BIJ per BG per BFS); WEST SUSSEX (13): Walberton, 21.10 (JTR per CRP).

Summary: (1): 12; (2): 1; (9): 2; (11): 1; (13): 1.

**Small Marbled *Eublemma parva* (Hübner) [I]**

WEST CORNWALL (1): Coverack, The Lizard, 9.10 (DB, also reported in Brown (1996b)); Coverack, The Lizard, 15.10 – 2; 17.10 (DB, also reported in Brown (1996b)); Perranporth, 30.10 (FHNS); near Porthloo beach, St. Mary's, Isles of Scilly, between 9 to 15.10 – 2 (Turley, 1996); St. Agnes, Isles of Scilly, 5.8; 15.10; 17.10 – 4 (JH & MH<sup>2</sup>); St. Mary's, Isles of Scilly, 18.10 (per DD); Troy Town, St. Agnes, 18.10 (JPM); EAST CORNWALL (2): Shevioc, 15.10 (S.C. Madge per FNHS); DORSET (9): Durlston, 13.10 (per PD); Portland, 15.10 (N. Hall per BFS); EAST KENT (15): Dungeness, 28.7 – 1 female (DW per SPC); Greatstone, 31.7 – 1 female (BB per SPC); GLAMORGAN (41): Gorseinon, 11.10 (B. Stewart & S. Turner per Waring (1995d)).  
Summary: (1): 15; (2): 1; (9): 2; (15): 2; (41): 1.

**Silver Barred *Deltote bankiana* (Fabricius) [I?/V?]**

EAST KENT (15): Sandwich Bay Bird Observatory, 4.7 (AJ); Sholden, Deal, 28.6; 16.7 (TB); EAST NORFOLK (27): Sheringham, 8.7 (P. Geary & CS per DH).

**Pale Shoulder *Acontia lucida* (Hufnagel) [I]**

WEST CORNWALL (1): Isles of Scilly, St. Agnes, 10.8 (Hale & Hicks 1995); CHANNEL ISLANDS (113): Les Quennevais, St. Brelade, Jersey, 28.7 (Burrow 1996b).

**Golden Twin-spot *Chrysodeixis chalcites* (Esper) [I]**

WEST CORNWALL (1): Coverack, The Lizard, 26.10 (Tunmore 1996a); DORSET (9): West Bexington, 10.10 (RE per PD & PHS); WEST SUSSEX (13): Climping, 26.10 – 1 to ivy blossom (MSP); 29.10 (BFS & MSP); 13.11 (BFS); Littlehampton, 25.8 (Mrs R. Pratt per CRP); Walberton, 17.7 (JTR per CRP); West Wittering, 11.8 – 1 fertile female at rest on the post-office window (DW<sup>3</sup> per CRP); EAST SUSSEX (14): Peacehaven, 20.9 (CRP); EAST KENT (15): Dungeness, 29.10 – 1 male (SPC); Lydd-on-Sea, 1.11 – 1 male (SPC); Sholden, Deal, 22.8 (TB).  
Summary: (1): 1; (9): 1; (13): 6; (14): 1; (15): 3.

**Tunbridge Wells Gem *Chrysodeixis acuta* (Walker) [I]**

WEST CORNWALL (1): Church Cove, The Lizard, 14.10 (Brown 1996a); 26.10 (Tunmore 1996a); DORSET (9): Durlston, 26.10 – 2 (PD per BFS); West Bexington, 26.10 (RE per BFS); ISLE OF WIGHT (10): Binstead, 27.10 (BJW, see also Knill-Jones (1997b)).

**The Ni Moth *Trichoplusia ni* (Hübner) [I]**

WEST CORNWALL (1): Coverack, The Lizard, 14.10 (DB, also reported in Brown (1996a & b)); EAST CORNWALL (2): Widemouth Bay, 27.8 (DW<sup>3</sup>); DORSET (9): Portland Bird Observatory, 9.10 (MC).

**Streaked Plusia *Trichoplusia vittata* (Wallengren) [I]**

EAST SUSSEX (14): Rye Harbour, 31.7 – 1 male (DF per SPC, see also Clancy & Honey (1997b)).

**Dewick's Plusia *Macdunnoughia confusa* (Stephens) [I]**

SOUTH DEVON (3): Plymouth Crabtree, 10.8 (RMc); HERTFORDSHIRE (20): Bishops Stortford, 30.8 – 1 male (JR, JF & CWP).

**Scarce Silver Y *Syngrapha interrogationis* (Linnaeus) [I]**

SOUTH HAMPSHIRE (11): Woolston, 10.8 (ARC per BG); EAST NORFOLK (27): East Ruston, 5.8 (KS per DH); WEST NORFOLK (28): Caston, 6.8 (GH per DH); WARWICKSHIRE (38): Stratford-upon-Avon, 4.8 (R. Bliss per DB); NOTTINGHAMSHIRE (56): Bunny Village, 2.8 (MM per SW).

**Clifden Nonpareil *Catocala fraxini* (Linnaeus) [I]**

SOUTH HAMPSHIRE (11): Christchurch, 12.10 (MJ per BG); EAST NORFOLK (27): Wroxham, 3.9 (NB<sup>3</sup> per DH); SOUTH-EAST YORKSHIRE (61): Rudston, 19.9 (A.S. Ezard per BFS); NORTH-EAST YORKSHIRE (62): Redcar, 5.9 – 1 found in a garage (K. Bibby per

C. Lowe per Waring (1995d): NORTH NORTHUMBERLAND (68): Inner Farne, Farne Islands, 3.9 – flying by day (A. Chain per Waring (1995d), also reported in Dennis (1996)); 12.9 (Waring 1995d)); FIFE (85): Fife Ness Muir, 3.9 (Mrs A.-M. Smout); NORTH ABERDEENSHIRE (93): Oldmeldrum, 9.9 (MRY); BANFFSHIRE (94): Ordiquhill, Cornhill, 10.9 – 1 male similar to *ab. moerens* (RL<sup>2</sup>); CAITHNESS (109): Dunnet Head, 10.9 – in a mist net (Gauld 1996); Noss Head, Wick, 10.9 (per A.M. Riley) (possibly same as previous record); ORKNEY ISLANDS (111): Braeburn, Twatt, 9.9 (M. Anderson per Gauld (1996)); Craigiefield, St Ola, 8.9 (Gauld 1996); Hackland, Sandwick, 9.9 (M. Brown per Gauld (1996)); SHETLAND ISLANDS (112): Eswick, 9.9 (TDR per MGP); 10.9 (Anon 1996) (probably the same record); ADDITIONAL RECORD: Beryl Field Platform, east of Fair Isle, 18.9 (MRY).

Summary: (11): 1; (27): 1; (61): 1; (62): 1; (68): 2; (85): 1; (93): 1; (94): 1; (109): 1(or 2); (111): 3; (112): 1; Additional record: 1.

**Waved Black *Parascotia fuliginaria* (Linnaeus) [I?/V?]**

EAST SUFFOLK (25): Languard, 29.7 (Odin 1996).

**Bloxworth Snout *Hypena obsitalis* (Hübner) [I?/V?]**

WEST CORNWALL (1): St. Agnes, Isles of Scilly, 10.10 – 1 to sugar (JH & MH<sup>2</sup>); SOUTH HAMPSHIRE (11): Christchurch, 2.5 (Jeffes 1995).

**Plumed Fan-foot *Pechipogo plumigeralis* (Hübner) [I]**

EAST KENT (15): Greatstone, 12.10 – 1 female (BB per SPC, see also Clancy & Honey (1997a)).

## ANNEXE 2: SELECTED RECORDS OF “COMMONER” SPECIES

This annexe gives a brief summary of the abundance, along with the earliest and latest date(s), of the more frequent immigrant species which are not covered in Annexe 1.

### YPONOMEUTIDAE

***Plutella xylostella* (Linnaeus)**

A comparatively good year, occasionally seen in very large numbers. Over the year, a total of 11,168 were recorded at Portland Bird Observatory, Dorset (9) (MC) and 617 were recorded at Peacehaven, East Sussex (14) (CRP).

Earliest date: ISLE OF MAN (71), Dhoon Maughold, 14.3 – 2 (L. Kneal per GDC).

Latest date: DORSET (9): Portland Bird Observatory, 21.12 (MC).

Other significant records: WEST CORNWALL (1): St. Agnes, Isles of Scilly, 26.6 – 25; 28.6 – 50; 29.6 – 30; 30.6 – 100; 3.7 – 27; 5.7 – 50; 27.7 – 140; 29.7 – 60; 31.7 – 50; 3.8 – 50; 5.8 – 550; 10.8 – 80; 12.8 – 50; 14.8 – 80; 15.8 – 40; 18.8 – 50; 19.8 – 40; 21.8 – 40; 22.9 – 21 (JH & MH<sup>2</sup>); NORTH SOMERSET (6): Berrow, 4.8 – 86 (BES); DORSET (9): Portland Bird Observatory, 1.8 – 5,500 (MC); EAST SUSSEX (14): Peacehaven, 30.6 – 63; 29.7 – 56; 31.7 – 72 (CRP); EAST KENT (15): Sandwich Bay Bird Observatory, 28.6 – 332; 26.7 – 122; 3.8 – 400; 7.8 – 103; 10.8 – 121; a total of 1,782 recorded for the year (AJ); EAST SUFFOLK (25): Languard, 31.7 – 455; 1.8 – 311; 4.8 – 402 (RCK per BFS); EAST NORFOLK (27): Winterton Dunes, 11.7 – “abundant” (JC); WEST NORFOLK (28): Holme, 20.7 – “abundant” (JC); SOUTH-EAST YORKSHIRE (61): Spurn, 11.7 – 98; 30.7 – 62; 2.8 – 409 (BRS); SHETLAND ISLANDS (112): Eswick, 25.11; 12.12 (MGP).

### PYRALIDAE

***Udea ferrugalis* (Hübner)**

A comparatively good year, occasionally seen in numbers. Over the year, a total of 347 were recorded at Portland Bird Observatory, Dorset (9) (MC); 30 were recorded at Peacehaven, East Sussex (14) (CRP); and 33 were recorded at Bradwell-on-Sea, South Essex (18) (AJD & SD).

Earliest date: WEST CORNWALL (1): St. Agnes, Isles of Scilly, 1.4 (JH & MH<sup>2</sup>).

Latest dates: WEST CORNWALL (1): Church Cove, The Lizard, 2.12; 23.12 (M. Tunmore per Waring (1996), the latter also reported in Tunmore (1996a)); DORSET (9): Portland Bird Observatory, 2.12 (MC); SOUTH ESSEX (18): Bradwell-on-Sea, 2.12 (SD); OXFORDSHIRE (23): Long Wittenham, Abingdon, 2.12 – 2 (DO); ISLE OF WIGHT (10): Freshwater, 3.12 (SAKJ); CHANNEL ISLANDS (113): Locality not given, Guernsey, 31.12 (Austin 1995).

Other significant records: WEST CORNWALL (1): St. Agnes, Isles of Scilly, 22.5 – 15; 31.5 – 17; 27.7 – 32; 29.7 – 24; 31.7 – 15; 3.8 – 22; 18.8 – 18; 19.8 – 23; 11.10 – 31; 12.10 – 20; 13.10 – 31; 18.10 – 18; 20.10 – 71; 21.10 – 20; 26.10 – 108; 1.11 – 22; 7.11 – 41; 8.11 – 55 (JH & MH<sup>2</sup>); DORSET (9): Durlston Head, 21.9 – 14 (JC); Portland Bird Observatory, 13.10 – 38 (MC); SHETLAND ISLANDS (112): Locality not given, undated – 4, 2nd to 5th Shetlands records (Anon 1996); CHANNEL ISLANDS (113): Locality not given, Guernsey, 8.7– c.20; 2.9 – c.40; 19.9 – c.20; 7.10 – 53; 21.10 – c.120; 28.10 – c.30; 29.10 – c.50; 8.11 – c.20; 9.11 – c.20; 10.11 – 37; 11.11 – 22; 14.11 – 26 (Austin 1995).

### *Nomophila noctuella* ([Denis & Schiffermüller])

A fair year, possibly not as good as some recent years. Occasionally seen in some numbers. Over the year, a total of 489 were recorded at Portland Bird Observatory, Dorset (9) (MC); 43 were recorded at Peacehaven, East Sussex (14) (CRP); and 55 were recorded at Bradwell-on-Sea, South Essex (18) (AJD & SD).

Earliest date: ISLE OF WIGHT (10): Binstead, 22.2 (BJW and Knill-Jones (1995)).

Latest dates: EAST KENT (15): Sandwich Bay Bird Observatory, 13.11 (AJ); CHANNEL ISLANDS (113): Locality not given, Guernsey, 15.11 (Austin 1995).

Other significant records: WEST CORNWALL (1): St. Agnes, Isles of Scilly, 27.7 – 18; 5.8 – 21; 14.8 – 20; 15.8 – 24; 18.8 – 19; 19.8 – 26; 4.9 – 62; 8.9 – 15; 12.9 – 76; 16.9 – 28; 20.9 – 26; 21.9 – 21; 22.9 – 137; 25.9 – 47; 28.9 – 126; 11.10 – 60; 12.10 – 54; 17.10 – 192; 18.10 – 188; 20.10 – 35; 21.10 – 26; 26.10 – 24; 30.10 – 18; 7.11 – 15 (JH & MH<sup>2</sup>); DORSET (9): Portland Bird Observatory, 13.9 – 46 (MC); ISLE OF WIGHT (10): Chale Green, 1.8 – 20; 19.8 – 15 (SC); EAST KENT (15): Sandwich Bay Bird Observatory, a total of 39 recorded for the year (AJ); CHANNEL ISLANDS (113): La Carriere, Guernsey, 13.9 – 30; 14.9 – 17 (Austin 1995).

### Mother of Pearl *Pleuroptera ruralis* (Scopoli) [I?]

SHETLAND ISLANDS (112): Mainland (two sites), 27.7 – 13, 28.7 – “a few stragglers” (Pennington *et al.* 1997).

## NYMPHALIDAE

### Red Admiral *Vanessa atalanta* (Linnaeus)

A very good year. Occasionally abundant, particularly in the latter part of the year. Widely reported. Earliest dates: SOUTH HAMPSHIRE (11): Portsmouth, 1.2, 17.2 (Dr T. Roberts per NB); ISLE OF WIGHT (10): Firestone Copse, Havenstreet, 2.2 (Knill-Jones 1995); SURREY (17): Locality not given, 2.2 (Bowles 1995a), refers to Woking (A. Lang per NB); Buckland, Betchworth, 12.2 (CH).

Latest dates: CHESHIRE (58): Bollington, 25.11 (N. Mitchell per SHH); Stockport, 25.11 (E. Kearns per SHH); DORSET (9): Portland Bird Observatory, 27.11 – 1 attempting to hibernate (MC); WEST KENT (16): Tunbridge Wells, 28.11 (Batty 1996); CAMBRIDGESHIRE (29): Cambridge, 28.11 (Gardiner 1996); CORNWALL: Boscundle, 3.12 – 2 (L. Slaughter per NB); SUSSEX: coast, early 12 – 2 very young larvae on Pellitory-of-the-Wall *Parietaria judaica* on a south-facing flint wall (Tucker 1996).

Other significant records: WEST CORNWALL (1): Caerhayes Beach, 31.7 – 100's (per RL); St. Agnes, Isles of Scilly, 21.9 – 6; 22.9; 28.9 – 6 (all to light traps) (JH & MH<sup>2</sup>); The Lizard, 9.10; 11.10 – 2; 14.10 – 2 (all to mv light) (DB, also reported in Brown (1996b)) (between 18.9 to 31.12 – a total of 7 to light traps (Tunmore 1996a)); EAST CORNWALL (2): Bodmin Moor, 30.8 – “abundant” (JC); Carlyon Bay, 31.7 – 100's (per RL); Carne, Veryan, 17.9 – 200+ on ivy (RDP); Holmbush, St. Austell, 16.9 – 40+ flying N.E. and 55+ flying due S.; 21.9 – 30+ (RL);

Rame Head, 3.11 – c.100 (per RL); SOUTH DEVON (3): Slapton, South Devon (3): 31.8 – “abundant” (JC); Ballsaddle Rocks area, 19.10 – “abundant” (JC); Gorah Rocks area, 19.10 – “abundant” (JC); Langerstone Point, 19.10 – “abundant” (JC); Lannacombe Beach (east), 19.10 – “abundant” (JC); Lannacombe Beach (west), 19.10 – “abundant” (JC); Prawle Point, 19.10 – “abundant” (JC); Shoelodge Reef, 19.10 – “abundant” (JC); Start Point, 19.10 – “abundant” (JC); The Narrows (north), 19.10 – “abundant” (JC); The Narrows (south), 19.10 – “abundant” (JC); Prawle Point, 3.11 – 10+ (VT); Soar, near Salcombe, 9.7 – 25+ (VT); DORSET (9): Durlston Head, 8.10 – 1 at mv light (JC); Freshwater Bay, Portland, 14.10 – 1 at mv light (MSP & APF); Portland Bird Observatory, counts of up to 50 in late 7; 11.10 – at least 20 at mv light; 15.10 – 1 to mv light (MC); EAST SUSSEX (14): Peacehaven, 15.9 – 14; 16.9 – 14; a total of 388 recorded for the year (CRP); SOUTH ESSEX (18): Bradwell-on-Sea, 4.7 – 17; 9.7 – 20; 16.7 – 40; 24.7 – 53; 2.8 – 20; 3.9 – 18; 12.9 – 14; 28.9 – 20; 14.10 – 14; 19.10 – 22; 26.10 – 13; a total of 377 recorded for the year (AJD); EAST SUFFOLK (25): Languard, 10.10 – 344 (heading south) (per DD); EAST NORFOLK (27): Thrigby Hall, 12.7 – “abundant” (JC); LEICESTERSHIRE (55): Eridon, Loughborough, 10.9 – 13 (A. Knight); NOTTINGHAMSHIRE (56): Bunny Hill, 12 to 14.8 – max 20 per day (D. Longden per SW); Eakring Wood, 22.7 – 30 (R. Frost per SW); WESTMORLAND (69): South Walney reserve, 20.9 – c.1,000 (Makin 1996); DUMFRIESHIRE (72): Bankend, 10.9 – up to 50 on each of 10 buddleias (Ms G. Steven); BANFFSHIRE (94): Ordiquhill, Cornhill, 21.8 – 36; 31.8 – 25; a total of 150+ for 8 (RL<sup>3</sup>); NORTH EBUDES (104): Canna House, 1 to 4.7 – larvae (JLC); Isle of Canna, 19.8 – 18; 22.8 – 30; 30.8 – 15; 18.9 – 15 (per JLC).

#### **Painted Lady *Vanessa cardui* (Linnaeus)**

A comparatively good year. Occasionally abundant, particularly in the latter part of the year. Not as frequent as *V. atalanta*.

Earliest dates: ISLE OF WIGHT (10): Luccombe Down, 4.2 (Knill-Jones 1995); EAST SUSSEX (14): East Dean, 4.3 (A. Harbottle per CRP, also reported in Harbottle (1995)).

Latest dates: SOUTH DEVON (3): Prawle Point, 22.11 (VT); CORNWALL: Locality not given, 3.12 (Bowles 1996), refers to Boscundle (L. Slaughter per NB).

Other significant records: WEST CORNWALL (1): The Lizard, 14.10 – 1 to mv light (DB, also reported in Brown (1996b)) (between 18.9 to 31.12 – a total of 4 to light traps (Tunmore 1996a)); SOUTH DEVON (3): Slapton, 31.8 – “abundant” (JC); Shoelodge Reef, 19.10 – “abundant” (JC); Start Point, 19.10 – “abundant” (JC); EAST SUSSEX (14): Peacehaven, a total of 107 recorded for the year (CRP); EAST KENT (15): Reculver, 1.8 – 300 (per DD); Sandwich, 3.8 – over 120 (per DMB); SOUTH ESSEX (18): Bradwell-on-Sea, 31.7 – 17; 2.8 – 27; a total of 86 recorded for the year (AJD); HERTFORDSHIRE (20): Hitchin, 4.8 – 27 (Pittman 1995); EAST SUFFOLK (25): Languard, 1.8 – c.50 (per DD); SOUTH-EAST YORKSHIRE (61): Spurn, 30.7 – 100 (BRS).

### **ARCTIIDAE**

#### **Garden Tiger *Arctia caja* (Linnaeus) [V]**

SHETLAND ISLANDS (112): Easter Quaff, 28.7 (Pennington *et al.* 1997).

### **NOCTUIDAE**

#### **Dark Sword-grass *Agrotis ipsilon* (Hufnagel)**

A good year, occasionally seen in numbers. Widely reported. Over the year, a total of 885 were recorded at Portland Bird Observatory, Dorset (9) (MC); 30 were recorded at Peacehaven, East Sussex (14) (CRP); and 326 were recorded at Bradwell-on-Sea, South Essex (18) (AJD & SD).

Earliest dates: WEST CORNWALL (1): St. Agnes, Isles of Scilly, 5.2 (JH & MH<sup>2</sup>); ISLE OF WIGHT (10): Freshwater, 6.2 (Knill-Jones 1995).

Latest dates: DORSET (9): Portland Bird Observatory, 3.12 (MC); CHANNEL ISLANDS (113): Locality not given, Guernsey, 31.12 (Austin 1995).

Other significant records: WEST CORNWALL (1): Coverack, The Lizard, 22.9 – 12 (DB); St. Agnes, Isles of Scilly, 23.3 – 17; 30.3 – 10; 3.4 – 23; 4.4 – 25; 6.5 – 18; 20.6 – 29; 29.6 – 21; 1.7 – 42; 20.7 – 10; 27.7 – 12; 31.7 – 13; 3.8 – 43; 5.8 – 114; 10.8 – 23; 14.8 – 22; 15.8 – 13; 11.10 – 31; 12.10 – 23; 13.10 – 19; 14.10 – 13; 17.10 – 56; 18.10 – 144; 19.10 – 16; 20.10 – 15; 21.10 – 45; 30.10 – 57; 7.11 – 18 (JH & MH<sup>2</sup>); DORSET (9): Durlston Country Park, 29.8 – 17; 12.10 – 12; 12.11 – 23 (RP); Durlston Head, 21.9 – 12 (JC); Portland Bird Observatory, 29.8 – 39 (MC); EAST SUSSEX (14): Beachy Head, 12.10 – 14 (JC); Peacehaven, a total of 30 recorded for the year (CRP); EAST KENT (15): Sandwich Bay Bird Observatory, a total of 87 recorded for the year (AJ); SURREY (17): Lingfield, 13.10 – 10 (JC); SOUTH ESSEX (18): Bradwell-on-Sea, 13.9 – 13; 11.10 – 10 (AJD); Bradwell St Peters, 9.9 – 20 (GS per BG<sup>2</sup>); ISLE OF MAN (71): Dhoon Maughold, 1.10 – 15 (LK per GDC); PERTSHIRE (88): Rannoch, 8.4 – in numbers (A. Spalding per Waring (1995a)).

**Broad-bordered Yellow Underwing *Noctua fimbriata* (Schreber) [V]**

SHETLAND ISLANDS (112): Eswick, 30.8 (Pennington *et al.* 1997).

**Pearly Underwing *Peridroma saucia* (Hübner)**

A fair year. Over the year, a total of 115 were recorded at Portland Bird Observatory, Dorset (9) (MC); 10 were recorded at Peacehaven, East Sussex (14) (CRP); and 5 were recorded at Bradwell-on-Sea, South Essex (18) (AJD & SD).

Earliest date: WEST CORNWALL (1): St. Agnes, Isles of Scilly, 6.2 (JH & MH<sup>2</sup>).

Latest date: DORSET (9): Portland Bird Observatory, 3.12 (MC).

Other significant records: WEST CORNWALL (1): Coverack, The Lizard, 19.9 – 10 (DB); EAST KENT (15): Sandwich Bay Bird Observatory, a total of 4 recorded for the year (AJ); BANFFSHIRE (94): Ordiquhill, Cornhill, 8.8 (new to VC94) (RL<sup>2</sup>).

**Double Square-spot *Xestia triangulum* (Hufnagel) [V]**

SHETLAND ISLANDS (112): Eswick, 29.7 (Pennington *et al.* 1997).

**The Nutmeg *Dicestra trifolii* (Hufnagel) [I?]**

SHETLAND ISLANDS (112): Eswick, 28.7 (TDR per MGP); Spiggie, 18.8 (TDR per MGP); Toab, 6.8 (J. Clifton per MGP).

**The Brick *Agrochola circellaris* (Hufnagel) [I?]**

SHETLAND ISLANDS (112): “Hundreds between 2.9 and 7.10” (MGP).

**The Crescent *Celaena leucostigma* [I?]**

SHETLAND ISLANDS (112): Eswick, 12.8; 13.8; 24.8; 26.8; 1.9; 8.9; 9.9 (MGP); Foula, 12.8 (MGP); Levenwick, 17.8 (MGP); Quendale, 29.7 (MGP).

**Silver Y *Autographa gamma* (Linnaeus)**

A fair year, occasionally seen in large numbers. Over the year, a total of 913 were recorded at Portland Bird Observatory, Dorset (9) (MC); 573 were recorded at Peacehaven, East Sussex (14) (CRP); and 1,897 were recorded at Bradwell-on-Sea, South Essex (18) (AJD & SD).

Earliest date: DORSET (9): Portland, 11.3 (MC).

Latest date: DORSET (9): Portland Bird Observatory, 21.12 (MC).

Other significant records: WEST CORNWALL (1): St. Agnes, Isles of Scilly, 3.8 – 80; 5.8 – 143; 4.9 – 55; 8.9 – 47 (JH & MH<sup>2</sup>); SOUTH DEVON (3): Slapton, 31.8 – “abundant” (JC); NORTH SOMERSET (6): Berrow, 3.8 – 73 (BES); DORSET (9): Durlston Country Park, 6.8 – 74 (RP); Portland Bird Observatory, 19.8 – 54 (MC); SOUTH ESSEX (18): Bradwell-on-Sea, 20.7 – 49; 23.7 – 169; 27.7 – 63; 1.8 – 87; 2.8 – 112; 21.9 – 95; 29.10 – 41 (AJD); 2.8 – 42 (SD); EAST SUFFOLK (25): Languard, 2.8 – c.100 (RCK per BFS); Trimley St. Mary, 29.7 – 37; 31.7 – 48; 1.8 – 106; 2.8 – 124; 3.8 – 57; 13.8 – 2 (all feeding at buddleia and honeysuckle) (per DD); SOUTH-EAST YORKSHIRE (61): Spurn, 30.7 – “thousands . . . present” (BRS); ISLE OF MAN (71): Kentraugh Abbey, 27.9 – 48 (GDC); BANFFSHIRE (94): Ordiquhill, Cornhill, 9.9 – 32 (RL<sup>2</sup>).

**Initials of recorders**

The recorders initials are listed alphabetically so that records can be extracted with relative ease. It is possible that we have unwittingly failed to acknowledge some contributors; if so, we apologize for this oversight.

OAB	A. Bromby	EGS	E.G. Smith	MRY	Dr M.R. Young
AEA	A.E. Aston	FH	F. Higgs	MSP	M.S. Parsons
AHD	A.H. Dobson	FHNS	Dr F.H.N. Smith	MT	M. Tunmore
AJ	A. Johnson	FS	F. Solly	NB	N. Bowles
AJD	A.J. Dewick	GA	G. Avery	NB <sup>2</sup>	N. Bowman
AK	A. Kolaj	GAC	G.A. Collins	PAB	P.A. Budd
AMD	A.M. Davis	GDC	G.D. Craine	PC	P. Costen
AP	A. Pym	GEH	G.E. Higgs	PD	P. Davey
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BA	B. Angell	GH <sup>2</sup>	G. Higgs	PMP	P.M. Potts
BB	B. Banson	GS	G. Smith	PW	Dr P. Waring
BE	B. Elliott	GW	G. Wright	RAB	R.A. Bell
BES	B.E. Slade	IH	I. Hunter	RC	R. Coomber
BFS	B.F. Skinner	JC	Dr J. Clarke	RCK	R.C. Kendrick
BG	B. Goater	JEC	J.E. Chainey	RDP	R.D. Penhallurick
BG <sup>2</sup>	B. Goodey	JF	J. Fish	RE	R. Eden
BH	B. Henwood	JH	J. Hale	RET	R.E. Turley
BIJ	B. Ivon-Jones	JH <sup>2</sup>	J. Halsey	RG	R. Gaunt
BJW	B.J. Warne	JH <sup>3</sup>	J. Hooper	RH	R. Harvey
BLS	B.L. Statham	JJ	J. Jaines	RH <sup>2</sup>	R. Howard
BM	Mrs B. Mearns	JLC	J.L. Campbell	RJ	R. Johnson
BRS	B.R. Spence	JM	J. Maddocks	RJR	R.J. Revell
BS	B. Shreeve	JMS	Ms J.M. Spence	RL	R. Lane
BW	B. Withers	JO	J. Owen	RL <sup>2</sup>	R. Leverton
CH	C. Hart	JP	J. Packer	RM	R. Mearns
CRP	C.R. Pratt	JP <sup>2</sup>	J. Platts	RMc	R.F. McCormick
CS	C. Sheppard	JPM	J.P. Martin	RP	R. Plowman
CWP	C.W. Plant	JR	J. Reeve	RW	R. Wesley
DB	D. Brown	JRL	Dr J.R. Langmaid	RWA	R.W. Arthur
DB <sup>2</sup>	D. Baldock	JTR	J.T. Radford	SAKJ	S.A. Knill-Jones
DB <sup>3</sup>	D. Burt	KGMB	K.G.M. Bond	SC	S. Colenutt
DD	D. Dey	KJO	K.J. Orpe	SC <sup>2</sup>	S. Curson
DD <sup>2</sup>	D. Down	KR	K. Redshaw	SD	S. Dewick
DF	D. Funnell	KS	K. Saul	SVG	S. Gauld
DH	D. Hipperson	LK	L. Kneale	SHH	S.H. Hind
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DMB	D.M. Batchelor	MC	M. Cade	SW	Dr S. Wright
DO	Dr D. Owen	MEA	Dr M.E. Anthony	TB	T. Bagworth
DOK	D. O'Keeffe	MGP	M.G. Pennington	TC	T. Crafer
DW	D. Walker (Dungeness Bird Observatory)	MH	M. Hall	TDR	T.D. Rogers
		MH <sup>2</sup>	M. Hicks	TJN	T.J. Norriss
DW <sup>2</sup>	D. Walker	MHS	M.H. Smith	TNDP	T.N.D. Peet
DW <sup>3</sup>	D. Wedd	MJ	M. Jeffes	VT	V. Tucker
DWK	D.W. Kydd	MM	M. Marchant	WJJ	W.J. Johnson

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### Acknowledgements

We would like to take this opportunity to thank all contributors.

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### ***Opilo mollis* (L.) (Col.: Cleridae) and other beetles at Kimbers, Maidenhead, Berkshire**

On 7 March 1997, I found a specimen of *Opilo mollis* (L.) at Spring Cottage, Kimbers, Maidenhead crawling across the dining-room table. It was completely covered with dust but when cleaned up showed the distinctive pattern. Although *Anobium* (upon which *O. mollis* preys) was formerly common in the cottage in massive oak beams where it did little damage, once it spread to softer wood I banished it and have seen none for several years; thus I do not believe this *Opilo* resulted from a larva living in woodworm burrows in the house. A more likely source is logs brought into the house to burn. I do not recollect having seen this beetle before anywhere. Since there are similar species in Europe I checked the identification against specimens in the BENHS collections at Dinton Pastures. It may be of interest to list the localities of specimens preserved there, and of some noted in the literature, whilst attempting to find out about its distribution. Donisthorpe (1939. *Prelim. list Col. Windsor Forest*: 83) states it was scarce and a specimen from Windsor (26.iv.1931) is at Dinton Pastures. Other specimens seen have been from Kent (Cobham, vii.1944; East Malling, iii.1935; Cliffe, xi.1953; Keston, v.1948; Southfleet, vii.1943; Swanscombe, vi.1943); Huntingdonshire (Monks Wood, vi.1951 and see also Stelle & Welch, *Monks Wood*: 225 (1973)); Surrey, Richmond Park, on oak trunks at night, vi.1992; Parsons in *Br.J.Ent.Nat.Hist.* **6**: 30 (1993)); Bedfordshire (Amphill, Roche in *Ent.Mon.Mag.* **80**: 30 (1944)); Gloucestershire, Cheltenham, Badgeworth, dead elms and under elm bark, vi.1942 and xii.1943, Airy Shaw in *Ent. Mon. Mag.* **80**: 81); Hampshire (Hayling Island, i.1902); Essex (Writtle, v.1945). Hyman & Parsons (*A review of the scarce and threatened Coleoptera of Great Britain* **1**:214 (1992)) give its status as Notable B and state “widespread but local in southern and central England (south-east, south East Anglia, east Midlands, west Midlands, north-east and north Wales) and record adults from February and June to December.

I take this opportunity to add the following species to the list I published in 1995 (*Ent. Rec.* **107**: 299-304).

## HYDROPHILIDAE

*Megasternum obscurum* (Marsh.) – in turf whilst cutting out a flowerbed, 18.vi.1995.

## STAPHYLINIDAE

*Xylodromus concinnus* (Marsh.) – on desk, x.1994.

*Atheta aquaticata* (Thomson) – under thick cut roots of *Robinia pseudacacia* removed whilst digging a hole and put to dry our for kindling.

*Stenus junco* Fabr. – Spring Hill, *Juncus* beds, 27.iv.1990.

*Quedius maurorufus* Grav. – Spring Hill, *Juncus* beds, 27.iv.1990.

*Philonthus cephalotes* Grav. – in plastic bag thrown away in fireplace laid with logs, 10.v.1997.

## DASYTIDAE

*Dasytes aerosus* Kiesenw. – on white wall, 11.vi.1995.

## THROSCIDAE

*Trixagus carinifrons* (de Bonvouloir) – in garden, 10.vi.1991.

## NITIDULIDAE

*Meligethes ovatus* Sturm – on walls of cottage, 14.iv.1995.

*M. flavipes* Sturm – with *M. ovatus*, above.

*Eपुरaea aestiva* (L.) – on desk, 1996.

## LATHRIDIIDAE

*Corticarina fuscata* Gyll. – on walls of cottage, 14.iv.1995.

## TENEBRIONIDAE

*Alphitobius diaperinus* (Panz.) – On dead dried mice, spiders etc. behind a bookcase, 2.viii.1996.

## LUCANIDAE

*Lucanus cervus* (L.) – a similar collection of wing cases and other bits at almost exactly the same place in Spring Hill as reported before, 30.vi.1995 (see *ent. Mon. Mag.* **126**: 196(1990)).

## CERAMYCIDAE

*Arhopalus rusticus* (L.) – at light in study, 17.vii.1996.

## CHRYSOMELIDAE

*Lochmaea crataegi* (Forst.) – dead on car, probably from spider's web, 23.iii.1997.

*Phyllotreta nigripes* (Fabr.) – on desk, ii.1996.

*Altica lythri* Aubé – Spring hill, *Juncus* beds, 27.iv.1990.

## CURCULIONIDAE

*Sitona regensteinensis* (Herbst) – dead in sunroom, 16.iii.1997.

*Barypithes pellucidus* (Boheman) – on walls of cottage, 16.v.1996.

– B. VERDCOURT, Royal Botanic Gardens, Kew, Surrey TW9 3AE.

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**THE RETURN OF THE SMALL RANUNCULUS**DAVID J.L. AGASSIZ<sup>1</sup> & WILLIAM M. SPICE<sup>2</sup><sup>1</sup>23 St James's Road, Gravesend, Kent DA11 0HF<sup>2</sup>50 Woodland Terrace, Charlton, London SE7 8EN [address for correspondence]

*HECATERA DYSODEA* ([Denis & Schiffermüller]) the Small Ranunculus is a noctuid moth which was resident in Britain during the last century and in the early part of this century, occasional specimens being recorded up until 1939. The history of the species was described in some detail with distribution maps by Pratt (1986) and a shorter account with a distribution map of all historical records was given by Bretherton *et al.* (1979).

**Rediscovery in 1997-98**

A fresh female specimen was taken in DJLA's garden m.v. trap on 26 June 1997 and another, a very worn male, on 6 August. These were reported in *The British Journal of Entomology & Natural History* **10**: 236-7. A further specimen was taken at Charlton by WMS on 14 July 1997, identified rather later. The spread of dates over five weeks suggested that the species was resident in the Thames Estuary, rather than immigrant.

Details of adults known to the authors to have been taken in 1998 are given in Table 1.

**Early stages**

On 15 July 1998, Mark Parsons, Geoff Martin & Ruud Schilder visited a quarry near Gravesend and as well as the adult noted above found about 20 larvae on great lettuce *Lactuca virosa* and several eggs on flowerheads of prickly lettuce *Lactuca serriola* at a site in Swanscombe. On 18 July Mark Parsons, Bernard Skinner, John Chainey and Jenny Spence visited north-west Kent and found larvae or eggs at Dartford Marshes, Stone and Gravesend. Searches in Essex on the north bank of the Thames yielded no evidence of eggs or larvae. They then joined DJLA at Gravesend where eggs and larvae were abundant on land adjoining DJLA's garden, and at Swanscombe many larvae were noted.

Larvae were of all ages from very small to final instar, large larvae being very variable in colour, the majority being some shade of olive green, whilst some were brown. The larger larvae were found on *Lactuca virosa*, whilst most small larvae and eggs were on *L. serriola*, this suggests that when the earliest moths are ovipositing only *L. virosa* is available to them. To the rear of DJLA's garden are a few plants of garden lettuce *L. sativa*, close to plants of *L. serriola*, but no eggs or larvae were found on these.

The full grown larva is illustrated by Buckler (1893) and described in Barrett (1897). Porter (1997) contains a photograph of the brown form of the larva. Since no descriptions of eggs or juvenile larvae appear in British literature these are now given.

**Table 1:** Adults of *Hecatera dysodea* (D.& S.) recorded in Britain in 1998.

Date	Number recorded	Capture method	Recorder
5th July	1 Gravesend	m.v.	D. Agassiz
12th	2 Gravesend	m.v.	D. Agassiz , trap emptied by J. Parkes
15th	1 Gravesend	dusk	M. Parsons & B. Skinner
15th	1 Gravesend	m.v.	R. Kiddie
17th	1 Dartford	m.v.	B.K. West
18th	3 Swanscombe	dusk	M. Parsons, B. Skinner, J. Chainey, J. Spence
18th	1 Gravesend	m.v.	D. Agassiz
19th	1 Gravesend	m.v.	J. Parkes
25th	3 Gravesend	m.v.	D. Agassiz (1), J. Parkes (2)
26th	2 Gravesend	m.v.	D. Agassiz
30th	1 Gravesend	m.v.	R. Kiddie
1st August	1 Gravesend	m.v.	D. Agassiz
9th	1 Gravesend	m.v.	J. Parkes
10th	1 Gravesend	m.v.	R. Kiddie

The eggs are laid in clusters on the flower buds of *Lactuca* spp.; some authors cite also *Crepis* or *Sonchus* spp. Each is roughly spherical with ridges down the sides, giving the appearance of a canteoupe melon. At first they are whitish, but change through yellow to a pinkish brown before hatching. First instar larvae are pale greenish yellow with four longitudinal rows of small black pinacula, two placed obliquely on each segment; the head is black and there is a black dorsal mark in the middle of the prothoracic plate. Middle instar larvae are dull green, with a pale greenish yellow line immediately beneath the spiracles, this line is brightest in the second instar, after which it gradually darkens.

The pupa is 16mm in length, smooth and brown; the wing cases and antennae reaching almost to the posterior margin of the fourth abdominal segment; abdominal segments have minute pockmarks towards the anterior edge of each. The cremaster gives the appearance of a strong single spine, but upon close inspection it is found to be divided into two about halfway along its length, the two prongs being held close together and bearing slight hooks; at the base the cremaster is broadened and on the dorsal surface flattened bearing longitudinal ridges. Bernard Skinner kept pupae from early larvae at a constant temperature of 24-25°C and adults emerged from

them in early August. Since the species is double brooded in southern Europe this was not surprising.

### Distribution

Although abundant where it has become established, the species appears to be confined to a fairly small area on the south bank of the Thames between Erith and Gravesend, stretching inland a few km along the Darent Valley. Searches for larvae in 1998 at Charlton near where the 1997 specimen was taken yielded no evidence of larvae, although WMS found larvae at Erith marshes in low density (in the same 10km OS grid square). Similarly the species could not be found on suitable land to the east of Gravesend nor to the south at Meopham. However Bernard Skinner found that it has spread up the Darent valley, larvae were noted at Longfield and Horton Kirby; Peter Harvey also found larvae at Bexley in the Cray valley. This means that the 1998 distribution occupies five 10km grid squares: TQ47, 56, 57, 66 and 67.

### Discussion

The origin of these specimens remains a matter of speculation. This area, the Thames Estuary, was one of the strongholds of the species a century earlier, as can be seen by reference to the distribution maps in the articles cited, but it is scarcely conceivable that it has remained undetected for so long; in the Gravesend site a trap had been operated regularly in 1995-6, that of R. Kiddie for the last 20 years and that of B.K. West for 30 years. The last recorded specimen from Kent was at Dartford in 1909 (Chalmers-Hunt, 1968). The species, although not strongly attracted to light, is conspicuous as a larva and in its former days was often seen flying at dusk in gardens; even in a very restricted locality it could hardly have gone undetected for 88 years. Moreover the current population explosion is characteristic of a newly establishing species.

Migration is a term sometimes used for any movement of species, but such a broad definition is unhelpful. In its normal sense as associated with regular migratory species it is not appropriate for the occurrence of this species. The 1997 specimens were at different dates, not associated with other migratory species; in addition the species is not known for migratory habits. Importation of the species with plants at some stage of its development is possible, but unprovable.

The remaining option is re-establishment as a breeding species by a northerly extension of its range. In 1997 the species was also reported from Denmark for the first time (O. Karsholt, *pers. comm.*) which makes this explanation the most likely.

### Nomenclature

In Karsholt & Razowski (1996), and followed by Bradley (1998) the generic name is given as *Aetheria* Hübner (*sic*). We are informed by Martin Honey that this is incorrect; *Aethria* Hübner, [1821] is not available since it is preoccupied by *Aethria* Hübner, [1919].

### Acknowledgements

Thanks to Bernard Skinner for confirming the identity of WMS's specimen and for providing data, to Julian Parkes for operating DJLA's trap during a week's absence, to Mark Parsons, John Chainey, B. K. West, Roger Kiddie and Julian Parkes for allowing us to publish their data, and to Martin Honey for providing advice on nomenclature.

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### EDITORIAL COMMENT

The return of the Small Ranunculus is indeed an interesting event. The precise recording of the dates and very restricted locality of its occurrence in this paper affords us an opportunity to monitor the spread of this species, assuming it does spread, so gaining valuable ecological information that may have a wider significance. With this in mind, it would be a great pity if any of the very many people who have already visited the area to collect larvae were to liberate the insect, in any of its stages, to the wild in areas away from the capture site. Apart from being contrary to the spirit of the *Code for Insect Collecting* such an action would make interpretation of future records difficult. I strongly urge collectors not to liberate specimens. If anyone has already done so, or if any moths manage to escape to the wild, it would be important to record the fact and I therefore invite them to send details of any such events to me at the editorial address. Contributions may be anonymous if you so wish, but the approximate date, a locality name or approximate grid reference and the stages and numbers of specimens involved should be reported.

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### The Sloe Pug *Chloroclystis chloerata* (Mabile) (Lep.: Geometridae) new to the Isle of Wight

On both 12 and 18 April 1998, Brian Warne and Tony Redfern beat the flowers of blackthorn *Prunus spinosa* bushes with the hope of obtaining larvae of *Chloroclystis chloerata*. They were successful in beating two such larvae from bushes at Knighton Down and one from bushes at Brading Down. The first moth emerged on 2 May 1998. This is the first time that this species has been recorded from the Isle of Wight.— S.A. KNILL-JONES, Roundstone, 2 School Green Road, Freshwater, Isle of Wight PO40 9AL.

ONE AND A HALF YEARS OF KENYAN ORTHOPTERA:  
III. ACRIDIDAE: OEDIPODINAE

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BAND-WING GRASSHOPPERS (Oedipodinae) form a conspicuous part of the grasshopper fauna throughout Kenya and may be the dominant group in arid environments. The subfamily Oedipodinae, which was reinstated by Dirsh (1975), forms a convenient grouping of grasshoppers which mostly have a serrated intercalary vein used for stridulation, banded or coloured wings, a vertical face and are ground-dwelling in habit. However, it may be more correct to combine the Oedipodinae with the Acridinae (Dirsh, 1965), there being numerous intermediate forms. Whilst the important genera *Aiolopus*, *Gastrimargus* and *Oedaleus* have undergone revision (Hollis, 1968; Ritchie, 1981; Ritchie, 1982), others, notably *Sphingonotus* and *Acrotylus*, are in a confused state, preventing confident identification.

*Calephorus compressicornis* (Latreille). Usengi, Lake Victoria, sandy lake shore, xi.1992.

*Paracinema tricolor* (Thunberg). Nairobi, Kirichwa Kubwa River, 1.i.1992; Nairobi, wasteland beside Mbagathi Way, 8.viii.1992; Kericho, xi.1992; Timboroa, 10.x.1991; Naivasha, Fisherman's Camp, 1.vi.1991 & 22.xii.1991; Mwea Rice Scheme, 4.vii.1992; Tigoni Falls, 29.xii.1991, Tumu Tumu, near Karatina, 26-27.ix.1992; Ololua Forest, Karen, 15.iii.1992.

*Jasomenia dimidiata* (Bolivar). Mwea Rice Scheme, 4.vii.1992; Sokoke Forest, Kenya Glass Track, 1.xii.1991; Mnarani, Kilifi, 21-24.iii.1992; Kibarani, Kilifi, 22.iii.1992; Jaribuni, Kilifi, 22.iii.1992.

*Aiolopus thalassinus* (Fabricius). Magadi, 1.ii.1992; Nairobi, Hurlingham, 3.xi.1991; Mnarani, Kilifi, 21-24.iii.1992; Mwea Rice scheme, 4.vii.1992; Naivasha, Kongoni, 22.xii.1991; Nairobi, Mbagathi Road, 8.iii.1992; Nairobi, Kirichwa Kubwa, 1.i.1992; Kibarani, Kilifi, 22.iii.1992; Ol Doinyo Sabuk, 25.i.1992; Naivasha, Fisherman's Camp, 1.vi.1991; Lake Victoria, Usengi, xi, 1992; Lessos, 7.ii.1992; Naivasha, Crescent Island, 10.xi.1991 & 1.vi.1992.

*A. simulatrix* (Walker). Loyangalani, Lake Turkana, 3.xi.1992.

*A. longicornis* Sjöstedt. Samburu National Reserve, vii. 1985; Ol Doinyo Sabuk, 25.i.1992.

*A. meruensis* Sjöstedt. Athi Plains, Kiserian-Isinya Road, 5.iv.1992.

*Sphingonotus rubescens* (Walker). Lake Turkana, Loyangalani and El Molo Bay, 3.xi.1992.

*S. canariensis* (Saussure). Baragoi, El Barta Plains, 1.xi.1992; Lake Magadi, 1.ii.1992 & xii.1992; Ologasailie, 26.iv.1992; Lake Natron (Tanzania), 6.ix.1992.

The Lake Natron record adds this species to the list for Tanzania (Johnsen & Forchhammer, 1975).

*Sphingonotus turkanae* Uvarov. Magadi Road, near Kisames, 29.iii.1992; Ologasailie, 26.iv.1992 & 6.ix.1992; Magadi, 1.ii.1992.

*Heteropternis coulouiana* (Saussure). Kakamega Forest, 11.x.1991 & 7-9.ii.1992; Lavington, Nairobi, v.-vi.1991; Tigoni Falls, 29.xii.1991; Kirichwa Kubwa, Nairobi, 1.i.1992; Naivasha, Kinangop Road, xii.1992; Eburru, 6.xii.1992; Ngong Hills, 19.i.1992.

*H. thoracica* (Walker). Sokoke Forest, Jilore Track, 16.v.1992; Jimba near Kaloleni, 23.iii.1992.

*Pycnodictya galinieri* (Reiche and Fairmaire). (Plate X). Athi Plains, Kiserian-Isinya Road, 5.iv.1992; Ologasailie, 26.iv.1992 & 6.ix.1992; var. *citrina* Magadi Road, 1.ii.1992.

*P. kelleri* (Schulthess). (Plate C, Fig. 11). Ologasailie, 26.iv.1992 & 6.ix.1992; Magadi, near the golf course, xii.1992; Magadi, Emarti Oo Lainyamok Plain, 11.x.1992.

*Gastrimargus mirabilis* Uvarov. Kakamega Forest, 7-9.ii.1992.

*G. africanus* (Saussure). Kakamega Forest, 7-9.ii.1992.

*G. verticalis* Saussure. Hurlingham, Nairobi, in garden, v.1992; Eburru, xii.1992; Split Crater, Lake Elmenteita, 13.xii.1992.

*Humbe tenuicornis* (Schaum). (Plate C, Fig. 9). Malindi, vii.1985; Kilifi, xi.-xii.1991; Kilifi, Mnarani, 21-24.iii.1992; Hell's Gate, xii.1992; Sokoke Forest, 16.v.1992; Thika, Chania Falls, 5.vii.1992; Magadi Road near Kisames on 25.v.1991; Usengi, Lake Victoria, xi.1992; Lake Nakuru, vi.1992.

? *Humbe* sp. (Plate C, Fig. 8). A single female collected from among herbage beside the Magadi Road near Kisames on 25.v.1991 does not appear to belong to any species represented in the National Museum of Kenya, Nairobi or in BM(NH). Because only a single female was collected and a male is not available for comparison with known species, it is difficult to place the insect in any particular genus. Its features are most compatible with *Humbe* Bolivar but it is clearly not *H. tenuicornis*. For these reasons it is considered inappropriate to give the insect a specific name at this stage but the specimen is illustrated and a brief description is given in the style of Dirsh (1965).

Of medium size. Integument slightly rugose. Antenna filiform, slightly longer than head and pronotum together. Head globular. Pronotum highly tectiform, almost crest-shaped; no sulci. Elytra and wings fully developed; intercalary vein of medial area of elytron strong. Femur moderately slender. Measurements: total length (front of head to tip of folded elytron), 32.9mm; length of elytron, 24.2mm; length of hind femur, 15.3mm; width of hind femur (at broadest part), 3.1mm.

*Oedaleus senegalensis* (Krauss). Magadi Road, Olekemonje Gorge, 25.v.1991 & 1.ii.1992; Lake Magadi, 1.ii.1992.

*O. instillatus* Burr. Magadi Road, 1.ii.1992.

*Morphacris fasciata* (Thunberg). Nairobi, Lavington, 25.v.1991. Masai Mara, 17.vii.1985; Nairobi, Hurlingham, 3.xi.1991; Mnarani, Kilifi, 18.iv.1992 & 15-17.v.1992; Nairobi, Mbagathi Road, 8.iii.1992; Nairobi, Kirichwa Kubwa, 1.i.1992; Shompole, 6.ix.1992; Usengi, Lake Victoria, xi.1992; Athi Plains, Kiserian-Isinya Road, 5.iv.1992; Ololua Forest, Karen, 15.iii.1992; Kakamega Forest, 11.x.1991 & 7-9.ii.1992.

*Trilophidia conturbata* (Walker). Buffalo Springs National Reserve, vii.1985; Tumu Tumu, near Karatina, 26-27.ix.1992; Nairobi, Hurlingham, 3.xi.1991; Crescent Island, Naivasha, 10.xi.1991; Nairobi, Lavington, v-vi.1991; Aberdares Country Club, 14.xi.1992; Ol Doinyo Sapuk, 25.i.1992; Kilifi, Mnarani, 21-24.iii.1992; Kakamega Forest, 7-9.ii.1992; Magadi, 25.v.1991.

*Conipoda pallida* (Walker). (syn. *Pternoscirtus gracilis* (Miller)). Masai Mara, on sandy river bank, 17.vii.1985.

*Acrotylus* Fieber. This important African genus is in a confused state. As the genus has not been revised, plausible nomenclature is used below which must be considered provisional. A key to *Acrotylus* in Kenya is given which summarises how the specimens were identified. My material consists of mature adults, killed with potassium cyanide and promptly set and dried to preserve natural colours. *Acrotylus ndoloi* Kevan, which was not found by the author, is omitted from the key. The few specimens at BM(NH) of this little-known insect show it to be distinct from other Kenyan species. It is a robust species superficially like *A. elgonensis* but among other differences is larger and may occur as a pink-winged variant.

### Key to *Acrotylus* in Kenya

1. Wings red with obvious dark bands .....(2.)
  - Wings coloured or infumate without obvious dark bands .....(4.)
2. Middle antennal segments short, length approximately 1.5 times width; antennae short (c. 6mm; slightly longer in females than in males); body relatively thick-set; yellowish patches on elytra and hind femora (Kenyan specimens); wings red with discrete dark band which does not reach hind margin of wing ..*A. insubricus*
  - Middle antennal segments long, length more than 1.5 times that of width; antennae long (>7mm); body relatively slender; no obvious yellow patches on elytra and hind femora; wings red; dark band reaches hind margin of wing .....(3.)
3. Middle antennal segments shorter, length about 1.8 times that of width; antennae shorter (c. 8mm); femora thicker; wings cherry-red .....*A. patruelis*
  - Middle antennal segments longer, length about 2.5 times that of width; antennae longer (c. 9mm); femora more slender; wings crimson.....*A. somaliensis*
4. Wings variably infumate and without colour; body thick-set; relatively short body length (male c. 15.5mm, female c. 20mm: vertex to folded wingtips). .....*A. elgonensis*

- Wings coloured, with variable amounts of infumation and dark markings; body relatively slender; relatively long body length (male c. 21mm, female c. 25mm).....(5.)
- 5. Wings pale orange, yellow or pale pink-orange .....*A. longipes*
- Wings pale blue or bright flesh-pink .....*A. blondeli (sensu lato)*

*Acrotylus insubricus* (Scopoli) (Plate C, Fig. 2). Magadi Road, near Kisames, 29.iii.1992, one male; Kisima, near Maralal, 5.xi.1992, one female. These were the only examples found. Both localities were shared with *A. blondeli* and were more arid than sites favoured by *A. patruelis*. Unlike specimens in my series from Morocco, Tunisia, Greece and Canary Islands, the two Kenyan specimens have conspicuous yellowish markings as reported for this species in Egypt (Hussein, 1942). Whilst reviewing the distribution of this species in Africa, Johnsen (1991) stated that there was an absence of records from the arid corridor of East Africa. Thus, these Kenyan records provide a link between the two main known areas of distribution of this species in the arid parts of northern and southern Africa.

*A. patruelis* (Herrich-Schaeffer, 1938). (Plate C, Fig. 3). Kakamega Forest, 11.x.1991; Kakamega Forest, old quarry, 7-9.ii.1992; Lake Victoria, Usengi, xi.1992; Nairobi, Mbagathi Road, 8.iii.1992; Naivasha, Crater Lake, 22.xii.1991; Eburru, 6.xii.1992; Hell's Gate, xii.1992. Common on bare ground at relatively moist localities in the highlands and western Kenya.

*A. somaliensis* Schmidt. (Plate C, Fig. 1). Ol Doinyo Sabuk, eroded track on north brow of summit, 8,000ft, 25.i.1992, one male. *A. somaliensis* was described from Somalia (Johnsen & Schmidt, 1982). My single Kenyan specimen matches the description and figures of *A. somaliensis* and clearly stands out from my series of 20 specimens of *A. patruelis* from Kenya and Spain. In particular the antennal segments and antennae are longer and the wings are crimson rather than cherry-red in colour. It was the only specimen of *Acrotylus* seen at the site and was found with single males of *Aiolopus longicornis* and *A. thalassinus*.

*A. longipes* (Charpentier). (Plate C, Fig. 4). Magadi, 25.v.1991 & 1.ii.1992; Amboseli, 5.xii.1991; Magadi Road, near Kisames, 29.iii.1992; Lake Natron (Tanzania), 6.ix.1992; Ologasailie, 26.iv.1992; Shompole, 6.ix.1992; Buffalo Springs National Reserve, vii.1985; El Molo Bay, Lake Turkana, 3.xi.1992; Loyangalani, Lake Turkana, 3.xi.1992; Barsaloi, Samburu, 4.xi.1992; El Barta Plains, Baragoi, 1.xi.1992. The Lake Natron record adds this species to the list for Tanzania (Johnsen & Forchhammer, 1975). Common in arid areas of northern and southern Kenya. Three colour forms were found: with yellow, pale orange or pink-orange wings. All examples in my series from northern Kenya have pale pink-orange wings (n=15). In southern Kenya and at Lake Natron, yellow-winged insects predominate (85% (28/33)) over those with pale orange wings (12% (4/33)) or pale pink-orange wings (3%; one specimen from Amboseli).

*A. blondeli* Saussure. (Plate C, Fig. 6). A number of similar *Acrotylus* spp. have been described which occur either as blue-winged or pink-winged variants. At least three names have been used to record such material from East Africa: *A. variegatus* Brancsik, *A. trifasciatus* Kevan, *A. incarnatus* (Krauss). It is difficult to appreciate constant differences between Kevan's series of *A. trifasciatus* and the series of *A. variegatus* at BM(NH). Dirsh (1970) synonymised *A. variegatus* with the West African species *A. blondeli*. Furthermore, the name *A. incarnatus* has been applied to *Acrotylus* with flesh-pink or blue wings (Uvarov & Popov, 1957; Johnsen & Schmidt, 1982). For convenience, all material is lumped as *A. blondeli*. Blue-winged specimens (n=14): Magadi Road, near Kisames, 29.iii.1992; Kisima, near Maralal, 5.xi.1992; Sokoke Forest, Kenya Glass Track, 1.xii.1991; Kilifi, xi-xii.1991; Manda Island, 24.v.1992. Pink-winged specimens: a series of five males and seven females with bright, flesh-pink wings was collected from a dry river bed near Kisames off the Magadi Road. There appears to be no constant anatomical or pattern difference between these and blue-winged specimens, two of which were collected with them.

*A. elgonensis* Sjöstedt. (Plate C, Fig. 7). Crescent Island, Naivasha, 10.xi.1991 & 1.vi.1992; Eburru, 6.xii.1992; Crater Lake, Naivasha, 22.xii.1991; Lerochi Plateau, Maralal, 31.x.1992; Awasi, xi.1992. Timboroa, 10.x.1991; Lessos, 7.ii.1992. The Naivasha localities were from naturally stony terrain. All other sites were on roadside gravel. Locally common. Unlike other Kenyan *Acrotylus* spp., *A. elgonensis* occasionally has green body markings.

### Localities. 3. Rift Valley

The Rift Valley is a major geographical feature which crosses the whole country, Some of the most arid environments in Kenya occur on the low sections of the valley floor around Lake Magadi (1,900ft) in the extreme south and around Lake Turkana (Rudolf) (1,300ft) in the extreme north. In contrast, there are permanent lawns around Lake Naivashi (6,000ft) and the higher sections of the valley floor around Gilgil and Nakuru (6,000ft) support woodland and grassland. For the Nairobi resident, the Magadi Road is one of the quickest routes from the city into primordial Africa. One escapes Nairobi along the congested Langata Road, passing the Nairobi National Park before turning southwards onto the Magadi Road. The road crosses the shoulder of the Ngong Hills, reaching 7,000ft before descending step-wise over a series of escarpments that form the wall of the Rift Valley. The vistas along this route are exceedingly beautiful when yellow and white acacias are in flower. The road crosses a seasonal watercourse near Kisames which is a good site for *Acrotylus* spp. and *Sphingonotus turkanae*. Continuing southwards, roadside scrub harbours *Oedaleus instillatus*, *Pycnodictya galinieri* and *Truxalis* spp. Near the Olorgasailie Prehistoric Site is good terrain for Orthoptera with *Pycnodictya galinieri*, *P. kelleri*, *Sphingonotus* spp., *Acrotylus longipes*, *Chrotogonus homolodemus* and *Ochrilidia nyuki*. Before reaching Lake Magadi, the road reaches the Olekemonge Gorge which contains a small river. Depending on the season, the surrounding country may be a

dust-bowl or a riot of vegetation with grasshoppers like *Oedaleus senegalensis* and *Taramassus* sp. Lake Magadi is a soda lake and one of the hottest places in Kenya. Dust-devils are often seen, sucking up dead vegetation in their path. Sometimes several of these thin dark spinning columns are visible at a time and one may meander chaotically across the path of one's vehicle. On reaching the lake one has a choice of continuing into Magadi town and southwards or across the lake on soda-encrusted causeways towards the Nguraman escarpment. The Magadi soda company brings a small area of authentic industrial landscape to the heart of wilderness and supports the surreal Magadi golf course, a rounded expanse of blue-grey volcanic grit without a blade of grass. *Anacridium melanorhodon*, *Pycnodictya kelleri*, *Sphingonotus canariensis* and *Truxalis burti* occur between the course and the lake. South of Magadi, near the Masai settlement of Shompole, the Ewaso Ngiro river feeds a huge swamp where *Morphacris fasciata* occurs, a species apparently absent from the arid Magadi Road. Following the river southwards by Land-rover, it is possible to drive over volcanic boulders to Lake Natron in Tanzania, although there is no road or border post. The shimmering lake is surrounded by stones and thorn scrub shared by *Acrotylus longipes*, *Sphingonotus canariensis* and the Masai who show no sign of adaption to twentieth century life in this most inhospitable terrain.

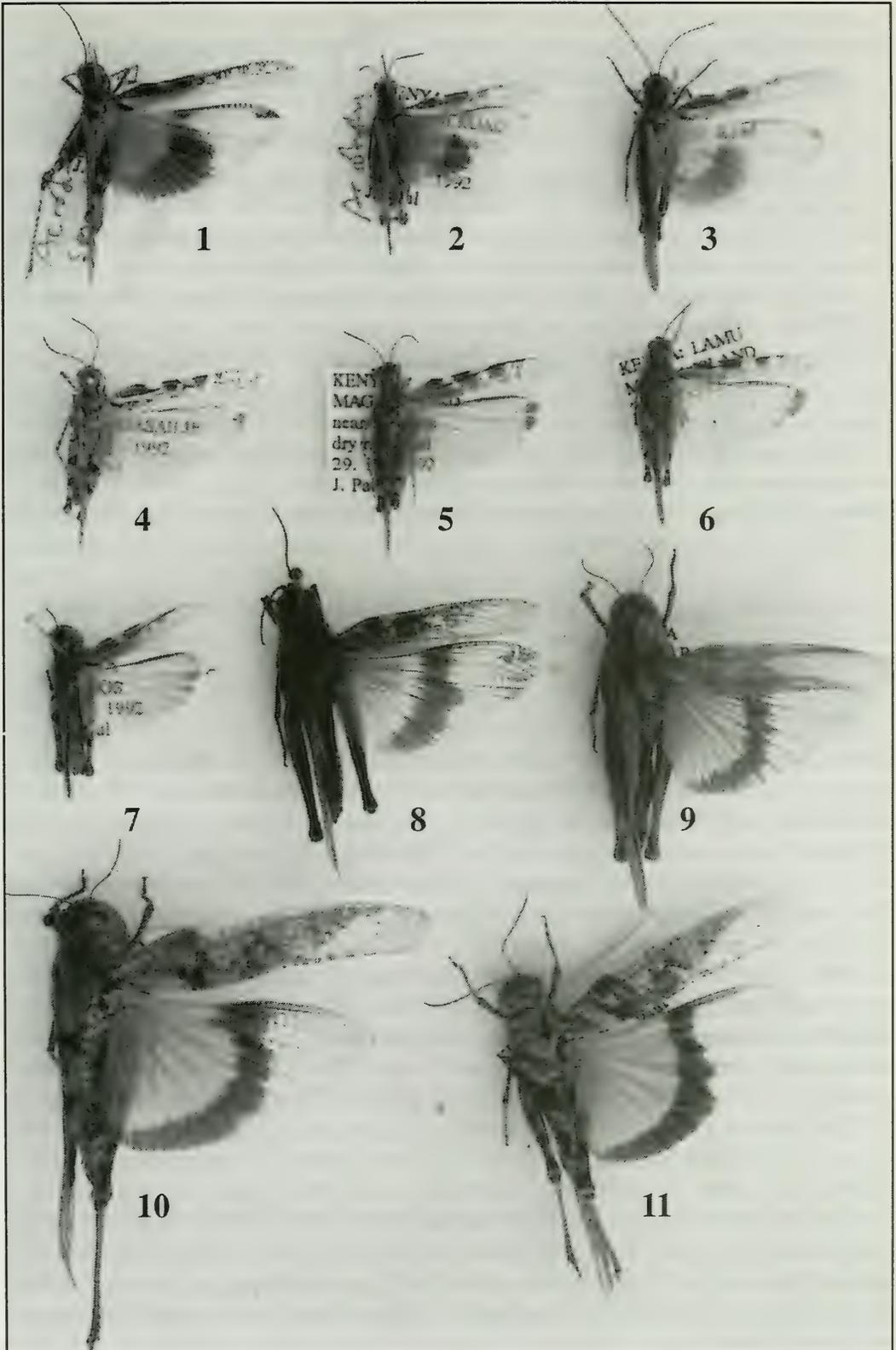
In contrast to Magadi, Lake Naivasha is freshwater and in a higher, cooler section of the valley. *Aiolopus thalassinus*, *Paracinema tricolor* and *Paratettix* sp. are reliably present on the lawns around the lake, such as at Fisherman's Camp, whilst the dry stony terrain on Crescent Island supports *Acrotylus elgonensis*. At Crater Lake a few miles west of Lake Naivasha there is open woodland with a diverse grasshopper fauna including *Eyprepocnemis* sp., *Cannula gracilis*, *Acrotylus elgonensis*, *A. patruelis*, *Pnorisa* sp. and *Parasphena naivashensis*. Split Crater near Lake Elmenteita contains rich grassland with impressive grasshoppers such as the huge pamphagid *Lobosceliana gilgilensis*, *Ornithacris pictula magnifica*, *Eyprepocnemis* sp., *Acorypha* sp., *Gastrimargus verticalis*, *Cannula gracilis* and the phaneropterine *Tylopsis irregularis* Karsch.

Much of the valley floor in northern Kenya is filled by Lake Turkana whose shores are surrounded by semi-desert. Being a three-day journey overland from Nairobi, I visited Turkana only once and saw relatively few insects. *Aiolopus simulatrix* occurs on sand under palm trees at Loyangalani whilst *Sphingonotus rubescens* inhabits rocky terrain. At El Molo Bay, where there is virtually no vegetation, the extraordinary mantid *Eremiaphila cordofana* Werner may be seen, running like a fat spider over volcanic rubble.

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#### Plate C: Kenyan Oedipodinae

- 1 *Acrotylus somaliensis* ♂, 2 *A. insubricus* ♂, 3 *A. patruelis* ♂ ★  
 4 *Acrotylus longipes* ♂, 5 *A. blondeli* (s.l.) ♂ (flesh-pink wings), 6 *A. blondeli* (s.l.) ♂ (blue wings),  
 7 *Acrotylus elgonensis* ♀, 8 ?*Humbe* sp. ♀, 9 *Humbe tenuicornis* ♀.  
 10 *Pycnodictya galinieri* (var. *citrina*) ♀, 11 *Pycnodictya kelleri* ♂.



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### Hazards of butterfly collecting – Kwesi's parrot – Cape Coast, Ghana, January 1995

When coming back to base from two tiring weeks in the forests of Ghana, one of my main luxuries is staying at the Hans Cottage Hotel in Cape Coast. It is a small hotel, situated on an artificial lake in rural surroundings, ten kilometres from town. The dining areas are platforms built on stilts in the lake.

I first saw the hotel in its construction phase more than two years ago. It looked like a commercial suicide attempt. Just the thought of the mosquitoes breeding in the lake was enough to write the project off.

I had not reckoned with the owner, Kwesi Hanson – owner of two other hotels in Accra and Cape Coast, prize-winning fish farmer, the only known grower of oyster mushrooms in between the two tropics, lover of nature, and with the faith to put his own money into the development of Ghana (which is one of the friendliest and safest places in Africa, but with a sad history of economic mismanagement).

The lake was stocked with tilapia fish, which ate the mosquito larvae, and which in turn attracted the spontaneous arrival of several crocodiles (where-ever from!?!?), which now provide a major tourist attraction, which has made Kwesi's venture a very going concern. The crocodiles could be summoned by a low whistle, a piece of bread thrown into the lake would attract the tilapia, and a live display of crocodiles feeding was on hand – incidentally, they feed by swimming very slowly till their snout is next to the tilapia, then catch them with a sideways movement (I bet you did not know that!).

The lake is surrounded by trees in which vast numbers of three species of weaver-birds nest, and I have seen all West African kingfishers in the lake – including the giant kingfisher, a raven-sized affair with a beak that could easily be used as a murder weapon.

Now dinner and cold beer can be had in the balmy African evenings, with a cool breeze wafting across the little lake, while the cicadas sing and the weaver-birds gradually tone down their raucous choruses. There is even a swimming-pool (“please check for crocodiles before entering pool”).

Kwesi is also assembling a menagerie. Most townspeople and most foreigners in Ghana never see a wild animal. There are now monkeys and duikers, but the first pensioner was an African grey parrot, which had the run of things. It wandered all over, ate from the plates of the guests, and shouted what we were assured were choice obscenities in *fantee*. They are wonderful and very intelligent birds, large flocks of which may still be seen in forests, despite its listing as a threatened species (I have seen as many as 150 in one spot in the Oban Hills National Park in Nigeria).

My wife, Nancy’s, pet project was to teach the parrot to whistle in the crocodiles in the usual way, and then toss in the bread to attract the fish. She thought that would really impress the guests. Kwesi saw the point, but thought it might stretch his parrot too far.

Nothing came of this project, however. Nancy left Ghana, and I went off to the wonders of Bia National Park for two weeks (nearly 300 species of butterflies recorded). It was the mango fruiting season, and each morning a ranger left camp to seed the forest tracks with a sackful of mangoes. This attracted hordes of the large, beautiful forest-floor Nymphalidae (*Euphaedra* Hübner, *Bebearia* Hemming, *Euriphene* Boisduval, and *Cymothoe* Hübner among others) – almost sixty species. These butterflies obviously cover a lot of ground to find suitable fruits, and then stay where such delicacies are available. So day by day more butterflies were on the track, to the point where it became difficult to target the few really interesting butterflies among the hordes of more common species. I counted up to 50 individuals on a single patch of mangoes; the entire seeded track must have held thousands.

A week later I headed back to Cape Coast for debriefing and the comforts of Hans Cottage. But where was the parrot? It was a sad story indeed. One fine evening the parrot had wandered to the shore of the lake where it had promptly been gobbled up by a crocodile! Nancy was heartbroken when I told her.— TORBEN B. LARSEN, 258 Coldharbour Lane, London SW9 8PL.

### ***Idaea seriata* Schrank (Lep.: Geometridae) cultured**

Gareth King’s note on rearing the Small Dusty Wave (*Ent. Rec.* **108**: 215-6) gives me the ideal excuse to record that as a schoolboy around 1950 I kept a culture of this species in a 2lb jam jar for several years. It was kept on the window-ledge of a north-facing, unheated conservatory, where no doubt the humidity was not too low. The jar

had the then usual snap-on metal rimmed lid with cardboard insert and paper centre, which I had pin-pricked. The culture was started with a female caught locally in Chiswick, west London. It was regularly bivoltine. The larvae were supplied with dandelion leaves and with a small tussock of fine lawn grass, probably *Festuca rubra*. They hibernated on the dead grass. As recorded in South's *Moths of the British Isles* 1939 edn. vol. 2: 112-113, they are content with withered food, which meant that they survived neglect and could be left throughout the winter and supplied anew when signs of feeding appeared in the spring. As I recall, the population seemed to remain stable at around 25 individuals. The larvae have the delightful habit of coiling into an interrogation mark when disturbed, as do their relatives.—RAYMOND UFFEN, 4 Mardley Avenue, Welwyn, Hertfordshire AL6 0UD.

### More on the limewoods of central Lincolnshire and their moths

I am pleased to see that my report on the 1995 survey of the above (*Ent. Rec.* 109: 109) has prompted Gerry Haggett's fascinating account of the history and politics of the management of the Lincolnshire limewoods (*Ent. Rec.* 109: 287-292). Furthermore his Table 1 is a most useful summary of some important moth records from 1971-1978 for the site. Gerry reports how many of his records were unfortunately omitted from the county list (Duddington & Johnson, 1983) but later issued as a supplement. He implies that I too should have made greater reference to his work and that of Ric Pilcher in my paper. I would like to state here that I am full of admiration for and greatly appreciative of the work of both these gentlemen. Graham Weaver, then of English Nature, and Rex Johnson supplied me with copies of lists of the species recorded previously and rest assured that these are permanently stored in their respective files and also somewhat familiar via Rex Johnson's later work for the Lincolnshire Naturalists Union (eg. Johnson, 1996. *The butterflies and moths of Lincolnshire – The micro-moths and species review to 1996*). My report to English Nature (cited in my paper) examined Ric's lists in some detail. However, the purpose of my paper for *Ent. Rec.* was not to attempt a historical overview, but simply to report the findings of the 1995 survey, most importantly of course the discovery of the pug *Eupithecia egenaria*. My reason for extending my coverage to species which have been recorded previously from this woodland complex is that Ric's and Gerry's records date from twenty years ago or more and here was a chance to update them and provide evidence of the continuing presence of these species. Also some of the species were recorded in parts of the woodlands without previous records. The choice of species listed was admittedly wide, but in this I was guided by what Rex found of some interest in a Lincolnshire context or I found of interest in the case of limewoods. For example, I mentioned the Lime Hawk-moth *Mimas tiliae* and the Orange Sallow *Xanthia citrigo* because I was surprised to see only one of the former and the latter in only two of my four trap-sites even though both feed on lime. Now Gerry's paper has complemented mine in a way that I could not have done. I trust both papers will be useful to those with an interest in these important woodlands, both now and in the future.—PAUL WARING, 1366 Lincoln Road, Werrington, Peterborough PE4 6LS.

## Hong Kong update

Brian Baker's nostalgic article about end-of-war Hong Kong (*Ent. Rec.* **109**: 189-192) prompts me to correct the impression that all butterflies may have been lost under the concrete jungle!

Having had two married daughters in the country (one of whom is still there), I visited it several times in the 1970s and 1980s, and found a remarkable butterfly fauna.

On one visit, my youngest daughter's flat was high above Happy Valley racecourse on Hong Kong Island. There was a ravine just behind the flats, where one could see numerous spectacular swallowtails flying up the watercourse, and such unusual forest species as *Discophora sondaica* (Amathusiinae) and the Palaearctic intruder *Hestina assimilis* (Apaturinae). A little further on, across the main road, I could walk through a country park covered with evergreen forest vegetation. Here flew the big black swallowtails *Papilio protenor* and *P. bianor*, Brian's green *P. paris*, and the little Riodinid *Abisara echerius*, among many others.

On another occasion, we stayed with my eldest daughter on a hillside outside Fanling in the New Territories. Here again there was a ravine by the house, where I would sit on the grass and count up to twelve swallowtail species, including the huge *P. memnon*. Higher up the hill, where the evergreen trees gave way to shrub, I found *P. xuthus* (similar in general appearance to *machaon*), various White Admirals in the genus *Athyma*, the fritillary *Argyreus hyperbius*, the Asiatic Red Admiral *Vanessa indica* and the spectacular Blue Admiral *Kaniska canace*.

Later still, both my daughters moved together beside a country park above the main reservoir. My eldest daughter planted an *Aristolochia tagala* vine over her aviary. Initially it became heavily infested with *Pachliopta aristolochiae* larvae, but in due course the Birdwings *Troides helena* found it and now breed on it from time to time.

Throughout Hong Kong, one sees numerous other large and interesting species in the genera *Danaus*, *Euploea*, *Hypolimnas*, *Precis* and many Satyrids. There are at least forty-five skippers and a similar number of Lycaenids. Altogether, when I was last there, the butterfly species list exceeded 200 and the Hong Kong Natural History Society periodically reports new additions. On my second visit, I was surprised to discover that a new species from south Asia, the palmfly *Elymnias hypermnestra* (Satyridae), which had not been present anywhere during my first visit, had already colonised many localities.

The butterfly fauna has been well described and illustrated in a 1980 government publication by Gweneth and Bernard Johnston. A local doctor, Mike Bascombe, has for many years had ready for publication a comprehensive work on the Hong Kong species, with full lifecycle illustrations. He recently produced a check list of the butterflies of South China. Let us hope that a financial sponsor will soon be found, to permit the publication of this important book.

There are several reasons for Hong Kong's natural history success story, some of them contrary to western pre-conceived notions. The country's agricultural area has declined substantially. Half the 9,500 hectares originally used for rice growing has

reverted to scrub, with benefits to the Hesperidae, Pieridae (such as the Giant Orange Tip *Hebomoia glaucippe*), and Polyommata; no doubt tree cover will eventually re-establish itself. High value commercial vegetable crops now cover the other half. All the villagers have moved out of the countryside. Who wants to feed himself by laboriously growing rice, when he can earn a modern income in the great city, and feed himself from surpluses grown much more efficiently elsewhere?

On the other hand, a great city needs recreational country areas, preserved from the depredations of human activity, not least because the reservoirs need clean catchments, and the high rise concrete needs protection from bare hillsides which may collapse in typhoons.

Consequently, many steep slopes have had afforestation programmes for decades, and places like Pai Po Kau Nature Reserve are approaching maturity in the regrowth of native species. Areas like Kadoorie Farm and Botanic Gardens, where the annual species count is around 160, are a haven for many butterflies. Most Chinese back yards have citrus bushes, with remarkable results for the swallowtail fauna.

Nor need one worry overmuch that crowds of people will damage the country parks. These places still have pythons, king cobras and other discouraging fauna which are protected by law, and with which the average city dweller would not want to argue. One can still die of exposure in the mountains of the New Territories, if one tries hard enough!

The daughter who is still in Hong Kong reports that, with the transfer of sovereignty to China, little seems likely to change for the time being. Indeed, other parts of China may well follow the Hong Kong model.—TIM DENING, 20 Vincent Road, Selsey, West Sussex PO20 9DQ.

### *Eumichtis lichenea* Hb. (Lep.: Noctuidae) in north-west Kent

A perfect specimen appeared at my garden m.v. light at Dartford on 26.ix.1997, to be followed by two more, one on each of the following two nights, all males. Plant (1993, *Larger Moths of the London Area*) quotes the six previous records for the region, the first in 1969, and including one specimen for north-west Kent in 1991. Chalmers-Hunt (1996, *The Butterflies and Moths of Kent*) notes that the species appeared to be extending its range, particularly inland, and in a supplement in *Ent. Record* 1980 (p.250) indicates a colonisation westwards along the north Kent coast, numerous specimens being recorded from the Isle of Sheppey from 1975 onwards, and in that year it was also noted at Sittingbourne on the nearby Kent mainland.

The specimens recorded at Dartford this year are by no means the only ones noted in north-west Kent in 1997, and the evidence points to all these moths being of local origin, possibly within the London area, ie. within twenty miles from central London.

It is instructive to find that Edward Newman (1974, *An Illustrated Natural History of British Moths*) portrays the species as being largely south-western in distribution, and omitted mention of the south-east, and Barrett (1987, *The Lepidoptera of the*

*British Islands*) states that *E. lichenea* was “apparently very rare in south-east England, and scarce in Sussex”. With the first Kent record being as late as 1875, for Folkestone, it seems that the comparatively late colonisation of the Kent coast has not ended, and today is continuing, including westwards up the Thames estuary.— B.K. WEST, 36 Briar Road, Dartford, Kent DA5 2HN.

### ***Lampropteryx suffumata* D.&S. (Lep.: Geometridae) in February**

I was very surprised to take a specimen of the Water Carpet *Lampropteryx suffumata* in my m.v. trap here on 24 February 1988, since the species usually appears here in mid-April, my earliest previous record being for 1 April 1997. Although I have found references to emergences as late as July, I have seen no mention of March or February. The night of 24 February was, significantly, mild, with five other species putting in first appearances for the year. It is, perhaps, worth mentioning that at least two possible foodplants were in evidence here at that early time.— ALASDAIR ASTON, Wake's Cottage, 1 The Street, Selborne, Hampshire GU34 3JH.

### **Recent records of *Fedalmia headleyella* (Staint.) (Lep.: Nepticulidae) in Wiltshire**

On 22 September 1996 my brother and I visited the Imber Ranges (VC8) on Salisbury Plain for a spell of general recording and collecting. Whilst investigating a section of broken ground on a west-facing escarpment at grid ref. ST9349 we noted a very compact cluster of *Prunella vulgaris* seedlings. It was immediately obvious that one of the leaves was purple in colour and closer inspection revealed that it was mined. As we had not previously encountered *F. headleyella* we tentatively assumed this was the species concerned. An investment of about one hour in searching revealed no other mines.

On the following weekend, 29 September, I was able once more to gain access to these Ranges and at ST9348 I found another tenanted plant. More searching at this site proved futile.

From these two tenanted plants we were very pleased to breed out, on 5 June 1997, two female *F. headleyella*.

On 20 September 1997 at ST9046 we found another tenanted plant and again further searching was in vain.

Whilst in correspondence with Mr Stephen Palmer concerning his work on the compilation of a list of the Wiltshire microlepidoptera the above-mentioned discoveries prompted me to enquire as to the previously known records of *F. headleyella* with the county. There appears to be only two known records (and I quote the data in full as supplied by Stephen) “Thrup Wood (VC7) 1 July 1877, from the Marlborough College List”, and the second, “From A.M. Emmet (*pers. comm.*). A VC8 record in 1977 from Mr S.C. Scarsdale-Brown (location unknown).”

Evidently *F. headleyella* has long been established in Wiltshire and probably substantially under-recorded. The map references I quoted above indicate a satisfactory distribution on the Imber Ranges and as these are the only locations which my brother and I have searched for *F. headleyella* and considering that *P. vulgaris* is a common enough plant I think it not unreasonable to assume that this

moth is probably widespread although our experience as of the moment suggests it may be at low density.

I would like to thank Stephen for the supply of data and I am certain if any reader has background information concerning the record by Mr S.C. Scarsdale-Brown details would be very much appreciated by all concerned.— M.H. SMITH, 42 Bellefield Crescent, Trowbridge, Wiltshire BA14 8SR.

### Flies and wasps at an Insect-o-cutor

In 1994 Mark Parsons presented me with a pot of material from an Insect-o-cutor inside stables at Richmond Park. From this material I extracted the hoverflies, larger Brachycera, selected Scathophagidae, and aculeate Hymenoptera which yielded 231 specimens, the bulk of which were *Eristalis tenax*, a species whose larvae develop in organically rich water and which must have been visiting the stables as a breeding site. The second most frequent species was *Syritta pipiens*, which is associated with decaying vegetation and which may also have been breeding within the stables. Other species recorded occurred at such low levels that they are likely to have been incidental captures rather than species directly attracted to the stables, especially as many are mainly represented by males. The overall species list comprised:

#### Diptera

##### Syrphidae

*Eristalis tenax* (14♂, 182♀); *E. pertinax* (1♀); *Myathropa florea* (1♀); *Syritta pipiens* (6♂, 10♀).

##### Stratiomyidae

*Beris chalybata* (4♂); *Chloromyia formosa* (1♂); *Pachygaster atra* (1♀).

##### Asilidae

*Dioctria baumhaueri* (3♂, 1♀)

##### Scathophagidae

*Cordilura albipes* (3♂)

#### Hymenoptera

##### Vespidae

*Vespula germanica* (1♀)

##### Sphecidae

*Crossocerus quadrimaculatus* (2♀)

##### Chrysididae

*Cleptes semiauratus* (1♀)

Insect-o-cutors clearly offer an opportunity to secure records of species that might otherwise be rarely met with, as is demonstrated by the record of *Cleptes semiauratus*, a species which I have seen on barely a handful of occasions. It would be interesting to see what occurs in other Insect-o-cutors, especially in the London area where *Volucella zonaria* is plentiful and has a habit of entering buildings.— R.K.A. MORRIS, c/o 241 Commonside East, Mitcham, Surrey.

## LEPIDOPTERA ON TIREE

DEREK C. HULME

*Ord House Drive, Muir of Ord, Ross-shire IV6 7UQ.*

A WEEK WAS spent with the Dingwell Field Club on the Inner Hebridean island of Tiree from 31 May to 7 June 1997. We were based at Hynish with accommodation at the Alan Stevenson House, which was originally a mid-19th century storehouse used during the construction of Skerryvore Lighthouse and restored between 1986 and 1991 by the Hebridean Island Educational Trust for the use of *bona fide* cultural groups.

Tiree, the westernmost of the Mid Ebudes (Vice-county 103), is noted for its beautiful beaches, dune systems and extensive areas of machair and, apart from three humps at its western side – the highest, Ben Hynish rising to a mere 141 metres – the twelve-mile long island is low-lying. Being so exposed to 120mph winter gales this fertile island is practically treeless. The rabbit is absent but the brown hare is common.

The weather throughout our stay was glorious with six days of continuous sunshine – in fact, 3 and 4 June were the sunniest places in Britain with 16.1 and 15.7 hours recorded – only the last day being cloudy with a stiff breeze. Most of the island in the 10km squares NL93, NL94 and NM04 was explored by means of the field centre's fifteen-seater minibus and on foot. The most northerly small portion in NM05 was not examined. Corncrakes were seen and heard along with fifty other avian species. Notwithstanding the fine spell of weather, the total of lepidopterous species recorded numbered just ten.

From three of the books listed at the end of this paper I have ascertained that thirteen species of butterflies have been recorded for Tiree as against eighteen for the neighbouring Coll. There are undoubtedly other records in the literature and unpublished lists unknown to me. The species recorded for Tiree are as follows:

*Pieris brassicae* (Linn.) Large White – Thomson (1980) map on page 84 (distribution dot for 10km squares NL93 and 94); Emmet and Heath (1989) map on page 105 (NL94); Dennis and Shreeve (1996) on page 94.

*P. rapae* (Linn.) Small White – Dennis and Shreeve (1996) p.94.

*P. napi* (Linn.) ssp. *thomsoni* (Warr.) Green-veined White

*Polyommatus icarus* (Rott.) ssp. *mariscolore* (Kane) Common Blue – Thompson p.122 (NL 93 and 94); Emmet and Heath p.159 (NL94); Dennis and Shreeve p.94.

*Vanessa atalanta* (Linn.) Red Admiral – Dennis and Shreeve p.94.

*Cynthia cardui* (Linn.) Painted Lady – Dennis and Shreeve p.94; Tom Weir, the noted mountaineer naturalist, saw two in mid-June 1996.

*Aglais urticae* (Linn.) Small Tortoiseshell – Thompson p.136 (NL94); Emmet & Heath p.201 (NL94); Dennis and Shreeve p.94.

*Inachis io* (Linn.) Peacock – Dennis and Shreeve p.94.

- Eurodryas aurinia* (Rott.) ssp. *scotica* (Robson) Marsh Fritillary – Thompson p.162 (NL94); Dennis and Shreeve p.94 (marked as a pre-1960 record).
- Hipparchia semele* (Linn.) ssp. *atalantica* (Harr.) Grayling – Thompson p.186 (NL93 and 94); Emmet & Heath p.265 (NL94); Dennis and Shreeve p.94.
- Maniola jurtina* (Linn.) ssp. *splendida* (White) Meadow Brown – Thompson p.192 (NL93 and 94); Emmet & Heath p.274 (NL94); Dennis and Shreeve p.94.
- Coenonympha pamphilus* (Linn.) ssp. *pamphilus* (Linn.) Small Heath – Dennis and Shreeve p.94 (pre-1960).
- C. tullia* (Müll.) ssp. *scotica* (Stdgr) Large Heath – Thompson p.198 (whole of Tíree and Coll circled); Dennis and Shreeve p.94 (pre-1960).

All the foregoing species have been observed on Coll with the addition of *Colias hylae* (Linn.) Pale clouded Yellow (pre-1960), *C. croceus* (Geoff.) Clouded Yellow, *Callophrys rubi* (Linn.) Green Hairstreak, *Boloria selene* (D.&S.) ssp. *insularum* (Harr.) Small Pearl-bordered Fritillary (pre-1960) and *Argynnis aglaja* (D.&S.) ssp. *scotica* (Watk.). In 1997 I added a fourteenth butterfly species for Tíree: *Anthocharis cardamines* (Linn.) Orange Tip.

### Tíree Lepidoptera 1997

On expressing my interest in entomology to the island's doctor John Holliday, following a headlong fall in a rough Lewisian gneiss cliff, he kindly photocopied a note on the surprising discovery of *Periclepsis cinctana* (D.&S.) by Dr Mark Young and Dr Michael Harper in early to mid-July 1985. The north coast locality between Balephetrish and Miodar, in the 10km square NM04, was visited twice but it was obviously too early for this rare tortricoid moth, previously known only from Kent and given the common name of Dover Twist in Heslop's 1961 list.

- Lobesia littoralis* (Humph. & Westw.) Shore Doubtful Marble – Tràigh Hough (NL94) one on *Armeria maritima* in dunes, 2 June. The specimen was as illustrated by figure 2 on plate 27 in Bradley, Tremewan and Smith (1979).
- Bactra lancealana* (Hb.) Dusty Marble – Ceann á Mhara (NL94) fairly common in rushes on coastal hillsides and machair flying in strong sunlight, 4 June. Specimen determined by A. Maitland Emmet.
- Epiblema scutulana* (D.&S.) Larger Blotch-marked Bell – St Patrick's Temple, Balephuil Bay (NL94) two males of the nominate form, 4 June.
- Chrysoteuchia culmella* (Linn.) = *hortuella* (Hb.) Garden Grass-veener – Port Ban (NM04) common on coastal machair, 3 June.
- Pieris brassicae* (Linn.) Large White – Vaul Bay (NM04) one on dunes, 1 June; Ben Hynish (NL93) one, 4 June; Salum (NM04) one, 5 June.
- P. napi* (Linn.) Green-veined White – Ringing Stone, Vaul Bay, Ben Hynish, West Hynish, Balephuil, Ceann á Mhara *et al* (NM04, NL94 and 93) fairly common throughout the island, 31 May-5 June.

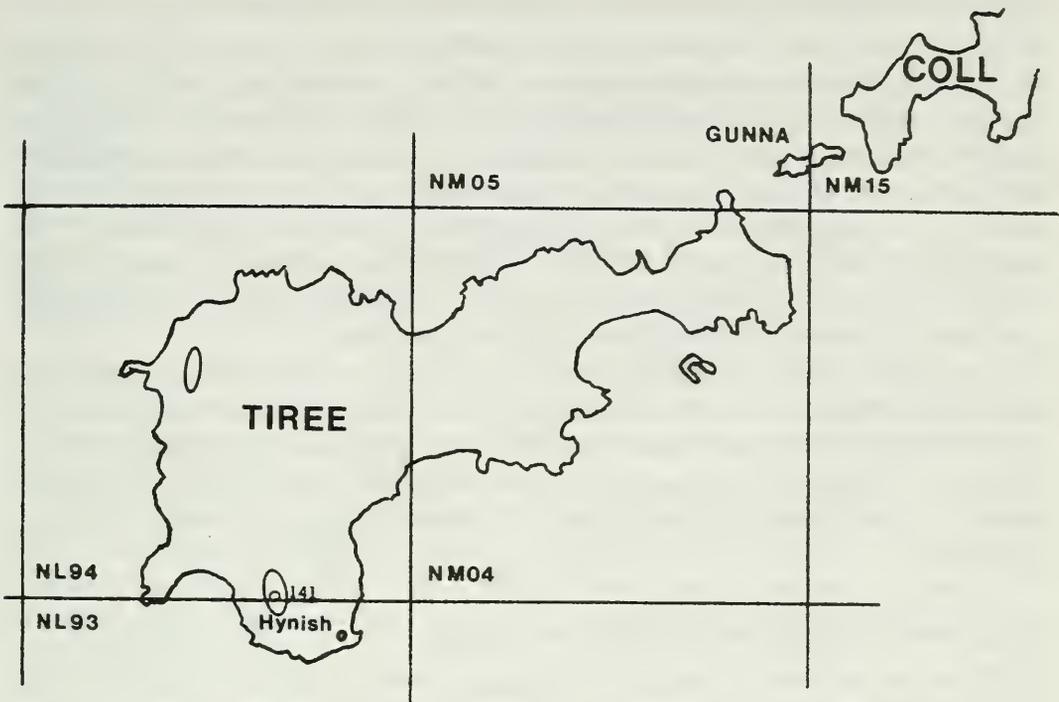


Fig. 1. The ten-kilometre squares of Tiree, Inner Hebrides.

*Anthocharis cardamines* (Linn.) Orange-tip – Heyipol (NL94) a male at close quarters, 31 May.

*Vanessa atalanta* (Linn.) Red Admiral – Hynish (NL93) one, 31 May.

*Aglais urticae* (Linn.) Small Tortoiseshell – singles at Balinoe (NL94) 31 May; Balemartine (NL94), 2 and 3 June; Port Ban (NM04), 3 June; and Salum (NM04), 5 June.

*Spilosoma lubricipeda* (Linn.) White Ermine – Hynish (NL93) five continually at rest during daylight hours on the entrance door of Alan Stevenson House, 31 May to 5 June and two remaining on 6 June.

It is hoped this short paper will encourage naturalists to record the lepidoptera of Tiree. I can see no reason why this island's butterflies should not equal the number of species observed on Coll.

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***Epiphyas postvittana* (Walker) (Lep.: Tortricidae) new to Ireland**

A male Tortrix moth, superficially resembling a form of *Clepsis spectrana* (Treitschke), was found on the evening of 8.ix.1997, apparently attracted to light, at Rosslare Harbour, Co. Wexford (Irish grid. ref. T125121). In order to establish the identity of the specimen, a genitalia preparation was made, but reference to Pierce & Metcalfe (1922. *The genitalia of the group Tortricidae of the Lepidoptera of the British Isles*) suggested that it was a species not represented in that work. The genitalia slide was therefore sent to the Natural History Museum, London, where Kevin Tuck kindly confirmed my suspicion that the specimen was *Epiphyas postvittana*, a species not previously recorded from Ireland.

This moth, a native of Australia, where it is a pest of apple orchards, has been spreading northwards from Cornwall, where it was first detected in 1936 (Bradley *et al.* 1973. *British Tortricoid Moths* 1), and it seems appropriate that it should be first detected in Ireland just 500 metres from the Ferryport linking Ireland with south Wales.— K.G.M. Bond, Dept. of Zoology & Animal Ecology, University College, Cork, Eire.

***Aglais urticae* L. (Lep.: Nymphalidae) in January**

At 2.30pm on the warm afternoon of 10 January 1998 my wife and I were surprised to see a specimen of this butterfly flying in Selborne churchyard, visiting various floral tributes – some of which were of plastic – and attempting to extract nectar. That behaviour would seem to support Maitland Emmet's opinion that "prompt sustenance is necessary once diapause is broken" (*Ent. Rec.* 110: 22). In 1997-1998, the winter fast may have lasted for as little as 59 days, since I had seen a specimen of *urticae* flying up the village street on 12 November.— ALASDAIR ASTON, Wake's Cottage, 1 The Street, Selborne, Hampshire GU34 3JH.

**Is *Phyllonorycter strigulatella* (Zeller) (Lep.: Gracillaridae) increasing its range?**

For several years now I have been monitoring an isolated group of grey alders *Alnus incana* growing near a footpath in Medmenham, Buckinghamshire for the presence of *Phyllonorycter strigulatella*. To my knowledge there are no other trees of this species within many miles of this site. Several of the other alder-feeding species of this genus have been reared from these trees, but no *strigulatella* until now.

Last Autumn I noticed leaf mines of a type I had not seen before. These were "underside" mines positioned between pairs of veins. The mines were narrow and highly contorted, such that the upper surface took the form of a tube and their underside edges almost touched centrally. They were small, averaging around 13mm in length, and most were positioned near the edges of the leaves but not reaching the margin. Their uppersides were distinctly reddish with a green area of uneaten parenchyma offset towards one end of the mine. Their undersides had numerous minute creases and were also reddish-orange in colour. The distinctive colour of these mines meant that they were very noticeable, whether in fallen leaves or those still on the trees.

On 24 November 1997 I collected several examples of these mines. After overwintering them in an unheated out-house I brought them indoors in early January 1998 and adults began to emerge on 12 February. The description of this moth's distribution given in *MBGBI 2* states that it did not, at that time, appear to be extending its range. The discovery of *P. strigulatella* on an isolated group of grey alders after at least seven years absence shows that it may now be spreading. I have since found it on the Balgrove industrial estate on the western edge of Swindon, Wiltshire and at Baynes Wood nature reserve near Greenham Common, Berkshire where it has been known for some time (Baker, 1994. *The butterflies and moths of Berkshire*). I have also reared it from alder *Alnus glutinosa* leaves found in a woodland at Blacknest near Brimpton Common, Berkshire on 10 November 1997. These mines were greenish in colour on their upper and under surfaces, but similar to those in grey alder in other respects. Baker reports *strigulatella* to be present here in grey alder, but I could not find these trees.

If *P. strigulatella* is able to utilise the common alder species this may explain how it has managed to colonise the rarer grey alders at Medmenham. I seem to recollect being told recently that others have found it in *A. glutinosa* too, but cannot recollect who, where or when.— I. SIMS, 2 The Delph, Lower Earley, Reading, Berkshire RG6 3AN.

### ***Stigmella ulmariae* (Wocke) (Lep.: Nepticulidae) in Buckinghamshire**

On 11 October 1996 I found vacated mines of *Stigmella ulmariae* in the leaves of meadowsweet *Filipendula ulmaria* growing in the grounds of WRc at Medmenham near Marlow in Buckinghamshire. On the 17 and 18 September 1997 I searched these plants in this area and found 10 tenanted mines and as many that were already vacated. The larvae were overwintered out of doors in an earthenware flower-pot containing potting compost and sphagnum moss that had been sunk up to the rim in my garden and covered with white polythene sheet. The pot was bought indoors on 1 April 1998 and on 6 April an adult (male) emerged.

This moth is localised to fenland in Oxfordshire, Cambridgeshire and north Hampshire (*MBGBI 1*). The meadowsweet plants at Medmenham are growing in a wet meadow with a peat top soil. This area is small in size, about one acre, and is surrounded by farmland. I believe it to be a remnant of a more extensive wet meadow that once occupied the valley of the River Thames in this area. This belief is supported by the presence of around 50 species of plants associated with such habitat, including the southern marsh orchid *Dactylorhiza praetermissa*, common meadow-rue *Thalictrum flavum*, bog stitchwort *Stellaria palustris* and ragged robin *Lychnis flos-cuculi* on the site. It is an interesting though small area and is sensitive to environmental disturbance, but is actively managed by a group of company employees on a volunteer basis. This involves subjecting the vegetation to various cutting regimes designed to produce short and long sward vegetation with associated fauna. Some areas are left undisturbed to provide a stable litter layer for invertebrates.

Recently the local water company installed a sewage pumping station very close to this site. A large area of orange balsam *Impatiens capensis* that supported a population of the RDB3 Balsam Carpet *Xanthorhoe biriviata* (Borkh.) was destroyed as a consequence. It also soon became apparent that the site was now subject to increased drainage, and so to try and counter this the conservation volunteers removed several large poplars, planted originally to act as a screen during building work. The aim of this was to reduce water loss from the sub-soil due to transpiration by the poplars and to eliminate the heavy leaf-fall and shading they produced. I hope to find evidence of *S. ulmariae* on the site this year.—I. SIMS, 2 The Delph, Lower Earley, Reading, Berkshire RG6 3AN.

### **The Small Quaker *Orthosia cruda* ([D. & S.]) (Lep.: Noctuidae) in Kincardineshire**

A single male *Orthosia cruda* was caught in the Rothamsted Insect Survey light-trap at Glensaugh, Kincardineshire (Site No. 567; O.S. grid ref. NO671782) on 26.iv.1996. Although widespread over the British Isles, this species is recorded less frequently in Scotland (Skinner, B., 1984. *Colour Identification Guide to Moths of the British Isles*. Viking) and has not previously been caught in the north-eastern Watsonian vice-counties of Kincardineshire, South Aberdeenshire, North Aberdeenshire and Banffshire (R.M. Palmer, *pers. comm.*). This record is therefore a significant contribution to our knowledge of the distribution of *O. cruda*.

Thanks are extended to Stuart Wright for operating the trap at Glensaugh which is part of the national Environmental Change Network project and to Bob Palmer for his comments on *O. cruda* in Scotland.—ADRIAN M. RILEY AND JOHN E. BATER, Entomology and Nematology Department, IACR Rothamsted, Harpenden, Hertfordshire AL5 2JQ.

### **Unseasonal Lepidoptera records from Rothamsted Insect Survey light-traps in 1997**

The observations below are relevant to those studying changes in Lepidoptera phenology related to current discussions on climate change (Woiwod, I.P., 1997. Detecting the effects of climate change on Lepidoptera. *Journal of Insect Conservation* 1: 149-158) and follows similar previous articles in this journal (e.g. Riley, A.M., 1995. Unseasonal Lepidoptera records from Rothamsted Insect Survey light-traps. *Entomologist's Rec. J. Var.* 107: 255-256).

During the spring of 1997 several species of Lepidoptera were recorded in Rothamsted light-traps earlier than usually expected. Most notable of these were Common Wave *Cabera exanthemata* (Scopoli), an individual of which was caught at Hamstreet, Kent (Site 472; O.S. grid ref.: TR 004 334) on 4 April and Scorched Carpet *Ligdia adustata* ([Denis & Schiffermüller]), one at Rothamsted, Hertfordshire (Site 611 (White Horse Spinney); O.S. grid ref.: TL 114 129) on 9 April. Both of these species do not usually emerge as adults until May.

Four species were recorded considerably outside their normal flight period. These are listed below with the expected months of emergence given in brackets.

*Poecilocampa populi* (Linnaeus) December Moth. One at Glencoe, Argyll (Site 558; O.S. grid ref.: NN119567) on 14 March (October to December).

*Colostygia multistrigaria* (Haworth) Mottled Grey. One at Rhandirmwyn, Dyfed (Site 346; SN782441) on 22 December (March/April).

*Epirrita dilutata* ([Denis & Schiffermüller]) (November Moth). One at Yarnar Wood, Devon (Site 266; SX786788) on 5 February (October/November).

*Odontopera bidentata* (Clerck) Scalloped Hazel. One at Rothamsted, Hertfordshire (Site 619 (Lodge); TL133131) on 10-13 October (May/June).

Thanks are extended to the operators of the light-traps cited in the text.— ADRIAN M. RILEY AND HUW L. JONES, Entomology and Nematology Department, IACR Rothamsted, Harpenden, Hertfordshire AL5 2JQ.

### **Two species of *Crumomyia* Macquart (Dip.: Sphaeroceridae) apparently new to Kent**

The Sphaeroceridae cannot be said to be one of the most popular families of British Diptera. Nevertheless the excellent Handbook by Dr B. R. Pitkin (*Handbooks for the Identification of British Insects* Vol. 10, Part 5e Lesser Dung Flies Diptera: Sphaeroceridae) gives very comprehensive county distributions for all the species. The following two species represent additions to the data given, although their occurrence in Kent is probably of no significance.

*Crumomyia pedestris* (Meigen) 2.xii.1984 Burham TQ715619. One male taken while “tussocking” for beetles along the eastern bank of the River Medway. This is a species with reduced wings and like several other species may not be found unless suitable collecting techniques are employed.

*C. notabilis* (Collin) 11.vi.1989 Shakespeare Cliff, Aycliffe TR3039. One male taken by general sweeping for Diptera in the site of former allotment gardens now developed as the A20 Dover to Folkestone road extension.— LAURENCE CLEMONS 14, St. John’s Avenue, Sittingbourne, Kent ME10 4NE.

### **A surprising record of *Chelifera diversicauda* Collin (Dip.: Empididae) in East Kent**

Representatives of the genus *Chelifera* are seemingly hard to find in the extreme south-east of the British Isles. Until recently the only species I had recorded within the county were *C. angusta* Collin and *C. precatoria* (Fallén) and, for the record, the data are given below.

*Chelifera angusta* Collin

21.vi.1983 Hothfield Common TQ968456; 2.vii.1984 Hothfield Common TQ970457.

*C. precatória* (Fallén)

30.v.1983 Oare Gravel Pits TR003629; 31.v.1983 Murston TQ92956485; 11.vii.1983 Hothfield Common TQ9645; 5.vi.1988 Holy Well TR222381; 16.vii.1988 Brockhill Country Park TR1435; 13.v.1989 Westbere Marshes. TR198608; 20.v.1989 Grange Alders TR1636; 4.vi.1993 Hale Street Ponds TQ6749; 21.viii.1994 Vinters Park LNR TQ775559; 10.vi.1995 Hothfield Common TQ969463.

During some routine sorting and curation of my empidid collection in March 1998 I came upon an unidentified male *Chelifera* which had been taken on 29.viii.1988 at Brockhill Country Park near Hythe in south-east Kent (Grid reference TR1435). A more detailed examination based on a dissection of the genitalia and further scrutiny of the characters given by Collin, 1961 (*British Flies Empididae*) revealed that the specimen related to *Chelifera diversicauda*. Collin stated that *C.diversicauda* had been taken in Scotland, the Lake District, West Yorkshire, Wales and Herefordshire and hence it is easy to assume that the species is characteristic of the north and west. Brockhill Country Park is situated on the Hythe Beds of the Lower Greensand and whereas a large part is cattle grazed grassland it supports a large pond and two gravel streams – Slay Brook and Brockhill Stream – and the Diptera fauna is not inconsiderable. It may be worth noting that additional studies of the insects in the Folkestone-Hythe area have revealed several species more characteristic of western counties.– LAURENCE CLEMONS 14, St. John's Avenue, Sittingbourne, Kent ME10 4NE.

***Blastobasis decolorella* Woll. (Lep.: Blastobasidae) in north-east Hampshire**

I was first introduced to *Blastobasis decolorella* through the good agency of Mr Wakely when I lived in Dulwich, South London, and later was pleased to find it new to East Suffolk (in 1959) and West Suffolk (in 1991). In July and August 1997 I again saw several at Framlingham in Suffolk but was very surprised to find one here in Selborne at my cottage m.v. light on 7 August 1997. Its congener, *B. lignea*, has become very common but, as far as I am aware, this was the first observation of *decolorella* to be recorded for North Hampshire.– ALASDAIR ASTON, Wake's Cottage, Selborne, Hampshire GU34 3JH.

***Xanthogramma citrofasciatum* Deg. and other hoverflies (Dip.: Syrphidae) in a London suburban garden**

It seems worth placing on record the occurrence of the generally uncommon hoverfly *Xanthogramma citrofasciatum* in my former garden at Blackheath, south-east London (West Kent), where I took single females on two occasions – 28.v and 1.vi.1969 – the dates being typical for the species. They were in the same area, a piece of rough ground with grass and a few clumps of mint *Mentha spicata*, and bare or almost bare patches. It was on these last that both flies were seen to rest and were caught. The situation was unlike that usually chosen by its commoner congener

*X. pedissequum* Harris, which prefers the vicinity of fairly tall herbage. *X. citrofasciatum* is not a typical insect, mostly favouring open country. The above record was too late for inclusion in *The Hover flies of Kent* (Chandler, 1969, *Trans. Kent Field Club*, 3(3), which includes all notable syrphid records from my Blackheath garden except the present one, *Didea fasciata* Macq. (*Ent. mon. Mag.* in press), *Melangyna lasiophthalma* (Zett.) (female in shrubbery, 1.vi.1973) and *Syrphus torvus* Osten-Sacken, rarely.— A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

***Pterostichus oblongopunctatus* (F.) (Col.: Carabidae) in north-west Kent**

This beetle appears very scarce in the south-east, becoming less so towards the west and north; it is quite common in the Forest of Dean and the Scottish Highlands, for instance. I first met with it (a single specimen) in the New Forest in 1935.

Among some Carabidae sent to me not long ago for checking by Mr K.C. Lewis I was surprised to find an example of *P. oblongopunctatus* which he had taken in a pitfall trap baited with meat, under pine trees, in Joydens Wood, Bexley, West Kent (12.vi.1967). No other has been found despite much trapping and other collecting in the locality. Under loose bark in woods is the most usual habit. I have heard of only one previous Kent record, some 10-12 years ago at a rough guess, but have no note of the locality or vice-county.— A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

***Syncopacma larseniella* Gozm. (Lep.: Gelechiidae) new to North Hampshire**

On July 1996 a specimen of *Syncopacma larseniella* flew to m.v. light at the cottage here, along with 290 specimens of 94 other species. I am grateful to John Langmaid, who kindly identified the insect by dissecting its genitalia, and to Barry Goater for confirmation of the record as new to North Hampshire. The foodplant, *Lotus pedunculatus* (= *uliginosus*), the Greater Bird's foot trefoil, is cited in *The Flora of Hampshire* (Brewis, Bowman & Rose, 1996) as largely absent from the chalk: the plant does, however, grow on the Greensand at about 400 metres from my light (*teste* Stephen Povey).— ALASDAIR ASTON, Wake's Cottage, Selborne, Hampshire GU34 3JH.

***Metopoplax ditomoides* (Costa) (Hem.: Lygaeidae) in north-west Kent**

Southwood and Leston (1959. *Land and water bugs of the British Isles*. Warne) gave Hounslow Heath, Middlesex as the first locality in which this distinctive little bug was found in England. Kirby (1996. *Heteroptera study group newsletter* No. 13) stated that, within the past six years, it has been found in Oxfordshire and Surrey. On 16 May 1998 I swept a single male *ditomoides* whilst recording Diptera at Crossness (O.S. grid ref. TQ 4980) on the south bank of the Thames near Erith. The area is largely derelict land, which, like so many areas along the extreme north coast of the county, is dry and sun-baked. The ground flora in the spot where the specimen was found consisted of various grasses, *Artemisia* spp. and *Medicago* spp.— LAURENCE CLEMONS, 14 St. John's Avenue, Sittingbourne, Kent ME10 4NE.

## BOOK REVIEWS

**Checklist of Lepidoptera recorded from the British Isles** by **J.D. Bradley**. (Technical Editors D.J. and M.J. Bradley). Cover drawing of *Monochroa hornigi* (Stdgr.) by Arthur Smith. vi + 106 pages, A4 paperback. ISBN 0 9532508 0 6. Published by D. J. & M. J. Bradley, The Glen, Frogham, Fordingbridge, Hants SP6 2HS. £10.50 plus £2.00 delivery.

Back in 1979 John Bradley, in partnership with D.S. Fletcher, produced the now almost universally used "*Log Book*" (Bradley & Fletcher, 1979). Quite apart from bringing up to date a very large number of incorrect names, this publication introduced the extremely useful numbering system for British Lepidoptera which was promptly adopted by most of us. The work was revised in 1986 (Bradley & Fletcher, 1986) though an unfortunate number of errors crept into that later publication. On a wider scale, however, no complete European checklist had been produced since 1901 until the matter was rectified by Karsholt & Razowski (1996). It was therefore inevitable that in the interim period several different countries, including Britain, in producing their own national checklists, employed differing names for species and used differing sequences in the lists. Karsholt & Razowski's work is unlikely to be perfect but, as I stated in my review of that work (in *Ent. Rec.* **109**: 162-166), "The ground is now laid. There is a clear opportunity for a revised British checklist, taking into account the various changes made". John Bradley has done just that – though I am sure he was working on it long before I made the suggestion! The result is a comprehensive and bang-up-to-date list of the species and subspecies of butterflies and moths known from Great Britain and Ireland, with original *Log Book* numbers.

Not surprisingly, not all of the generic changes publicised by Karsholt & Razowski find favour in this country; some of this may be due to traditionalism though some are undoubtedly wrong. Bradley's new British list very cleverly steers a middle course by listing contentious new names as synonyms whilst annotating them with a statement that draws attention to the fact that other authors do not agree. By retaining the original Bradley and Fletcher numbers any confusion over which species is intended is eliminated completely. Thus, in the Hepialidae, whilst Karsholt and Razowski regard the Orange Swift as being *Triodia sylvina* (L.) we read here ...

Hepialoidea

**HEPIALIDAE**

**HEPIALUS** Fabricius

14 **humuli humuli** (Linnaeus, 1758)  
ssp. **thulensis** Newman, 1865

[**TRIODIA** Hubner]

15 **sylvina** (Linnaeus, 1976)

**GHOST MOTH**

“ “ Shetland

subgenus, treated as genus by recent authors

**ORANGE SWIFT**

Several things may be noted from this short extract. First, the correct use of parentheses around the names of authors has been employed; second, that the dates when the names were applied by those authors are provided; third, that the list has a column of annotations. This latter is especially useful and contains much extremely important information. Species only recorded from the Channel Islands are excluded as being biogeographically non-British, an action which will delight many; exceptions are made for continental species that are spreading northwards and have reached the islands – probably a wise move as they may soon reach Britain – and this fact is mentioned in the annotations column so there can be no confusion.

Bradley has not, however, accepted much of the sequential changes and family/subfamily placings of Karsholt & Razowski. By way of example, the latter authors renamed The Uncertain *Hoplodrina alsines* (Brahm, 1791) as *H. octogenaria* Goeze, 1781 and removed it from the Amphipyridae to the Hadeninae, along with *Apamea*, *Xylena*, *Lithophane* and several other genera. Bradley retains the name *alsines*, commenting that *octogenaria* is a *nomen dubium* and clearly disagrees (in my opinion rightly so) with the shift of a bald-eyed species to a subfamily characterised by species with hairy eyes!

Those who, like the reviewer, enjoy collecting and studying Lepidoptera across the whole of Europe will be watching with great interest to see how other countries react to the Karsholt & Razowski list when they revise their own, and I very much doubt that there will be nomenclatural stability for some years to come. The recent French checklist, for example (Leraut, 1997) accepts the specific epithet *octogenaria* for The Uncertain, but places it in the subfamily Noctuidae! Bradley's new list does, however, provide a much needed update of the British species and includes many added since the publication of the 1979 and 1986 works already cited. It is not fully synonymic, though this is scarcely a criticism because the retention of the *Log Book* numbers makes cross-referencing a relatively easy task and in any case the inclusion of all those extra names would have resulted in a book that was large, expensive and un-necessarily confusing to the average lepidopterist. In any case, I understand that a fully synonymic revision of the Kloet & Hincks (1972) checklist is already in preparation by another author.

A useful glossary of technical terms and abbreviations used is to be found on page vi and the list is separately indexed by both English and scientific names, the latter also including genera, subfamilies and families. Conveniently, the typeface and letter sizes used seem to be the same as those in the 1979 *Log Book* and so those who wish to insert changes and new species into the correct places in their cabinets need do no more than photocopy the relevant pages, naturally having first obtained and paid for an original copy of the list – an action which I most strongly recommend. This list will set the new standard for the start of the next millennium – one which this journal will be adopting. There is not a single moth man (or woman) in Britain who can afford to be without his or her copy.

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Colin W. Plant

**Rearing Parasitic Hymenoptera** by **Mark R. Shaw**. *The Amateur Entomologist*, volume 25 edited by Mike Bonsall. 48 pages including four pages of coloured plates. Published by the Amateur Entomologists' Society, 1997. A5 softback, folded and stapled. ISBN 0 900054 62 X. £4.50 (add 10% for overseas).

Parasitic Hymenoptera may not be the most appealing of insects to a readership dominated by lepidopterists, but there can be few reading this review who have not at some stage encountered them, either at the moth trap or, more usually, when they emerge from some prized larva that has been lavished with the best possible attention for several months! Yet I wonder how many of us merely squash them in a fit of rage instead of recognising that having a confirmed host record for such an insect might represent a valuable and perhaps unknown contribution to the science of entomology.

The booklet contains much very helpful information about rearing and setting this quite large taxon which, possibly, may be the poorest understood group of British insects.

The chapter on general biology of parasitoids is comprehensive, well-written and extremely informative, though I find it hard to commit to memory the meaning of terms such as parasitoid, "true hyperparasitoid", "pseudohyperparasitoid", "facultative hyperparasitoid", "autoparasite", "cleptoparasite", "idiobiont", "koinobiont" or even "polyembryonic koinobiont endoparasitoid"!!! Sarcasm apart, it should not be beyond the serious lepidopterist, as opposed to the mere collector, to grasp the basics from this excellent publication and to start preserving bred parasitoids in a manner appropriate to their proper study. I know from personal experience that the author is keen to identify properly preserved and labelled material that has a positive host record, on the basis that such material can then be added to the collections at the National Museums of Scotland in Edinburgh, and I have no hesitation in recommending that anyone involved in rearing insects from any Order should purchase and use this book.

Colin W. Plant

**Insects on dock plants** by **David T. Salt and John B. Whittaker**, with illustrations by Michael J. Roberts. *Naturalists' Handbook* **26**, 1998. 56pages, A5, including 4 pages of coloured illustrations and several black-and-white illustrations. Published for the Company of Biologists by The Richmond Publishing Co. Ltd, PO Box 963, Slough SL2 3RS. Paperback £8.95 (ISBN 0 85546 309 0) and hardback £15.00 (ISBN 0 85546 310 4).

This latest title in the excellent *Naturalists' Handbooks* series from the Richmond Publishing Company is a valuable addition to the series and well worth adding to the library shelf. Numbers 22 to 24 were favourably reviewed in *Ent. Rec.* **109**: 101-102. The work covers insects found in association with the 13 members of the plant genus *Rumex* listed by Kent (1992) – so including sorrels as well as docks – although the helpful key to dock and sorrel species on page 23 only deals with 11 of these. Docks and sorrels are widespread and common over much of Britain and are far more easily examined than stinging nettles *Urtica dioica* – covered in *Handbook 1* (1983) so these plants can be excellent tools for the introduction of entomological study to children in particular. Apart from which, I have always wondered what it was that made those huge mines on the leaves!

Basic keys are provided to all invertebrate groups likely to be encountered on the plants and references are given for appropriate literature to take identification further. Some groups are keyed to species level in the book. Examination of the Lepidoptera section suggests that whilst the book is likely to be a useful beginners guide it may have less attraction to the more experienced entomologist. Sixteen moths and two butterflies appear in the keys, but the authors appear to have missed a further 14 micros (*Stigmella acetosae*, *Opostega salaciella*, *Calybites phasianipennella*, *Monochroa palustrella*, *Monochroa tenebrella*, *Teleiopsis diffinis*, *Aroga velocella*, *Scrobipalpa clintoni*, *Neofriseria peliella*, *Neofriseria singula*, *Coleophora hydrolapathella*, *Scythris potentillella*, *Aphelia unitana* and *Sitochroa verticalis*), which I took about five minutes to list from Emmet (1988). I did not attempt to check the macros. I suppose it is impossible to include everything in a work of this nature, but a useful addition might have been an appendix listing all the invertebrate species ever recorded on *Rumex* species in Britain so that the reader knows what he or she is up against.

Apart from this, and the fact that this journal has once again been dropped from the list of those worthy of contacting with a view to publishing discoveries, the book is good value for money and contains much useful ecological information as well as taxonomy.

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 Kent, D.H., 1992. *List of vascular plants of the British Isles*. London: BSBI.

Colin W. Plant

**Red Data Book for Cornwall and the Isles of Scilly** Edited by **Adrian Spalding**. 480 pages, A5, paperback, perfect bound. ISBN 1 901685 00 4. Croceago Press, Tremayne Farm Cottage, Praze-an-Beeble, Cornwall TR14 9PH. £15 (add £2.50 post and packing if ordered direct from publisher).

No less than 23 authors have contributed chapters to this *magnum opus* and Adrian Spalding, who is also an Assistant Editor of this journal, is to be loudly congratulated for taking all of these and drawing them together into a single coherent

volume. Information used in the compilation of the listings largely came from the computer database at the Cornish Biological Records Unit, which held data for Cornwall and the Isles of Scilly dating back to the fourteen century. The book has three sections: An Introduction highlights some of the issues of rarity in the region and defines the criteria used in selection of taxa for inclusion in the work; a terrestrial and freshwater section; a marine section. Most groups of insects are included though Ephemeroptera, Plecoptera, Neuroptera, Megaloptera, Mecoptera and some of the Diptera are excluded because of a scarcity of reliable data. Each included species is discussed under the headings "Range & Status", "Regional distribution", "Habitat & ecology", "Threats" and "Conservation".

I always find it rather depressing to read books such as this; the large size of the book alone brings home with a jolt the fact that so many plants and animals are under some form or other of threat. Listing them on a local basis, and discussing both the threats and the remedies in a cool, intelligent manner, has to be the first step towards encouraging and helping Government and others to take appropriate actions much higher than at the local level towards preserving the habitats that support these and so many other animals and plants. This is why it is so important that **all** naturalists of all persuasions send all their records in to the appropriate county Recorder at the end of each year. Cornwall and the Scillies together apparently have some 339 species which feature in the national *Red Data Book*, a further 657 that are classed as Nationally Notable and another 247 that are listed in the 1995 *Biodiversity Steering Group Report* as being of nature conservation interest.

As far as the Lepidoptera are concerned, Cornwall and the Scillies together have 38 *Red Data Book* species, comprising 25 micros, four butterflies and nine macros, as well as 153 Notable species. It is frightening to discover just how many times the words "site destruction" appear in the "Threats" section. Collecting may pose a threat for only two species, *Synopacma suecicella* and *Luperina nickerlii leechi* – the latter only in years when the population is particularly low. Cornwall appears particularly notable for its beetle fauna, especially weevils (Curculionidae) but of greatest interest, though perhaps not to all readers of this journal, is its marine flora and fauna.

The book is, of course, a work of reference, and it succeeds admirably in this task. It was jointly sponsored by the Environment Agency and English Nature and produced in association with the Cornwall and Isles of Scilly Federation of Biological Recorders and is worth every penny of its remarkably low price.

Colin W. Plant

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## AND JOURNAL OF VARIATION

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*Assistant Editors*  
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*November/December 1998*

ISSN 0013-8916

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THE NATURAL HOSTPLANT OF THE GREY CARPET MOTH  
*LITHOSTEGE GRISEATA* D.&S. (LEP.: GEOMETRIDAE)

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I FIRST came to the Breck in 1949 and I have been closely associated with its ecological treasures ever since. During these years I have enjoyed the pleasure of seeing both wild larvae and adults of the Grey Carpet moth, from early days when the moth was a regular frequenter of old hayrick sites and stacking yards and latterly as the insect decreased in numbers to assume the role of a nomadic species that might appear casually in almost any situation both within the area of the old Breck and around it, and with the larva as a rule nowadays less frequently encountered. In all this time I have become used to the association of moth and larva with flixweed (*Descurainea sophia* (L.) Webb ex Prantl.); this plant has long been known as an opportunist of bare, light soils of which there had always been an abundance in the brecks before afforestation and intensive agriculture, whereas the oft-quoted alternative host Treacle mustard (*Erysimum cheiranthoides* L.) is largely absent from the Breck soils. I regularly monitor the Breck headlands for lepidopterous larvae and I cannot recall ever seeing *Erysimum* there. Both plants are famed as succeeding on arable land, formerly throughout the crop but flixweed today will be found only at the field edges and where the use of herbicides has been less than total, although it seems to benefit from crop cultivation, for its best performance is often in the first metre or so of headland adjacent to the crop where competition from more aggressive annuals is reduced.

Over the years I have been greatly bothered by the practice of too many authors in presenting both *Erysimum* and *Descurainea* as unqualified equally accepted wild hostplants for this moth. The earliest British record of *Descurainea* as the wild food of *griseata* is by Hellins (1867) then repeated in Buckler (1886-1910), where also the first mention of *Erysimum* as a substitute food for captive larvae is given. Since then these two plants have been quoted by British authors thus Wilson (1880), Tutt (1901-1905), Barrett (1893-1907), South (1907), Scorer (1913), Newman and Leeds (1913), Stokoe (1984). Both Barrett and Allan add a number of alternative plants said to be acceptable to captive larvae. Only Hellins (repeated in Buckler) and Tutt give accounts that read as original field observation and all the rest appear to be copied from these except for Skinner (*pers. comm.*) who himself had the larva from *Descurainea*. Hellins wrote "Mr T. Brown of Cambridge found the larva feeding on *Sysimbrium* (= *Descurainea*) *sophia*" and "the larvae, which I have had this summer, whether bred or captured, thrive equally well on *Erysimum cheiranthoides*, seeds of which had been sent me in mistake for those of *S. sophia*". Tutt wrote "Towards the end of July at Tuddenham, examine the heads of *Sysimbrium* (= *Descurainea*) *sophia* which are first seeding. Many of the apparent seed pods will be found to be full-grown larvae of *Lithostege griseata*"; and again "The eggs of *L. griseata* are laid on *Sysimbrium* (= *Descurainea*) *sophia*, on which the larvae are to be found at

Tuddenham. *Erysimum cheiranthoides*, however, proves a good substitute foodplant". Most of the records of *griseata* are of adult moths but amongst the few post-war accounts of wild larvae are those by Chalmers-Hunt and Wakely (1964) thus "Larvae of *Lithostege griseata* Schf. were swept from plants of Flixweed (*Descurainea sophia*) and Tumbling Mustard (*Sisymbrium altissimum*)" and by Goater (1969) "Plenty of larvae of *Lithostege griseata* Schf., mostly full fed, were found on Flixweed *Descurainea sophia* (L.)". In "Breckland notes, with reference to the more important species" (1951) I described how *L. griseata* was associated with cultivated ground where *Descurainea* was most plentiful and that I thought *Descurainea sophia* to be the only hostplant. The more recent monumental Chart by Emmet (1991) gives *Erysimum* as the sole host, and I must plead guilty in allowing this to pass into print, as I had been invited to scrutinise all of the macro species and I overlooked this most important error.

Both *Descurainea* and *Erysimum* have been firmly classified as plants introduced by man, thus Clapham, Tutin and Warburg (1962), Trist (1979) and Petch & Swan (1968); of *Descurainea* Trist says "Established alien. Common and widespread. Mainly in arable but found in open places, road verges, tracks and on waste ground. Colonist being able to grow only in habitats created and maintained by human activities, weed of cultivation"; of *Erysimum* Trist writes "Established alien mainly in arable, less frequently on waste ground, road verges, tracks, gardens. Uncommon in the Suffolk Breckland and rarely abundant in the remaining sites in Norfolk". Despite the statements by modern botanical authors that both plants are of alien origin, there is evidence that they existed in Britain long before historical times and certainly before the first cultivation by Neolithic man who is most often credited with the introduction of ruderal species into Britain as he repopulated it from southern lands. The second edition of Godwin's *History of the British Flora* (1975) includes both *Descurainea* and *Erysimum* in the list of weeds and ruderal species recorded from fossil evidence of the late or even mid-Weichselian period, say some 10,000 to 50,000 years before present. The supposition is that when the greater part of Britain was subsequently tree-covered these and similar plants of light soils that could tolerate but little shade would have survived best in places like the Breck until clearings by man allowed them to increase.

Even more of interest is the comment by an early writer on the habitat of these two plants. John Ray (1660) says of *Descurainea* "On the borders of fields" and of *Erysimum* "In the Osier holts about the bridge at Ely, and in all the other Osier grounds by the river side there", this latter statement being something of a surprise to us today but curiously borne out by Hegi (1909-) who says unambiguously of continental *Erysimum cheiranthoides* "Scattered in gardens, in fields, on roadside and riverbanks, usually on mild humus ('mull') sandy and silty soils in summer-annual weed communities". The fact that *Erysimum* was in Ray's time a plant of damper habitat and that today it is still to be found in such places, for example, in the Norfolk Broads, as well as on heavier garden and agricultural soils suggests that it might not then have been the habitual hostplant of so light-soil demanding a species as *griseata* any more than it is today. Botanists of long-standing Breck experience

have confirmed to me that they have encountered *Erysimum* only in the odd locations where there may be boulder-clay deposits. I certainly see *Erysimum* only in my loam-over-clay-with-flints vegetable garden which is just off the Breck sands. This geometrid moth would most certainly not have survived the phases of glaciation in Britain and whether it arrived before the land link was broken or latterly, as a consequence of man's husbandry or parallel with it, is of less significance than the fact that both plants were available from these very early times.

I summarise by saying that whereas there is evidence to indicate that both *Descurainia sophia* and *Erysimum cheiranthoides* have been known from Britain since the Ice Ages and therefore both have been likely available to the larva of *griseata* from the time that the moth has also been resident, the preference of *Erysimum* for heavier soils of higher nutrient status is another factor that argues against its common availability to a moth that has never been known to be resident other than on the uniquely barren sandy calcareous soils of the Breck district of East Anglia. And whereas there are well documented instances of the larvae of *griseata* being found wild on *Descurainia* there are no records of them being found on *Erysimum* and literary references relating to this plant are of larvae fed upon it only in captivity (as with other crucifers).

When rearing *griseata* from wild females I have found eggs to be laid on all parts of the *Descurainia* plant but especially freely on the flowering shoots and young seed-pods, and that larvae fed up speedily and healthily on those parts, working their way from newly-set pods to ripened pods in the last instar. Captive stock did well when placed in cages with a gauze top in full sunshine during morning and evening, but larvae became restless in the very hot afternoon sun. I have never succeeded in rearing from the egg in plastic boxes. Although the temptation is to give dry sand for pupation, pupae are well formed in other dry media and moths may be produced over the next two summers. I cannot confirm that pupae were formed deep in their medium as noted by Newman and Leeds (1913) but I have repeatedly noted that pupae are formed without cocoons. Larvae certainly do eat seedpods of *Erysimum* in captivity and in 1997 I put a number of wild-taken larvae of about one-third to one-half grown on to *Erysimum* and watched them eat the pods and reach last instar on them, but they pupated very undersized to produce miserably small pupae.

I must record that following introduction of the conservation policy of leaving headlands in the Breck uncropped but still cultivated, there has been an abundance of *Descurainia* that have grown dense and vigorous for the first two years, then weaker on the more fertile soils until three or four years later the plant there has been largely absent, although hopefully with renewed seed-bank. Where headlands have been subsequently cultivated annually on the poorest soils *Descurainia* is a prominent constituent of the residual Breck flora, whilst cultivation in alternative years yields only sparse plants in the second year. It was the considerable ground disturbance with abundant *Descurainia* that resulted in the sudden population rise of *griseata* at the site of the leisure centre development on 1991 in Suffolk.

1997 was an outstanding season for *griseata*. It began in early June when more moths were seen in Norfolk, and more on any one night, than has been the case for

some years. A month later the first larvae were located on conservation headlands of arable land, and a survey of a series of very extensive headlands revealed an astonishing abundance of *Descurainea* distributed linearly along headlands of the standard six metres width with *Descurainea* concentrated in the first two metres, and commonly only in the first, from the edge of the crop whether corn or sugar-beet. I made larval counts on these headlands from 10 to 26 July and I found larvae of *griseata* thinly distributed throughout the series, but with higher concentrations at some locations where numbers could reach 60 (all instars) over 400 linear metres (or say 500 square metres of *Descurainea*). Only larvae up to second instar were found on younger, very green, plants with immature pods, the bulk coming from older plants with some pods showing brown, and there were some larvae – and not all fully grown – from plants quite pale brown with opened dry pods. Larvae of *griseata* were present on flixweed in close association with goosefoot, mugwort and creeping-thistle in addition to their presence in patches of pure flixweed.

The Breck headlands were resplendent in 1997 giving the finest floral display for years in white, blue and yellow, with *Silene*, *Echium*, *Descurainea*, *Galium* and chamomile the principal contributors. Erratic the season's weather may have been yet the alternating deluge and heat of June produced astonishing growth on these sterile soils; *Descurainea* which in most years can be expected to reach knee-height was commonly waist-high and even above this, individual plants forming grotesquely spread bushes in contrast to the normal slight, upright habit, on some sites it grew into sprawling thickets. Seed from all these plants was prodigious which augurs well for the future, but the key to the future success of both plant and moth will much depend upon retention of the environmental headlands concept. In this year of lush Breck growth and regeneration I kept an especially sharp look-out for *Erysimum* but I saw none.

The frequency of these larvae gave opportunity to witness their range of variation. In mid-growth the basic colours were beige, green or pale yellow, while last instar colours were commonly green with white lateral band, others light-brown to ochreous; examples within each instar merged one colour into the next. A few had well-patterned dorsal markings very similar to those of larvae of *Scotopteryx* species (and one wonders why current systems of classification place *Lithostege* so far from them). The variegated form that has black and white patches laterally with black extending dorsally is present in the penultimate and last instars but loses its clarity before full growth.

Larvae of other species found with *L. griseata* on pure *Descurainea* were: *Pieris rapae*, *Xestia c-nigrum*, *Dicestra trifolii*, *Autogramma gamma*, *Heliothis virescens*, *Mamestra brassicae*, *Xanthorhoe fluctata* which could look very like *griseata*, *Epirrhoe alternata* and *Eupithecia centaureata* whose plain green and pale yellow forms could also appear like *griseata*. The larvae of *M. brassicae* were all in their early instars when they were a delicate blue-green with paler lateral line and paler intersegmental folds, and not at all like the familiar last instar; they were heavily parasitised by the hymenopteron *Aleiodes* but by a distinctly different species from that which attacked *griseata* and *alternata*.

These *Aleiodes* that attacked *M. brassicae* were in captivity themselves subject to being eaten by large larvae of *brassicae*, a retribution hitherto unknown to me but which Shaw described in 1976 (Shaw, 1976). As Mark Shaw found, the parasitoid was consumed only when newly spun and before its case had hardened. The *Aleiodes* that attacked *griseata* were mostly hyperparasitised by *Mesochorus* (all parasitoids determined by Mark Shaw).

### Acknowledgements

I am indebted to Dr David Coombe of Christ's College, Cambridge for botanical research and references. I offer my apologies to Maitland Emmet for my failure to correct the error in his *Chart* (Emmet, 1991). Dr Mark Shaw kindly identified parasitoids. Larval counts were made on property of the Ministry of Defence as part of continuing monitoring by the Conservation Group of Stanford PTA, Norfolk, and I am pleased to record my thanks to the Commandant and his staff for their ready permission and co-operation.

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### Observations on reproduction in Kampods (Diplura: Campodeidae)

Whilst it is known that kampods are active during the whole year (Blesić, 1987, The dynamics of the fauna of Campodeidae (Diplura, Apterygota) in the surroundings of Kragujevac. *Collection of Scientific Papers of the Faculty of Science Kragujevac* 8: 35-49; and in press, Feeding dynamics in the Campodeidae (Diplura, Insecta) – *Bios, Thessaloniki* (Macedonia, Greece), little is known about their reproductive cycle. Investigations were carried out on eight species of kampods – *Campodea* (*Campodea*) *colladoi*, *C. (C.) silvestrii* and *C. (C.) wallacei*; *C. (Dicampa)* *campestre*, *C. (D.) frenata* and *C. (D.) malpighii*; *C. (Paurocampa)* *suensoni* and *Podocampa serbica*. A total of 534 females were collected, mostly from the litter of an oak forest community of *Quercus confertae-cerris* and in a hilly meadow, community of *Poeto-Festucetum pratensis*, over several years in the period February to November. The ovaries of these females were mounted on microscope slides for examination.

A total of 109 of these females had active ovaries. A majority of these had active ovaries from April to June. However, *C. (P.) suensoni*, from both forest and meadow, has active ovaries from April to November (Table 1).

Month of year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
<i>C. Colladoi</i>				+	+	+						
<i>C. silvestrii</i>				+	+	+						
<i>C. wallacei</i>					+	+						
<i>C. campestre</i>			+	++	+	++						
<i>C. frenata</i>			+	+	+	+					+	
<i>C. malpighii</i>				+	+							
<i>C. suensoni</i>				+	+++	+++	+	+	+	+	+	+
<i>C. serbica</i>				+	+	+	+					

Evidently reproduction in kampods happens mostly in spring, but in some cases it covers a prolonged period from spring to autumn. The reasons for the differences in the periods of activity of the ovaries of females of some species, as well as differences between individuals from forest and meadow which are not presented here may perhaps be explained by micro-climatic conditions but clearly further investigation is required.– BELA BLESIC, Faculty of Science, University of Kragujevac, 34000 Kragujevac, Yugoslavia.

**REARING *CYDIA COROLLANA* (Hb.) (LEP.: TORTRICIDAE), *BILLAEA IRRORATA* (Mg.) (DIP.: TACHINIDAE) AND OTHER INSECTS FROM GALLS OF *SAPERDA POPULNEA* (L.) (COL.: CERAMBYCIDAE)**

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THE ONLY TWO confirmed British records for *Cydia corollana* (Hb.) are from Whittlesey Mere, Huntingdonshire captured by P. Bouchard in July ca. 1850 and the specimen which I had the good fortune to capture at my light on 26 May 1982 in Burnt Oak Wood, Hamstreet, Kent (Jewess & Tuck, 1987). As far as I am aware, in spite of a number of entomologists searching for this species in the intervening period no further specimens have been recorded. The queries remaining to be answered concerning the status of this species in Britain are confirmation that the species is breeding in this country and its emergence time (May or July). In an attempt to resolve these questions, I have endeavoured to rear this species from its reported pabulum, the galls which the cerambycid beetle *Saperda populnea* (Linnaeus) makes in the stems of Aspen *Populus tremula*.

I collected *Saperda* galls from Burnt Oak Wood in early March 1996 and 1997. These were found on both old trees and 4 - 5 year old saplings and consisted of galls from which the beetle had obviously emerged and ones which were hopefully still active. The galls were reasonably easy to find and were mostly located on 5 to 10mm diameter stems. They were cut and trimmed to about 15cm. in length and placed vertically in a layer of damp potting compost in six inch plastic pots covered with a piece of nylon mesh. The pots were placed in a sheltered position in the garden and brought indoors on the 18 April (both years). I collected 30 galls in 1996 and 59 in 1997. Neither *C. corollana* nor *Saperda populnea* was reared during 1996, however, there was evidence that the pot had become overheated on one occasion. A number of tachinid flies did emerge during the middle of May and in July a single specimen of *Anacamptis populella* (Clerk) (Gelechiidae) emerged. This latter species had presumably developed from the larva which spun the aspen shoots sprouting from the potted stems. It is therefore probable that the eggs of this species are laid on the stems of the food plant and hatch as the tree comes into leaf. During the winter I dissected out all of the galls; this established a number of things. First, I was not as good at spotting galls as I thought I was, since about 30% were simple thickenings of the aspen stems totally unconnected with any insect activity. Secondly, I found three dead lepidopteran pupae and two pupal exuviae within the larval beetle burrowings inside the genuine *Saperda* galls. However, I could not establish whether these were old galls or galls which had been tenanted during the current year. The results from the galls collected during 1997 were better, probably due to the pots not becoming subjected to extremes of heat. Again, from 12 - 15 March three specimens of tachinid parasitoids emerged. I identified these as *Billaea irrorata* (Mg.) by using the key in Belshaw (1993). This species has been recorded previously in Britain as a parasitoid of *Saperda populnea* and probably less reliably from larvae of *Synathedon flaviventris* (Stdgr.) (Sesiidae), presumably on willow. On 21 May a male specimen



**Plate 1.** Pupal exuviae of *Cydia corollana* (Hb.) protruding from a gall made by the cerambycid beetle *Saperda populnea* (L.) in an aspen *Populus tremula* stem.

of *Cydia corollana* emerged. This individual left its pupal exuviae protruding from a hole in the gall from which frass also appeared to exude (Plate 1). I had not noticed the frass at the time I collected the galls but I could well have overlooked it amongst the number of stems which I had obtained. Again, as in 1996, larvae of *Anacampsis popullella* spun up the young shoots which sprouted from the aspen and duly emerged as adults during July. Three specimens of *S. populnea* emerged in June and early July. Upon dissecting out the galls during October I found my identification of galls was improving, since of the 59 stem thickenings examined, all but eight were *Saperda* galls. I found in the larval borings three dead larvae and one dead pupa of *S. populnea*, four empty tachinid puparia and two empty puparia of what appeared to be a smaller

dipteran species. Also found was one empty pupal case identical to those discovered in the previous year and it is considered likely although not proven that these pupal cases are those of *Cydia corollana*.

In summary, it is clear that *Cydia corollana* exists at very low population density and that the assertion by lepidopterists that it has not been located at localities where *Saperda* galls are common is no proof that the insect is not present. It would seem most probable from the above limited information that the emergence period of the adult is towards the end of May and not July as suggested by the 19th century record.

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**MEDON DILUTUS (ERICHSON) (COL.: STAPHYLINIDAE) IN  
RICHMOND PARK, SURREY**

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DURING 1997, a survey of beetles living underground at the roots of old trees in Richmond Park was carried out, using underground pitfall-traps as described by the author (Owen, 1997). Among the beetles present in a trap at the end of July was a specimen of *Medon dilutus*. The trap had been set in the middle of May as close as possible to the base of a large, long dead oak standing in light soil among bracken in an otherwise open area (OS grid reference TQ 211735) and had last been inspected at the end of June. The trap was left in position for a further 12 weeks. By the end of 1997, traps had been set at the roots of 18 old oaks in various parts of the park, including six in the enclosed Sidmouth Wood. The total effort amounted to 240 trap-weeks but only the one example of *M. dilutus* was obtained.

As stated by Allen (1996), there have been only three reports of *M. dilutus* being taken previously in Britain, the last more than 90 years ago. The first of these is given by Fowler (1888) who refers to a specimen taken by Sharp at Cairn Water, Solway on 22.iv.1869 and now in the Natural History Museum, London. It turns out, however, that the specimen is, in fact, an example of *M. ripicola* (Kraatz) (Hammond, *pers. comm.*). The next report concerns a specimen taken by Collins in Tubney Wood, Berkshire on 20.xi.1899 and reported by Joy (1904). This specimen was recently traced to Reading Museum and has proved to be a genuine example of *M. dilutus*. The third report refers to a specimen taken in Frame Wood, Hampshire on 13.vii.1907 and reported by the captor (Walker, 1907) but efforts to locate this specimen for examination have not been successful in spite of many enquiries.

Beare (1901) reported sweeping a specimen of *Medon castaneus* (Gravenhorst) in Richmond Park, the only example of the species to have been recorded from the Park. This is a species which could be confused with *M. dilutus*. I have, however, examined the specimen, now in the Royal Scottish Museum, Edinburgh, and found it to have been correctly identified.

Overseas, *M. dilutus* is distributed throughout the western half of Europe, reaching from southern Sweden to southern Italy. It inhabits also, partly in the form of cave-dwelling subspecies, the Mediterranean region, including the north coast of Africa, some of the Mediterranean islands and the Canary Isles (Bordoni, 1982; Coiffait, 1984). In northern and central Europe, *M. dilutus* occurs among old oaks in parks, sometimes associated with nests of animals such as moles or foxes (Sainte-Claire Deville, 1935; Horion, 1965; Koch, 1989). In keeping with this, Richmond Park is a large deer park with many ancient oaks. There was no evidence of animal inhabitation immediately by the tree where the Richmond Park specimen was taken though there are rabbit burrows at the roots of old trees within a short distance. A recent visit to Frame Wood revealed that it still holds many old oaks with little evidence that it has changed much since Walker took his specimens in 1907, or

indeed for many years before this. It was never enclosed and, accordingly, not subjected to silviculture. Tubbs (1986) provides a relatively recent photograph of the site. Contemporary accounts indicate that Tubney Wood at the time of Collin's specimen was similarly a wood with many old oaks and, though it is now somewhat fragmented and partly developed, it still has a few old trees.

It would be interesting to know why Joy (1932) did not include *M. dilutus* in his handbook of British beetles having seen and identified Collin's specimen. Whatever the reason, the existence of at least two confirmed specimens puts the British status of this beetle beyond further question. It is readily distinguished from other members of the genus occurring in Britain by its size (4.5 - 5 mm) and by having a uniformly punctured pronotal disc without a smooth central line. With Joy's key (*loc. cit.*), *dilutus* runs down to either *ripicola* or *fuscus* (couplets 20 - 22), from which it is distinguished by its uniformly punctured pronotal disc. With Fowler's key (*loc. cit.*), the identification of *dilutus* would seem quite straightforward.

### Acknowledgments

I thank Mr S. Richards, for permission to set underground pitfall traps in Richmond Park. Mr P. Hammond, with his usual kindness, confirmed the identification of my specimen, advised on the identity of Sharp's and Collin's specimens and directed me towards some of the literature consulted. I am grateful also to Dr B. Levey, Mr C. Johnson, Mr S. Judd and Mr D. Mann for information on the collections held, respectively at the National Museum of Wales, the Manchester University Museum, the Liverpool Museum and the Oxford University Museum. I must thank also Mr B. Baker, Mr T. Harrison and Mr P. Whitton for help in tracing Collin's specimen of *M. dilutus* and Mr David Notton, Reading Museum for finally locating the specimen and allowing its examination. Lastly I must thank Dr M. Shaw for facilitating the examination of the specimen of *M. castaneus* collected by Sir Hudson Beare.

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**MORE MICROLEPIDOPTERA FROM GLAMORGAN**A.M. EMMET<sup>1</sup> AND D.J. SLADE<sup>2</sup><sup>1</sup> *Labrey Cottage, 14 Victoria Gardens, Saffron Walden, Essex CB11 3AF.*<sup>2</sup> *180 Woodville Road, Cathays, Cardiff CF2 4NW.***Introduction by AME**

DAVID SLADE published a valuable list of the Microlepidoptera he had taken in South Wales in 1995, recording four species new to Wales and over 30 new to Glamorgan. In his paper he stated that "Light-trapping . . . is generally accepted as the main method for collecting Lepidoptera" (*Ent. Rec.* **109**: 31-39).

He had shown me the typescript of his paper and I had advised him of the numbers new to Wales and Glamorgan respectively, but he later added another species which was also new to Wales. Accordingly, I contributed a note (*Ibid.* **109**: 114) in which I congratulated him on his fifth new species and added that although he was correct in his statement about light-trapping, the trap was a poor substitute for fieldwork and that I would expect to be able to add at least 50 species to his list on a single day in late October. David eagerly took up the challenge and kindly invited me to stay, 20 October being selected for the attempt.

When I made my prediction, I was not to know that 1997 would turn out to be possibly the worst year in living memory for leaf-mines. The cold weather in June probably reduced the number of adults that emerged and inhibited the mating and egg-laying activity of those that did so, with the result that many common species were virtually absent, though, strangely, a few seemed unaffected. The same story is told by microlepidopterists throughout England. It was therefore with grave doubts of success that I drove down to Cardiff on 19 October.

David had never attempted recording from leaf-mines before, but was very quick to learn. Since the achievements of the day were a joint effort, he now joins me in the authorship of this paper.

**The fieldwork, by AME and DJS**

The 19 and 21 October were beautiful autumn days, but the 20th was windy and wet, a drizzle in the morning but a downpour with a strong, cold wind in the afternoon. This failed to dampen our enthusiasm, but certainly added to the difficulty of recording. We visited four areas in the western outskirts of Cardiff. The first was Plymouth Great Wood, not named on the OS map (see below for map reference). We entered near the east end, where there was plenty of oak, beech, sycamore, maple and hazel, with a lesser amount of willow, blackthorn and hawthorn. The ground flora included brambles, rosebay willow-herb and St John's-wort. Then we drove to the western end of the wood, where in and around a narrow strip beside the River Ely we found alder and grey alder, crack willow, Norway maple, meadowsweet on the riverbank and a single, almost leafless elm sapling in a hedgerow, the only elm we saw all day. We then adjourned for lunch at the Plymouth Arms at St. Fagans, where the car park afforded what was possibly the best record of the day, *Parornix fagivora* (Frey) on beech. In the afternoon we visited Llandaff Playing Fields, which

are surrounded by mixed woodland trees such as oak, hawthorn, alder, maple, willow and beech, with some patches of rush on the ground beneath. There were also two or three silver birches and a single rose. The wind and rain made recording difficult.

The paucity of leaf-mines is illustrated by the day's findings on oak which we searched more assiduously than any other foodplant. From the list that follows it will be seen that the usually abundant nepticulids and gracillariids were found only singly or as "a few" (five or under), and several common moths such as the *Caloptilia* spp., *Bucculatrix ulmella* Zell. and *Ancylis mitterbacheriana* ([D.&S.]) were not seen at all. Only *Phyllonorycter lautella* (Zell.) was reasonably plentiful on seedlings that were regenerating freely. On other foodplants, too, usually ubiquitous species such as *Ectoedemia atricollis* (Stt.) and *Stigmella hybnerella* (Hb.) were not found on hawthorn, nor *S. hemargyrella* (Koll.) on beech. We collected the few *Phyllonorycter* mines we could find on willow, but bred only *P. hilarella* (Zett.) in the spring. Was Cardiff or 1997 responsible?

In spite of these limitations, we achieved our objective. We recorded 64 species, well below expectation for the time of year, yet these included one new to Wales, nine new to Glamorgan and 61 that were not on David's list made in 1995. Had there been an opportunity to search apple, rowan, poplar, small-leaved lime or adequate stands of elm and birch, especially downy birch, our score would have been higher. That David had recorded at light only three of the 64 species we saw that day makes the point that for Microlepidoptera fieldwork is far superior.

### List of species recorded

Status, indicated by asterisks:

\* An addition to DJS' list in *Ent. Rec.* **109**: 31-39.

\*\* New to Glamorgan (VC41)

\*\*\* New to Wales

Localities, indicated by a number after the name:

1. Plymouth Great Wood, centre and eastern end (ST1376)
2. Plymouth Great Wood, western end and vicinity (ST120770)
3. Car park of the Plymouth Arms, St. Fagans (ST122722)
4. Wooded perimeter of Llandaff Playing Fields (ST1478-1479)

Degree of abundance, indicated by a letter after the locality number:

No letter = only one observed

S = several (6-15 observed)

F = few (2-5 observed)

M = many (16+ observed)

#### NEPTICULIDAE

*Ectoedemia albifasciella* (Hein.) \*; 1; F

*E. subbimaculella* (Haw.) \*\*; 1; F

*E. heringi* (Toll) \*\*; 1; F

*Formoria septembrella* (Stt.) \*\*; 1, 2; F

*Stigmella aurella* (Fabr.) \*; 1, 4; S

*S. splendidissima* (H.-S.) \*; 1, 4; S

*S. ulmariae* (Wocke) \*\*; 2. Second Welsh record; new to South Wales

*S. lemniscella* (Zell.) (*marginicolella* (Stt.)) \*; 2

*S. plagicolella* (Stt.) \*; 1; F

*S. salicis* (Stt.) \*; 4; F

*S. obliquella* (Hein.) \*\*; 2; F. Second Welsh record

*S. floslactella* (Haw.) \*; 1; S

*S. tityrella* (Stt.) \*; 1, 3; M

*S. perpygmaeella* (Doubl.) \*; 1, 4; S

*S. atricapitella* (Haw.) \*; 4

*S. ruficapitella* (Haw.) \*; 1; F

*S. anomalella* (Goeze) \*; 4

*S. oxyacanthella* (Stt.) \*; 1

*S. crataegella* (Klim.) \*; 1, 4; S

*S. microtheriella* (Stt.) \*; 1; M  
*S. glutinosae* (Stt.) \*\*; 2, 4; S  
*S. alnetella* (Stt.) \*; 2, 4; S

## TISCHERIIDAE

*Tischeria ekebladella* (Bjerk.) \*; 1; F  
*Emmetia marginea* (Haw.) 1; F

## INCURVARIIDAE

*Incurvaria pectinea* Haw. \*; 1, 2; S

## HELIOZELIDAE

*Heliozela resplendella* (Stt.) \*; 2

## LYONETIIDAE

*Lyonetia clerkella* (Linn.) \*; 1, 3, 4; M

## BUCCULATRICIDAE

*Bucculatrix cidarella* Zell. \*; 4; F

## GRACILLARIIDAE

*Caloptilia stigmatella* (Far.) 4  
*C. syringella* (Fabr.) \*; 1; M  
*Parornix betulae* Stt.) \*; 4  
*P. fagivora* (Frey) \*\*; 3. Second Welsh record  
*P. anglicella* (Stt.) \*; 1, 4; S  
*P. devoniella* (Stt.) \*; 1; S  
*P. torquillella* (Zell.) \*; 1; F  
*P. finitimella* (Zell.) \*; 1; F  
*Phyllonorycter harrisella* (Linn.) \*; 1  
*P. heegeriella* (Zell.) \*; 1; F  
*P. quercifoliella* (Zell.) \*; 1  
*P. messaniella* (Zell.) \*; 1, 4; S  
*P. oxyacanthae* (Frey) \*; 1, 4; M  
*P. spinicolella* (Zell.) \*; 1; F

*P. coryfoliella* (Hb.) \*; 1, 4; M  
*P. viminiella* (Sirc.) \*; 2; S  
*P. hilarella* (Zett.) \*; 1; F  
*P. maestingella* (Müll.) \*; 1, 3; M  
*P. coryli* (Nic.) \*; 1, 4; M  
*P. strigulatella* (Zell.) \*; 2; M  
*P. rajella* (Linn.) \*; 2, 4; M  
*P. lautella* (Zell.) \*; 1; M  
*P. ulmifoliella* (Hb.) \*; 4; F  
*P. stettinensis* (Nic.) \*; 4; S  
*P. froelichiella* (Zell.) \*; 4; S  
*P. nicellii* (Stt.) \*; 1; S  
*P. kleemannella* (Fabr.) \*; 1, 4; S  
*P. acerifoliella* (Zell.) \*; 1, 4; S  
*P. platanoidella* (Joann.) \*\*\*; 2; S. Possibly common, since Norway maple is planted extensively and a few days later DJS found it abundantly at a site in the city.  
*P. geniculella* (Rag.) \*; 1, 4; S

## YPONOMEUTIDAE

*Swammerdamia pyrella* (Vill.) \*; 4

## COLEOPHORIDAE

*Coleophora lutipennella* (Zell.) 1  
*C. alticolella* Zell. \*; 4; M

## GELECHIIDAE

*Teleiodes notatella* (Hb.) \*; 1

## MOMPHIDAE

*Mompha raschkiella* (Zell.) \*\*; 1; S

## TORTRICIDAE

*Acleris hastiana* (Linn.) \*; 3; adult

That is not the end of the story. AME reached Cardiff in the early afternoon of 19 October and there was time in the evening to visit the Tidal Sidings (ST2075-2175). This is an area of waste ground with scattered apple, hawthorn, sallow and sycamore and also a rich ground flora in the areas not bulldozed for development. We recorded 17 species, eight of which we did not see again on the 20th. One of these, *Caloptilia rufipennella* (Hb.), taken as a adult, was new to Glamorgan and South Wales. It is probably a recent colonist, since we saw plenty of sycamore but no sign of its cones on either day. If these records are added to those made the following day, we added ten species to the county list and 67 to David's list.

The eight species not seen on the 20th are as follows.

## GRACILLARIIDAE

*Caloptilia rufipennella* (Hb.) \*\*; adult  
*Phyllonorycter cydoniella* ([D.&S.]) \*; S

## COLEOPHORIDAE

*Coleophora spinella* (Schrank) \*; F  
*C. albitarsella* Zell. \*

*C. discordella* Zell.

*C. argentula* (Steph.) M

## TORTRICIDAE

*Cochylis roseana* (Haw.)\*

*Endothenia gentianaeana* (Hb.) \*; M

**Two moths new to Devon and a third confirmed breeding**

On 16 June 1996 a single *Pseudotelphusa scallella* (Scop.) (Lep.: Gelechiidae) came to light at Hembury Woods, near Ashburton, Devon. A second specimen was taken at the same locality on 2 May 1997 by Barry Henwood. On 27 July 1997 an example of *Ptycholomoides aeriferanus* (H.-S.) (Tortricidae) also came to light, this time at Colaton Ralieggh Common near Yellington. Both species were kindly identified by Dennis O'Keefe and Bob Heckford confirmed them both as being new to the county of Devon.

The Sloe Pug *Chloroclystis chloerata* (Mab.) (Geometridae) was found to be breeding in Devon near to the border with Dorset at Lyme Regis when larvae were beaten from flowers of blackthorn *Prunus spinosa* on 12 April 1997. These were subsequently reared and produced imagines on 16 and 18 May 1997. Larvae were also found at Charmouth, Dorset on the same day.— ROY MCCORMICK, 36 Paradise Road, Teignmouth, Devon TQ14 8NR.

***Bibio pomonae* (Fabricius) (Dip.: Bibionidae) in East Kent**

Freeman and Lane (1985. *Bibionid and Scatopsid Flies, Handbooks for the Identification of British Insects*.9(7)) omitted Kent from their county list for *Bibio pomonae* and stated that the species is to be found particularly in hilly or mountainous districts. Felton (1980. Further notes on the insects of Hothfield Local Nature Reserve. *Trans. Kent Fld. Club* 8 (2):1980) referred to a record of this species by Dr I.F.G. Mclean at Hothfield Common (O.S. grid ref. TQ94) on 16 July 1975. On 14 July 1985 I observed several males hovering some distance above the ground amongst some silver birch *Betula pendula* trees at Mintching Wood, Kingsdown (TQ 913593). Occasionally members of the group would plunge earthward but their rapid flight eluded capture, even with a long-handled net. Two males were later observed feeding from a hogweed *Heracleum sphondylium* umbel and these were retained as vouchers. On 5 July 1997 a further male was taken as it fed upon a hogweed umbel at Covert Wood (TR 182494). Freeman and Lane stated that *Bibio pomonae* is apparently double-brooded with spring and late summer peaks. Whilst most species of *Bibio* peak during May *pomonae* has apparently not been observed locally during this month. The habitats of each of the three Kent localities are very varied with Hothfield being largely sandy heathland, Mintching Wood clay chestnut coppice and Covert Wood a calcareous mixed deciduous and conifer slope.— LAURENCE CLEMONS, 14 St. John's Avenue, Sittingbourne, Kent ME10 4NE.

**More on *Blastobasis decolorella* (Woll.) (Lep.: Blastobasidae) in North Hampshire**

I was interested to discover that Alasdair Aston's capture of *Blastobasis decolorella* at Selborne was a first for the North Hampshire Vice-county (*antea*: 254). In view of this, I should perhaps place on record the fact that I netted three or four examples of this species on Blackbushe Airfield, North Hampshire on both 5 and 28 June 1998, flying in a track at the edge of mixed scrub composed of *Crataegus monogyna*, *Prunus spinosa* and *Ulex europaeus*. I did not realise the significance of the record at the time and, having encountered the species commonly in east London, did not feel the need to retain a voucher specimen.— COLIN W. PLANT, 14 West Road, Bishops Stortford, Hertfordshire CM23 3QP.

**1995 MIGRATION OF *CYNTHIA CARDUI* (L.)  
(LEP.: NYMPHALIDAE) IN NORTH AMERICA, WITH SPECIAL  
REFERENCE TO INYO COUNTY, CALIFORNIA**

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THE BEHAVIOURAL activities of migrating Painted Ladies *Cynthia cardui* are proving to be extremely complex, although more is being learned about these in the occasional years when it migrates in noteworthy numbers (Giuliani & Shields, 1995, 1997a, b). Here we report field observations on its migrations during the 1995 season for North America, particularly for Inyo County and, to a lesser extent, Mariposa County, of central California. Methods and terms follow Giuliani and Shields (1995), except that 24-hour time is employed.

### North America

#### Southwest Weather

By March 1995 there was good rainfall in the Sonoran Desert areas of southern Arizona and northern Mexico and in the low desert areas of southern California (J. Emmel). On 13-14 February there were heavy rains in Baja California between Tijuana and Catavina (O. Shields). Rainfall was 200 to 500% above normal in January and March in many areas throughout California, causing widespread flooding and triggering numerous landslides and mud-slides, the wettest year there since 1983 (Bedrossian, 1996). A strong El Niño warm water intrusion was responsible for the increase in storm activity, the third El Niño event in four years (*Los Angeles Times*, 25 January 1995).

#### Baja California

On 10 February 1995, 27 km SW of El Arco, small numbers of *C. cardui* migrated WNW (R. Wells & O. Shields). The desert shrubbery in Baja California Norte was very green from earlier rains all along Mexican Highway 1, with good wildflower displays on the Viscaïno Desert. On 14-15 April, going south from the U.S./Mexico border to Santa Rosalia, few migrators were observed until the Viscaïno Desert, where very large numbers were migrating northward (J. Mori). From 16 April to 12 May at San Lucas (15 km S. of Santa Rosalia), they were present in low numbers and not migrating (J. Mori).

#### South-eastern California and Western Arizona

On 25 February 1995, a large fresh adult *C. cardui* was observed perching on a shrub in the Orocopia Mountains, 460m, Riverside County, California (J. Emmel). On 18 March a large migration headed west between Blythe and the Colorado River under partly cloudy conditions with moderate winds (A. Halford). On 20 March a large northward migration was noted along Highway 30 between Barstow and Needles (R. Larson).

In Arizona, large migrations were observed along Highway 93 from Kingman to Phoenix on 20 March (R. Larson) and between Wikieup and Wickenburg on March 27 (J. Brock), migrating N-NW, becoming a sparse migration on the desert N. Wickenburg by 20 April (Tuttle, 1996). At Lake Havasu during the entire month of April, *C. cardui* migrated N-NW between 09.00-15.00 h (R. Gillmore).

### Southwestern California

On 13 March 1995, 1-3 per minute were counted while driving from Perris to Mojave, mostly migrating NNW (J. Mori). That same day at Hemet, small numbers flew NNW in mid-morning, and fresh to worn adults were seen on *Lantana* Linnaeus (Verbenaceae) flowers (J. Emmel). Occasional non-migrating adults were observed near Ventura during the first two weeks of March, then occasional NW migrators on 13 March (T. Dimock). On 18 March at Hemet, many migrated NNW (c. 1-2 per minute through yard), with several dozen visiting flowers (J. Emmel). At Los Angeles, singletons were reported migrating during 12-31 March, briefly becoming commoner on 26 March (often in twos and threes) (J. Donahue). On 5-6 April between Adelanto and Walker Pass, small numbers were observed migrating NNE-WNW (R. Wells).

### Mariposa County, California

At Jerseydale, 1100m, the first *C. cardui* migrators of the season appeared on 9-11 April (occasional, mostly going NNW-NW), then two migrators on 22 April. From 25-29 May, migration rates were 1/5min/15m, directions variable but mainly NE-NW, briefly increasing to 2/5min/15m on 26 May. They occasionally landed, interacted, or briefly nectared or oviposited on various annuals before migrating on. The rate continued at 1/5min/15m during June 2-3, then migration ceased. One or two, not migrating, were seen on some days during July to mid September, with 6-12 on some days in the second half of September. Occasionals nectared on asters throughout October and November, with one or two migrating SE on October 20. The last one of the season was observed on December 9, with rains on December 11 finally breaking a long warm, dry spell.

One worn individual was observed migrating NW a few km N. of Fresno on 15 or 16 March. On 26 May near Midpines Summit, a NNE-NNW migration reached densities of 3-5/5min/15m in the morning. Between Coarsegold and Fresno on 24 October, occasional *C. cardui* migrated SE.

### Northern California

On 23 April very occasional *C. cardui* migrated eastward N. of Vacaville. On 24-26 April, occasional individuals migrated E-NW in the Corning-Red Bluff area, sometimes ovipositing on orchard weeds and visiting mud. Adults were resident there on 19-21 May. On 16 May north of Vacaville, occasionals migrated NW-ENE and visited creek mud. On 23 May, near Merced, 4-8/km migrated NW; most appeared fresh (O. Shields, above observations). On 26-28 May at Camp Connell, Stanislaus County, they nectared on *Arctostaphylos* Adanson (Ericaceae) flowers by the thousands while migrating N; many were fresh specimens (J. Mori).

### Northern Nevada

On 9-11 May, in the Silverpeak and Toiyabe Ranges of Esmeralda and Nye Counties, there were moderate migrations to the N-NW. On 10 July on the Geiger Grade and its Summit, 1700-2075m, Storey and Washoe Counties, mostly fresh *C. cardui* were nectaring and migrating NW. On 21 July at Sand Mountain, 1160m, Churchill County, a few migrated northward. Numerous fresh adults were also seen nectaring at Mill City in Pershing County on 18 July and Iron King Mine Road in Humboldt County on 20 July (R. Langston, above observations).

### Summer 1995

During the summer months, *C. cardui* was widespread across the United States (although apparently absent from E. Texas to Georgia and Florida) and was present in low numbers in southern Canada from British Columbia to Ontario (Swengel & Opler, 1996; Tuttle, 1996). The furthest north reports were for Quesnel, British Columbia (*C. Guppy*) and Churchill, Manitoba (Swengel & Opler, 1996). States with localities reporting >70 in one day during the summer surveys were California, Arizona, Oregon, Wyoming, Colorado, Iowa, Minnesota, and Illinois (plus Saskatchewan). During the second half of summer, SW-ward migrations were observed in E-central Nevada (D. Giuliani), SE Wyoming (J. Scott), and central Colorado (J. Scott), at various elevations. In Arizona, thousands of adults nectared or patrolled between Kingman and the Hualapai Mountains in August (R. Gillmore), when they were also abundant in the Atascosa Mts., Patagonia, and Huachuca Mts. (Swengel & Opler, 1996).

### Autumn 1995

A return southward migration has sometimes been observed in previous years for *C. cardui* during the summer and autumn months in western North America (Emmel & Wobus, 1966; Shapiro, 1980; Myres, 1985; Nelson, 1985; Giuliani & Shields, 1995). Autumn southward migrations in 1995 were observed "in noticeable numbers" during September and October at UC Riverside (D. Hawks), and in "sparse numbers" in the desert N. of Wickenburg, Arizona, on 29 September (Tuttle, 1996).

In southern California, adults were numerous on *Chrysothamnus* Nuttall (Asteraceae) flowers in the Santa Rosa Mts., 2285-2380m, Riverside County, on 24 September, and a dozen adults were observed both in the San Jacinto Mts. (2165m) and at Edwards AFB (700m) in early October, also on *Chrysothamnus* (J. Emmel). From 2 September to 10 December at Hemet, there were small numbers of adults on *Lantana* daily when the days were warm and sunny, with increases on 4 and 19 November (J. Emmel). At Miramar NAS in San Diego County, adults were observed as singletons throughout the winter after October, not migrating (J. Brown). In SE Arizona it nectared abundantly on *Chrysothamnus* in the Huachuca Mts. and Palominas in late October to early November (R. Bailowitz).

## Inyo County

### Spring Migrations

No migrations of *C. cardui* were seen during 1994 in Inyo County, with only very low migration levels there in 1996 and 1997. In 1995, migrators were first observed

on 21 March near Big Pine, and the first measurable migration occurred there on 17 March (1-5/5min/15m).

Flight densities and directions for the 1995 spring migrations were monitored in Inyo County (0-2600m elevation). Individuals were observed in migratory flight from 06.50-17.50h and were medium to small in size. Migration flights appeared on both calm and windy days and under clear skies to completely overcast conditions, though none was observed during rains or after sunset. Maximum flight densities were recorded as follows: 12-31 March, 9/5min/15m; 1-15 April, 77/5min/15m; 16-30 April, 18/5min/15m; 1-20 May, 5/5min/15m. Flight directions were measured with a compass for 1153 spring migrators. Their median geographic flight direction during 12 March - 16 May was to the NNW (see Figure 1), 82% having a northward vector (with 56% in the NW quadrant alone).

Cloud shadows had the effect of decreasing migration numbers to few or none, with migration resuming as the sun reappeared. Cold, windy weather also decreased migration numbers to few or none and caused them to land on the ground. During a light migration near Olancho on 26 March, migrators arrived in waves, with often long periods of few or none, under alternating calm to breezy conditions.

*C. cardui* migrations were heading toward peak numbers by 7 April, but successive weather fronts came through Owens Valley during the second week of April, producing very cold temperatures and very strong winds. Great numbers of non-migrating *C. cardui* were observed N. of Bishop in a canyon on 10 April and in a dry wash on 15 April. These likely were migrators that had accumulated there for protection from the harsh conditions, the beating they had received from the wind apparently curtailing their migration tendency. Many were worn, torn, and faded and flew up and down the canyon as huge streams (963-1875/5min/15m). Many were also on the ground and on *Amsinckia* Lehmann (Boraginaceae) flowers. After these strong winds, many highly worn *C. cardui* were seen throughout Owens Valley, including some that were almost totally disabled.

On 23 April, a northward migration was encountered W. of Lone Pine in the early afternoon. An elevational relationship was observed when counting individuals per mile (1.6 km) while driving westward up a grade, as follows:

distance	elevation	number
1st 1.6 km	1130-1190m	0
2nd 1.6 km	1190-1280m	1
3rd 1.6 km	1280-1370m	5
4th 1.6 km	1370-1465m	10
5th 1.6 km	1465-1555m	23
6th 1.6 km	1555-1645m	28
7th 1.6 km	1645-1770m	12
8th 1.6 km	1770-1890m	2
9th 1.6 km	1890-2010m	0

During some spring migrations, occasional individuals would stop to nectar at *Amsinckia*, *Encelia* Adanson (Asteraceae), and *Prunus* Linnaeus (Rosaceae) flowers, and sometimes these would fly up to passing migrators and follow them. However, on 23 April, SW of Independence, none of a light migration, which flew all morning, visited the abundant flowers of *Prunus andersonii* Gray (Rosaceae), usually a favoured nectar source.

### Rainfall and *Amsinckia*

From late September to December, 1994, Big Pine (which averages 14 cm per year) received 3 cm of rain, then 11.5 cm during January, 1995 and little rain in February. On 9-10 March, 10.5 cm of rain fell, the heaviest March amount in the last 50 years. There was dense germination near Bishop of *Amsinckia*, the primary larval hostplant in Inyo County, by mid-November 1994, and all over Owens Valley during warm weather in February 1995, which then bloomed in April and May. *Amsinckia* is a spring annual that germinates in the winter and flowers in the spring (Went, 1948). By early May, the wildflowers in Owens Valley were extra numerous, with more biomass and flowers and buds per plant than in the past 25-50 years, in response to the heavy winter rains. Storm fronts and periods of unseasonably cool temperatures in March and April, along with some overcast days in early May, allowed the *Amsinckia* plants to remain green into early May.

*C. cardui* eggs on *Amsinckia* were scarce in Owens Valley in early April, but there were many eggs on the *Amsinckia* searched during 10-17 April. By mid-May, larvae were present on several species of hostplants throughout the area. No eggs were laid above 2195m during the spring migrations as leaves had not yet appeared on hostplants above that elevation. In early July to early August, however, some immatures were found on hostplants between 2195-3050m.

### Bishop emergence site

On 17 April at the Bishop emergence site, many *C. cardui* eggs were present on the *Amsinckia* leaves, along with very occasional 1st instar larvae. The eggs, scarce there on 4 April, were probably deposited 10-11 April when many eggs were first found at several other locations in Owens Valley.

The tendency of May larvae to crawl over the ground was strongly correlated with successive desiccation of the *Amsinckia* plants. On 1 May, the larvae were 2nd instars and the plants were large and green with some patches drying out. On 9 May, a great many 2nd-5th instar larvae were present, up to three dozen per plant at some spots, with some larvae crawling on the ground in the morning, though crawlers were only a small fraction of the total present. Most *Amsinckia* was still in good condition, and patches of dead ones and isolated healthy plants had no larvae. On 16-18 May, large numbers of 2nd-5th instar larvae were crawling in the mornings after deliberately climbing down, or dropping, to the ground. Large areas of *Amsinckia* were turning brown, and isolated healthy plants now had clusters of large larvae. On 24 May, few larvae were crawling on the ground, all 5th instars, and a few pupae and freshly-emerged adults were present. Most *Amsinckia* were now brown and brittle, though many green ones were still available to larvae. The *Amsinckia* was

heavily eaten, though not as severely as in some previous years. On 30 May, newly-emerged adults radiated outward from the emergence site, and only three 5th instars could be found on the very few *Amsinckia* that remained green, and but one crawler.

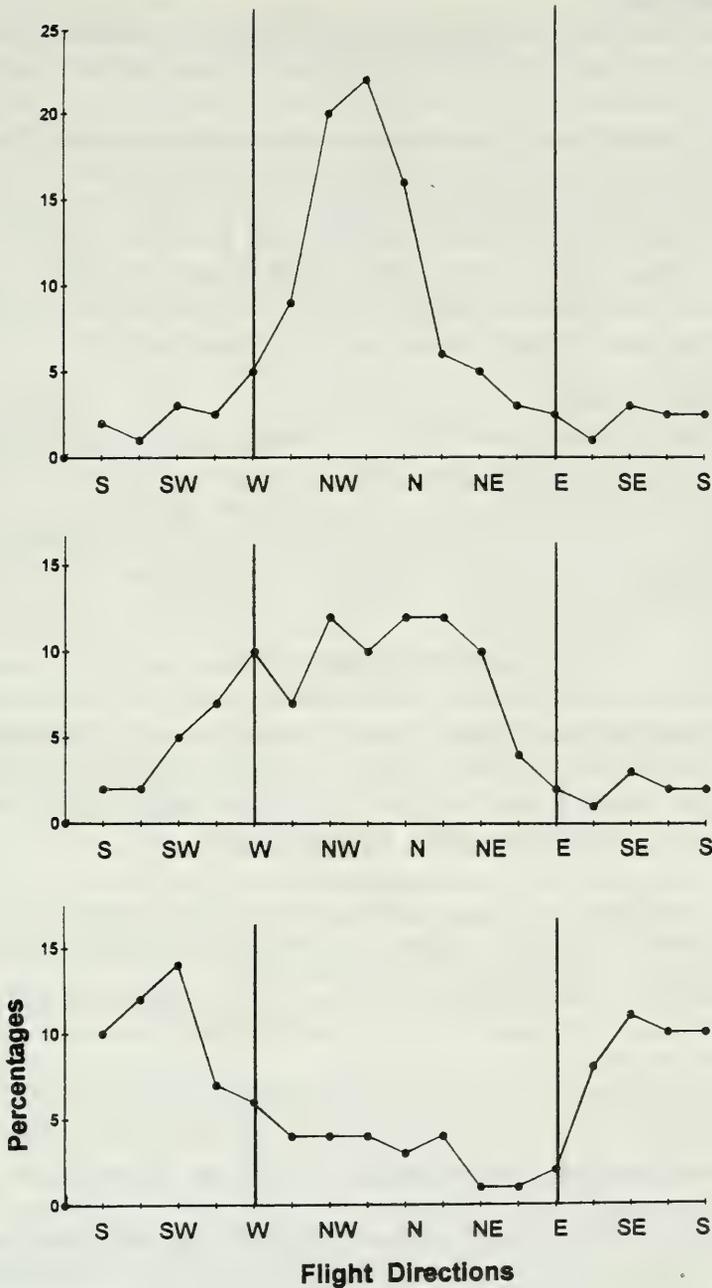
Density of crawling larvae at this site was tabulated in a 1.5 m x 1.5 m square on the ground on 17-18 May. Maximum densities (9-17) were reached between 08.25 - 09.20h at 15-20°C, with crawlers present between 06.45-11.00h. Larval crawl speeds (n=12) were 0.3 to 2.2 m/min and were greatest for medium to large-sized larvae and at higher temperatures. A plot of random crawl directions (n=199), measured on 17 May at 07.00-08.00h, showed the fewest number (17%) in the quadrant opposite to the sun's direction, with greater numbers (27-28%) in each of the other three quadrants.

As had been seen in previous years, each larva maintained a straight line in a fixed direction whenever it crawled. When exposed to a second sun, as reflected by a large mirror, larvae turned to new crawl directions by angles dependent on position of the mirror. It was found that direction of turn (clockwise or counterclockwise) was independent of the original larval orientation and depended solely on whether the mirror was on one side or the other of the sun's direction line through the larva.

At this site during middle and late May, many whiptail lizards (*Cnemidophorus tigris* Baird & Girard), a flock of yellow-headed blackbirds (*Xanthocephalus xanthocephalus*), a few crows (*Corvus brachyrhynchos*), and antelope squirrels (*Ammospermophilus leucurus* Merriam) appeared to be searching for larvae and/or pupae of *C. cardui* in the *Amsinckia* areas. Several species of *Calosoma* Weber (Carabidae) were also potential predators. An unidentified, large parasitoid wasp was present in large numbers, actively searching for crawling *C. cardui* larvae. Each would sting a 5th instar larva, then carry the paralysed larva back to a hole it had already dug in wet sand. After removing a pebble that plugged the hole, the wasp would then pull the larva head-first down the hole. Many paralysed larvae were also left lying about abandoned and were ignored by all passing wasps. Some larvae were able to avoid the wasp's sting by instantly coiling and exuding fluid or by speeding up and climbing into a nearby *Amsinckia* plant.

### Local emergence

Local emergence (Fig. 1) began in early May in southern Owens Valley, progeny of the earlier spring migrations. At the Bishop emergence site, however, the first local migration began on May 18 and peaked in late May when large numbers of newly-emerged adults radiated outward in all directions from the site, flying very slowly. The density at 08.00 h on 30 May reached 46/5min/15m, with migration ending by 09.30 h and with very few migrators seen there the next day. Similar migration densities (23-43/5min/15m, going NNW-NNE) were observed at 2075-2195m in the Sylvania Mts., CA/NEV border, on 26 May. On 1 June in the White Mountains at 2285m, 81-117/5min/15m mainly went N-ENE. In Owens Valley in early June, migrations became light in density and ceased altogether after 10 June. Few *C. cardui* were observed in Owens Valley during the summer, and during autumn, only occasional individuals were seen.



**Figure 1.**

Migrator geographic direction trends during the 1995 season in Inyo County:

(top) spring migrations, 12 March - 16 May (n=799);

(middle) local emergence, 18 May - 13 June (n=869);

(bottom) southern migrations, 25 June - 5 December (n=349).

The top graph is narrowly focused between N and NW, the middle is more spread out in the northward vector, and the bottom reverses to a predominantly southward vector.

### Southward migrations

Southward migrators increased abruptly shortly after the summer solstice while northward flights declined (Figure 1). Percentages of those having a north or a south flight vector were as follows: 1-13 June – 92 north, 8 south (n = 79); 25 June-7 July – 19 north, 81 south (n = 178). Apparently avoiding the desert heat and low humidity, summer migrations occurred almost entirely above 2440m in the mountains. Very occasional southward migrators were observed between 1920 and 3935m in late September and at 1830-1980m in early November.

During the autumn, *C. cardui* adults were sometimes fairly common on *Chrysothamnus* flowers between 1830-2805m. The summer individuals were mostly large in size while autumn individuals averaged a bit smaller.

### Foodplants and oviposition

*C. cardui* oviposition records new for Inyo County in 1995 included *Cryptantha virginiensis* (Jones) Payson (Boraginaceae) and *Lupinus argenteus* Pursh (Fabaceae), and a larval foodplant for Mono County was *Lupinus polyphyllus* Lindley. On 25 April at Big Pine, a very worn and battered female from a migration repeatedly oviposited one egg per flowerhead, often at least five times per minute, on an *Amsinckia* clump, as well as nectaring, between 14.15-14.30 h.

### Acknowledgments

We thank the following individuals for contributing some observations to this study: Richard Bailowitz, Jim Brock, John Brown, Thomas Dimock, Julian Donahue, John Emmel, Richard Gillmore, Cris Guppy, Anne Halford, David Hawks, Robert Langston, Robert Larson, James Mori, James Scott, and Ralph Wells. Identifications of new foodplants were kindly provided by Mary DeDecker.

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**TETROPS STARKII CHEVR. (COL.: CERAMBYCIDAE) IN SUFFOLK AND HUNTINGDONSHIRE**

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COOTER (1990) suggested that *Tetrops starkii* Chev. might occur in Britain confused with the very similar *T. praeusta* (L.), and in June 1991 Harrison (1992) beat a single specimen from an oak on the edge of Widley Copse, near Burford, Oxfordshire (OS grid reference SP 2714). I was fortunate to be able to examine this specimen and confirm its identity. Later Harrison (1992a) published details separating this addition to the British List from *T. praeusta* although one of his diagnostic characters appears to have been transposed. The "short white pubescence in addition to the longer darker hairs" on the sides of the pronotum are present on *T. praeusta* not *T. starkii* as listed. More recently Lohse & Lucht (1994) have provided more detailed descriptions and figures for the separation of these two species.

In May 1997 I was asked by Forest Heath District Council to survey a site near Mildenhall, Suffolk, for saproxylic Coleoptera. The pasture-woodland site at Aspoll Close, Beck Row, (TL 700773) contains over 200 pollarded oaks. On 28 May 1997 I collected three female specimens of *Tetrops* by beating hawthorn blossom; one from the eastern boundary hedge, and two from a bush surrounding the base of an old oak pollard. One of the latter was considerably larger and of a different appearance to the others. Upon later examination it was found to have all legs completely yellow, with the tips of the elytra slightly sinuous, a character shown by Harrison (1992a) to distinguish *T. starkii*. The hind margin of the last sternite also possessed a deep transverse groove with a deeper central pit similar to that indicated by the figures of Cooter (1990) and Lohse & Lucht (1994). There was no doubt that this was a female *Tetrops starkii*. Upon enquiring of Tom Harrison I learned that he was unaware of any records for this species since his 1991 capture and no additional records have been received from contributors to the Cerambycidae Recording Scheme (Twinn & Harding, 1998).

The discovery of this, the second British record of *T. starkii* prompted me to search out and examine other material in my collections previously identified as *T. praeusta*. Two of the 15 specimens I located had all legs completely yellow and dissection showed them to be a male and female *T. starkii* collected in Monks Wood National Nature Reserve, Huntingdonshire (now part of the Administrative County of Cambridgeshire) on 15 June 1995. Both had been collected by sweeping herbaceous vegetation beside rides bordering Compartment 14 (TL 202799). This area of the wood is predominantly field maple, *Acer campestre*, and ash, *Fraxinus excelsior*, with hazel, *Corylus avellana* under-storey. I have been unable to find a third specimen taken in an adjacent ride on the same day. Another pair of *Tetrops* beaten from hawthorn blossom in Hotel Ride (TL 1980) by R.A. Plant on 1 June 1973 proved to be *T. praeusta*.

Dissection of all my *Tetrops* material would indicate that unicolorous pale legs is a good character to separate *T. starkii* from *T. praeusta*. The grooved sternite readily

confirms the identity of female specimens but the situation and small spine on the hind margin of the elytra is not always as distinct as shown by Harrison (1992a). Furthermore there appears to be some confusion over this character as Lohse & Lucht (1994) attribute it to *T. praeusta*. Surely their figures 1F and 2F must have been transposed, although in my specimens the dark area at the tip of the elytra does appear to be more extensive in *T. starkii* as they indicate. Despite this confusion dissection of the male genitalia allows easy separation of these two species. In *T. praeusta* the aedeagus tapers to a sharp point at an acute angle of approximately 60°. In my only male specimen of *T. starkii* the aedeagus is much broader, coming to a blunter point with the sides at an angle of approximately 80°, but Lohse & Lucht (1994) show this as an obtuse angle. In *T. praeusta* the tip turns down slightly at the apex whilst in *T. starkii*, on the ventral surface of the tip, there is a small oval depression in the mid-line with a raised ridge on either side. The parameres also differ markedly. In *T. praeusta* they are approximately four times longer than their width, whereas those of *T. starkii* are only twice as long as wide.

Although all four specimens of *T. starkii* so far identified have been collected since 1990 it seems very unlikely that this is a recent immigrant to Britain. Coleopterists are urged to examine their own, and museum, collections paying particular attention to any *Tetrops* with all legs yellow. In *T. praeusta* only the forelegs are yellow, the mid and hind legs having femora and tibiae variously darkened.

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#### ***Blastobasis decolorella* Woll. (Lep.: Blastobasidae) in north-east Hampshire and north-west Surrey**

Alasdair Aston's note on *Blastobasis decolorella* in north-east Hampshire (*antea*: 254) prompts me to record my own observations of this species. In my garden (OS grid ref. SU 8259) I took specimens on 4 June 1993 and 28 June 1994. Nearby on Yateley Common (SU 8159) six specimens were noted on 18 June 1997. Elsewhere in north-east Hampshire I took a specimen at Rye Common (SU 7650) on 26 July 1996. Across the border in Surrey I took a specimen on the late date of 4 November 1993 at Brentmoor Heath nature reserve (identification confirmed by John Langmaid). I am also aware of a specimen being taken by Mrs J. Hatto and identified by Tony Dobson at Heath End near Farnham (SU 8549) on 31 July 1995. Goater (1992. *The butterflies and moths of Hampshire and the Isle of Wight: additions and corrections*) lists no records for North Hampshire but it would appear to have colonised the area in recent years and to now be fairly widespread and not uncommon.—TONY DAVIS, The Rangers House, Cricket Hill Lane, Yateley, Hampshire GU46 6BB.

## Hazards of butterfly collecting – Indian Agricultural Research Institute, Delhi 1986

Perhaps one should not clutter up the pages of this vibrant entomological journal with records of a bureaucratic meeting that took place ten years ago. But then, why not?

The meeting was in the magnificent Secretariat building in New Delhi, conceived by Lutyens, and possibly the best ever – yet ever so understated – architectural interpretation of absolute power realised by an architect. Though Lutyens' Secretariat is right up there with the Pyramids, albeit expressing a very different sentiment, its interior does not match the magnificent exterior. Kilometre after kilometre of corridors are lined with sagging shelves housing that prime instrument of power – files, files, . . . ever more files, bound in fading red tape. Every year there are several deaths as a shelving system collapses on a hapless clerk retrieving some ancient file. The internal maze of the Secretariat is also, as we say in India, *monkey-infested* . . . so hold on to any samoza or sandwich that you might have brought in the, very likely, event of a delayed meeting – the brazenness of Indian city monkeys knows no limits.

A *peon* brought me to the office where it was decided I ought to go (there must be more than two million *peons* in India). I shook hands with a very *high-up* bureaucrat – there were about 100 supplicants in the ante-room, and twenty-five in the actual office. Coffee was offered and accepted. I tried to identify other possible participants in the meeting – without luck. It gradually became clear that I was in the office of the Permanent Secretary of Railways, where I had no business. I took leave – no hard feelings – and found the meeting at which I was expected.

I am now at *liberty to divulge*, or *intimate* if you wish, the real purpose of the meeting. During a two year stint in India from 1984 to 1986, as a senior aid administrator with diplomatic status, I was toying with the idea of publishing a small book on the butterflies of India. I needed photographs for the book. The best place to get them was the *Pusa Institute* which had a splendid collection of Indian butterflies, made during almost 100 years of the colonial period. I first visited the Institute in 1953, at the tender age of nine years, and insisted on depositing a rare form of the Common Mormon (*Papilio polytes* Linnaeus), not previously recorded from Delhi. In 1985, their meticulous records revealed it to be the last ever accession to the butterfly collection – and the only post-colonial one (donation, Master Larsen, Embassy of Dutchland – close enough for a Dane whose father worked for UNICEF, I suppose).

The Director of Entomology (in charge of at least 1,500 people) was enthusiastic at the prospect of the book being illustrated from their collection. So I had permission? Well, no . . . better see Director-General (in charge of at least 22,000 people). He, too, was enthusiastic . . . but he did think that reference to the Ministry of Agriculture was *needful*. Hence the meeting at the Secretariat: Agenda – Photography of butterflies at Indian Agricultural Research Institute (IARI).

It was a friendly and productive meeting. The participants were *my good-self* (as we say in India); the Permanent Secretary, Ministry of Agriculture; the Director

General of the Indian Agricultural Research Institute, and the Director, Entomology; a Joint Secretary of Foreign Affairs (after all, I was diplomatically accredited); a Deputy Secretary from the Ministry of Information (this being a book project, I was a bit miffed at having only a Deputy Secretary). In the background hovered several stenographers, sundry assistants, and a couple of gentlemen in sun-glasses (the latter representing RAW – *Research and Analysis Wing*, the local equivalent of the CIA or MI5).

It was minuted that: “Dr. Larsen may photograph applied butterflies at discretion of DG/IARI. No national security implications arise”.

Written permission arrived three months later, a week before I was due to leave India. I tested my camera, at home, and in the midst of packing-chaos and handing over. I photographed 250 specimens at the Institute. They came back, overlaid with a deep, sickly purple colour. I re-tested the film stock, I hurried back, and re-did the slides. They came back, from another photo-lab – with a sickly purple overlay.

The horrible truth struck home. There had been a thick plastic window pane in the room where I took the photographs. There had been a purple refraction at a place where it was damaged, but I had not reflected on that. The window did not pass on neutral light. Moral of story: **Always pre-test cameras and film under exact conditions where any serious job is to be performed.** I never got down to re-doing the photographs, and the book was never published.

The extreme cobwebs of bureaucracy inherited – and, in truth, lovingly embellished by independent India – have now largely been swept clear of this kind of nonsense in the speedily privatising India of the 1990s. The Director, Entomology, IARI could now surely give immediate permission for said photography without referring to *higher-ups*.

But I am writing this “Hazard” in the Bangladesh of 1995. I am just back from the North, having visited a large rural health facility, well-planned, well-built, and well-suited for its purpose (and much too expensive to be appropriate). It has hardly been used. Electricity has not been connected, though the nearest supply point is 200 metres away. Total cost of connection should be no more than £10 or so, but no-one – in a district the size of Staffordshire – has authority to sanction it. They can only ask the Ministry . . . and their files of – unanswered – letters were duly produced for inspection.

Sad . . . yes! But I blame the East India Company and Imperial India almost as much as the Ministry of Health and Family Welfare in Bangladesh to-day.– TORBEN B. LARSEN, 258 Coldharbour Lane, London SW9 8PL.

### New species of Lepidoptera for Hertfordshire for 1997/1998

On 15 March 1997 I caught a single example of *Lithopane hepatica* (Clerk) the Pale Pinion at m.v. light in my garden here on the north-west edge of Hertfordshire. On 28 March 1998 I caught a single *Conistra rubiginea* (D.&S.) Dotted Chestnut. Neither of these species has, as far as I am aware, been recorded from Hertfordshire before.– ALAN BERNARD, Marston House, Long Marston, Tring, Hertfordshire.

***Adela cuprella* ([D.&S.]) (Lep.: Incurvariidae) in Berkshire**

The night of the 29 March 1998 was forecast to be unseasonably warm (around 15°C), and dry. It was also a new moon, so I decided to take my light to Ashley Hill Forest at Knowl Hill near Maidenhead in Berkshire. By 19.30hrs I had my new 125w m.v. lamp set up on a sheet and running. As forecast, the night was uncommonly warm and at around 21.30hrs I noticed a male longhorn moth at rest on the sheet. Examination of this under m.v light indicated that it was probably an early example of the common species *Adela reaumurella* (Linn.) on account of its size, antennal length and apparent glossy metallic-green forewing coloration. However, for some reason I retained this moth, probably because of its early appearance. *A. reaumurella* normally flies from mid-May to June. At 22.00hrs a light drizzle that had started ten minutes or so earlier turned to heavy rain so I decided to pack up. On returning home and sorting the night's catch, which included an example of *Conistra rubiginea* (Dotted Chestnut), I came across the longhorn which I had all but forgotten about. Closer examination showed it not to be green but metallic gold and red. It was a perfect example of *A. cuprella*, a species not hitherto recorded from Berkshire. Baker (*Butterflies and Moths of Berkshire*, 1994) states that it is mapped for VC22 in *MBGBI 1*, but that he could find no evidence for its occurrence here. Martin Harvey (County Recorder, VC22) informs me that this species was found at Pamber Forest in Hampshire last year by Graham Dennis, but to his knowledge this is the first record for Berkshire.

*A. cuprella* is most often seen by day flying in sunshine around the tops of willow bushes during April. On the 31 March conditions were right and I returned to Ashley Hill Forest by day to look for further evidence of this species there. I arrived at around 13.00hrs and soon observed a group of around 20 male longhorns of an undetermined species in flight over a huge willow bush around 30 to 40 feet high, near to the spot I had run the light a couple of nights earlier. My eight-foot net handle was of no use, what was wanted was what anglers call a "roach pole". These are lightweight but strong fishing rods that are telescopic and up to 20 metres or so long. The cheap ones are made of fibreglass, reach five metres of usable length and can be had for around £15. A light-weight net can be attached. Unfortunately I did not have a "pole" at the time, so decided to survey the rest of the forest for short bushes. This proved a useful exercise as I saw similar moths, all apparently males from their flight pattern, over a wide area of the forest but all were at 20 feet plus. I stayed on and operated my light in the same spot as before, but to no avail save a second example of *C. rubiginea*. Subsequently the weather turned cold and windy for around a fortnight with hail and snow, and subsequent visits with a "pole" failed to locate further examples of the willow associated day-flying longhorns seen before.

I feel sure that *A. cuprella* was wide-spread at Ashley Hill Forest this spring, but unfortunately I am unable to confirm this due to my inability to positively identify the day flying moths I saw due to the altitude they were flying at. I will try again next year but *A. cuprella* is notorious for its fickle appearances, being common one year followed by years of apparent absence. Perhaps the unpredictable weather at this time of year, during the flight period of the adult, has a significance on this.

– I. SIMS, 2 The Delph, Lower Earley, Reading, Berkshire RG6 3AN.

### **An aphid new to Britain**

Two specimens of *Crypturaphis grassii* Silvestri (Hom.: Aphididae) were found within a week of each other in two widely separated suction traps which form part of the Rothamsted Insect Survey network (Woiwod & Harrington, 1994. pp321-342 in: R.A. Leigh and A.E. Johnson (Eds) *Long Term Research in Agricultural and Ecological Sciences*. CABI). One was trapped at Long Ashton, Avon, on 16 May 1998, the other at Writtle, Essex, on 20 May 1988. A third example was trapped at Wye on 25 July 1998.

The species has not been recorded from Britain before and feeds on Italian Alder *Alnus cordata* Desf.. The tree and the aphid are native to southern Italy and Corsica (Blackman & Eastop, 1994. *Aphids on the World's Trees*. Natural History Museum and CABI). The tree has been imported in recent years as an ornamental for parks and roadsides. The aphid has since been found in large numbers on an *A. cordata* in Kew Gardens, London, but not on either of two specimens in the grounds of the Rothamsted Estate, Hertfordshire. It is thus possible that the trapped aphids were of UK origin, but not inconceivable that there had been a substantial wind-borne influx from southern Europe. Samples of aphids found on *A. cordata* leaves anywhere in Britain would be appreciated, but only if there are colonies rather than individuals – aphids of many species may visit the tree without colonising it.

Thanks are due to the suction trap operators at Long Ashton, Writtle and Wye, the identifiers at Rothamsted, Dr R.L. Blackman and Dr V.F. Eastop of the Natural History Museum for, respectively, confirming identification and tracking down the specimens at Kew, and Dr Hugh Evans of the Forestry Commission for information on the status of *A. cordata* in the UK.– RICHARD HARRINGTON, Department of Entomology and Nematology, IACR-Rothamsted, Harpenden, Herts AL5 2JQ.

### ***Sympherobius klapaleki* Zeleny (Neur.: Hemerobiidae) new to Britain**

A specimen of *Sympherobius* Banks, 1904 was recently passed to me for identification by Dr Mark Shaw (also of this Museum). The specimen had been reared from a pupa found on dead *Quercus* L. twigs from Silwood Park, Ascot, Berkshire in April 1994. The male adult which emerged on 25.v.1994, is pinned and assimilated into the Neuroptera collection of the National Museums of Scotland. The dissected post abdominal segments are stored in glycerine in a microvial on the same pin as the specimen.

Close examination of the specimen resulted in the positive identification of *Sympherobius klapaleki* Zeleny, 1963. The wings bear faint brown tints over the basal cross-veins and the scape and pedicel are distinctly pale brown compared to the dark brown flagellomeres. The dissected male post abdominal segments clearly match those illustrated in Aspöck, Aspöck and Hölzel (1980. *Die Neuropteren Europas*. Krefeld: Goeke & Evers – see volume II Abb. 634 - p102, as well as F. 152 – p.186 for the wing).

The presence of the brown colouration over the cross-veins is less distinctive than the colour of the antennae, which is diagnostic for the species (Hölzel *in litt.* 19.6.1998). Current keys (Aspöck, Aspöck and Hölzel, *op. cit.*) use the former character to group *Symphorobius klapaleki* with *S. pellucidus* (Walker, 1853) and *S. riudori* Návas, 1915 as distinct from *S. fuscescens* (Wallengren, 1863). For species having three branches in the radial sector (i.e. the subgenus *Niremberge* Návas, 1909), only *S. pellucidus* and *S. fuscescens* are included in the British key (Plant, C.W., 1997. A key to the adults of British lacewings and their allies (Neuroptera, Megaloptera, Raphidioptera and Mecoptera). *Field Studies* 9: 179-269 – reprinted in the AIDGAP series). Since both of these species have completely brown antennae, and since the brown mark on the wings may not be as diagnostic as was previously thought, it is now appropriate for the key to proceed as follows.

Key to the British species of the genus *Symphorobius* (subgenus *Niremberge*)

1. Scape and pedicel of antennae pale yellow-brown, contrasting with darker brown flagellomeres ..... *klapaleki* Zeleny, 1963
- Scape and pedicel of antennae pale darker brown concolorous with flagellomeres ..... 2
2. Wings monochromatic clear or tinged brown ..... *fuscescens* (Wallengren, 1863)
- Wing membrane darker over the cross-veins than over the surrounding membrane *pellucidus* (Walker, 1853)

*Symphorobius klapaleki* is distributed in Europe from Austria, Czechoslovakia; Germany, Italy, Rumania and Spain (Aspöck, Aspöck and Hölzel, *op. cit.*). Formerly, it has not been recorded from Britain (Aspöck, Aspöck and Hölzel, *op. cit.*; Plant, 1994. *Provisional atlas of the lacewings and allied insects (Neuroptera, Megaloptera, Raphidioptera and Mecoptera) of Britain and Ireland*. Biological Records Centre; Plant, 1997. *op. cit.*). In Britain it is presently only known from Silwood Park. Little is known about the biology of this species. – A.E. WHITTINGTON, National Museums of Scotland, Chambers Street, Edinburgh EH1 1JF. E-mail aew@nms.ac.uk

**EDITORIAL COMMENT:** Although it is correct that *S. klapaleki* is not included in my key (Plant, 1997), the male terminalia are drawn in Fig. 140 on page 238.

### Lang's short-tailed Blue *Leptotes pirithous* (L.) (Lep.: Lycaenidae) and other butterflies on Fuerteventura, Canary Islands

I visited Fuerteventura from 25 March to 1 April 1998 and stayed at the southern end of the island near Moro Jables. The few butterfly species seen were all found or near gardens or in the salt marches at Moro Jable.

*Catopsilia florella* (Fabricius) was common in the grounds of my hotel at Esquinosa Beach and there were plenty of ova and young larvae on the *Cassia didymobotrya* in the gardens. The few larvae I collected were all parasitised by a small black dipteran. Both white and yellow forms of the female of *C. florella* were

seen. One specimen of *Danaus plexippus* was seen near Moro Jable but I could not find any signs of larvae on plants of *Calotropis procera*, a giant introduced milkweed which grows in the river gullies. *Zizeeria knysna* (Trimen) was locally common at several sites along the coast near Moro Jable wherever there was any damp ground. The butterflies were associated with the little pink-flowered annual trefoil *Lotus glinoides*.

On the 30 March I was investigating some *Acacia* trees on the edge of the salt marsh near the lighthouse to see if there might be any sign of *Azanus ubaldus* (Stoll) which occurs further west on Gran Canaria when I saw and caught two female specimens of *Leptotes pirithous* (L.). This is a new record of this butterfly not only for Fuerteventura but for the whole of the Canary Islands. However, this is perhaps not very supervising as Fuerteventura is only about 100 kms from African coast at Cape Juby and specimens could be blown across in the frequent winds.

Of the more obvious moths *Macroglossum stellatarum* (L.) was occasional at the *Bongainvillia* in the gardens and *Syngrapha circumflexa* (L.) at the lamps on the balcony of my hotel room.— DAVID HALL, The Cathedral School, The Palace, Lichfield, Staffordshire WS13 7LH.

### Records of some less common Anthomyiidae (Diptera) from Kent

The Anthomyiidae is possibly the least well-studied family within the calypterate diptera and hence general records within the literature are sparse. During the period 1982 to 1997 I accumulated some 1400 records for 100 species from Kent with more than 50% of the records pertaining to the following ten species: *Adia cinerella* (Fallén), *Anthomyia liturata* (R.-D.), *Anthomyia procellaris* Rondani, *Botanophila fugax* (Meigen), *Delia florilega* (Zetterstedt), *Delia platura* (Meigen), *Hylemya vagans* (Panzer), *Hylemya variata* (Fallén), *Pegoplata infirma* (Meigen) and *Paregle audacula* (Harris). The following notes give details of those species represented by single records together with others which may be of interest to students of the group.

#### *Alliopsis billbergi* (Zetterstedt)

16.v.1984 Hothfield Common, O.S. grid ref. TQ967453. One male swept from scrub on sandy heathland.

#### *Anthomyia imbrida* Rondani

5.vii.1983 Murston TQ925653. One male swept from dry fly-ash tip; 11.vi.1989 Dover Western Heights TR3140; 11.vi.1989 Shakespeare Cliff, Aycliffe TR3039 – males and females taken from both sites on dry chalk grassland.

#### *A. mimetica* (Malloch)

28.v.1992 Rusthall Common TQ5639. One male swept during collecting over a range of habitats, mainly grassland and mature, mixed deciduous, woodland.

#### *A. pluvialis* (Linnaeus)

22.v.1993 Aylesford TQ735592, one male along banks of water-filled gravel pit; 29.v.1993 Teynham Levels TQ9664, one male in coastal grazing marsh; 6.viii.1993 Bingley's Island, Canterbury TR142576; one male in damp willow scrub;

16.viii.1997 Crossness NR TQ4981 one female in coastal marsh. *Anthomyia pluvialis* is often given as a typical example of the family in popular entomological books yet, in my experience, it is decidedly local in Kent. Of the three grey and black *Anthomyia* species recorded from the county my records suggest that *Anthomyia procellaris* Rondani may be found in a wide range of habitats including woodland, *A. imbrida* is characteristic of dry areas whilst *A. pluvialis* prefers wetlands.

*Botanophila brunneilinea* (Zetterstedt)

29.v.1989 Lydden LNR TR276452; 11.vi.1989 Round Down, Aycliffe TR298396; 3.vii.1989 Coombe Down, Dover TR303426; 6.vii.1989 Long Wood, Dover TR2841; 9.viii.1991 Northfleet TQ630742; 29.vii.1992 Park Gate Down TR168459; 3.vii.1993 Eccles Pit TQ7261; 21.viii.1994 Vinters Park LNR TQ775559; 3.viii.1996 Birchet Wood TQ987369; 3.viii.1996 Faggs Wood TQ9834. The majority of these sites are chalk grassland although as *Botanophila brunneilinea* is associated with *Centaurea* species it is probably not an indicator of calcareous areas.

*B. cuspidata* (Collin)

22.vi.1984 Darland Banks, Gillingham TQ793655. One male swept from open calcareous downland.

*B. laterella* (Collin)

14.iv.1982 Oare TR003623 open grassland bordering disused gravel pits; 15.iv.1989 Bramling TR22455610 in disused chalk pit; 15.iv.1989 Malmain's Wood, Eythorne TR293486 mature chestnut coppice on the chalk; 29.iv.1989 and 30.iv.1989 Coombe Down, Dover TR303426 open chalk downland; 30.iv.1989 Gorsehill, Dover TR298426 open chalk downland; 20.v.1990 Cheriton Hill TR1938 open chalk downland; 23.v.1992 Kingsnorth TQ8173 in grassland which has colonised coal ash tips; 23.v.1993 Lower Halstow TQ8567 dry grassland and scrub on site of former brickfields; 20.iv.1994 Ellenden Wood TR103622 mixed deciduous woodland on clay. According to Dr Pont (*pers.comm.*) *Botanophila laterella* is Nationally Scarce. However, like many species of the family, its relatively early flight period coupled with the unpopularity of the group may mean that it is frequently overlooked.

*B. sanctimarci* (Czerny)

15.iv.1989 Malmain's Wood, Eythorne TR293486. One male swept along ride in mature chestnut coppice. Dr Pont has informed me that the species has frequently been taken on or near Ramsons *Allium ursinum* and this plant was growing in abundance at Malmain's Wood.

*B. seneciella* (Meade)

5.vi.1994 Dungeness TR0817, one male obtained by general sweeping of shingle vegetation; 25.vi.1995 Fordwich TR18136043, one male swept from grassland and scrub.

*B. sonchi* (Hardy)

21.vii.1983 Oare TR003623 open grassland bordering disused gravel pits; 20.vii.1985 Lydden LNR TR278453 open chalk downland; 15.vii.1989 Wenderton Hoath TR2359 scrub bordering disused gravel pits; 18.vii.1993 Chiddingstone Ponds TQ5147 lushly vegetated area near old clay pits.

*Chirosia crassiseta* Stein

1.v.1993 Hothfield Common TQ969459, one male obtained by general sweeping of bracken *Pteridium aquilinum* on sandy heathland; 20.v.1995 Grimshill Wood, Blean TR1060, one male swept from bracken along woodland ride on clay.

*C. griseifrons* (Séguy)

15.v.1994 Park Gate Down TR168459. This site comprises open chalk downland although bracken is widespread. All species of *Chirosia* are seemingly associated with ferns.

*C. latipennis* (Zetterstedt)

21.vi.1983 Hothfield Common TQ971459, one male swept from bracken on sandy heathland; 30.v.1994 Hoath Wood TQ7054, one male in heavily shaded chestnut coppice.

*Delia albula* (Fallén)

5.vi.1994 and 12.viii.1997 Romney sands TR0823 – males swept from marram grass on coastal sand dunes. This species is probably characteristic of dunes.

*D. cardui* (Meigen)

25.vi.1995 Fordwich TR18136043. One male swept from grassland and scrub near extensive gravel workings.

*D. carduiformis* (Schnabl)

23.v.1993 Lower Halstow TQ8567. One male swept from dry grassland and scrub on site of former brickfields.

*Fucellia maritima* (Haliday, 1838)

27.vii.1983 Cliffsend, Ramsgate TR3564; 1.x.1983 Shellness TR050681; 5.viii.1989 Pegwell Bay, Sandwich TR3462.

*F. tergina* (Zetterstedt)

9.x.1982 Nagden Marshes TR026645; 27.vii.1983 Cliffsend, Ramsgate TR3564; 5.viii.1989 Pegwell Bay, Sandwich TR3462. All species of *Fucellia* are confined to the sea-shore. Like several other fly species found in this habitat they are difficult to capture and hence their true distribution may be much wider.

*Lasiomma anthomyinum* (Rondani)

1.v.1997 Covert Wood TR182494. A single male swept along a densely shaded woodland ride. The usual species of the genus encountered in Kent are *L. seminitidum* (Zetterstedt) and *L. strigilatum* (Zetterstedt).

*Leucophora sericea* Robineau-Desvoidy

5.vii.1987 Kingsnorth TQ812736. Several specimens were taken near aculeate burrows in very dry fly-ash from the nearby coal-fired power station.

*Pegomya fulgens* (Meigen)

21.vi.1983 Hothfield Common TQ96754562. One male beside *Sphagnum* bog.

*P. meridiana* (Villeneuve)

8.vi.1985 Canterbury Field Study Centre TR158593. One male obtained during general collecting at a site which includes alder carr and basic grassland.

*P. notabilis* (Zetterstedt)

26.vi.1983 Mincing Wood TR1160. One male swept along woodland ride on clay.

*P. rubivora* (Cocquillet)

26.v.1986 Thornden Wood TR147635. One male swept along woodland ride on clay.

*P. steini* Hendel

25.v.1989 Down Wood TR0852. One male taken by general sweeping in and around a mature beech wood on the chalk.

*P. versicolor* (Meigen)

8.v.1982 Murston TQ922646. One male in open scrub which has subsequently been developed as the home ground of Sittingbourne football club.

*P. vittigera* (Zetterstedt)

20.vi.1993 Angley Wood TQ7636. Three males swept in mature woodland interspersed with *Sphagnum* bogs.

*Zaphne ambigua* (Fallén)

24.vi.1989 Lenham Heath TQ9149. One male swept during general recording in a disused sandpit. Parts of the area are very wet throughout the winter months whilst others have been planted with alders *Alnus* spp., presumably to reduce the water table.

*Z. inuncta* (Zetterstedt)

14.vii.1996 Angley Wood TQ7636. One male swept in *Sphagnum* dominated clearing in mixed deciduous wood.

– LAURENCE CLEMONS, 14, St. John's Avenue, Sittingbourne, Kent ME10 4NR.

**Colonisation of a new area by *Oedemera nobilis* (Scop.) (Col.: Oedemeridae)**

Much to my surprise I encountered this striking and handsome beetle for the first time ever in this district or anywhere near, on 19 July last on Woolwich Common very near here – a locality I had often visited in the last twenty years or more. Some half-dozen in all, and only males, were noted on flowers of hogweed, wild carrot, ragwort and yarrow, some sharing a flower-head with *O. lurida* (Marsh.). The latter has long been much the more general of the two species, despite the reverse being stated in all the earlier works on our beetles. It seems that *O. nobilis* is already well distributed over the Common, though not seen at all last year; it is not easily overlooked. Apparently the process of colonisation can be extremely rapid. In Kent I had previously met with the species only in one or two of the old chalk workings east of Dartford, very locally and sparingly, and once at Otford; never in Surrey. It becomes far more frequent towards the south-west, as in parts of Devon.

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

### Mass predation of hibernating *Aglais urticae* (L.) (Lep.: Nymphalidae) by Wren

Small Tortoiseshells *Aglais urticae* hibernate every year in the old railway goods truck which serves us as a woodshed. Normally, most overwinter successfully, except for the odd one or two eaten by spiders. In November 1997, a count revealed 35 of the butterflies in the shed.

After an exceptionally mild winter, blizzard conditions arrived on the night of 7/8 March 1998. By morning, there were deep drifts, and we were snowbound. Although it was bright, sunny and windless, a real fire was needed to supplement the central heating. Unfortunately this meant the door of the woodshed was left open all day.

Wrens *Troglodytes troglodytes* are common enough here, but do not often visit the garden. Even so, little attention was paid at first to the one that did so that day, until brightly-coloured piles of Small Tortoiseshell wings were noticed on the floor of the woodshed and the ground outside. The door of the shed was immediately closed, but over the next two or three days, the Wren ate every one of the hibernating tortoiseshells. Having found such a good source of conveniently torpid food, it now gained access through a small open hatch, managing to locate its prey in the dim interior but bringing this into the daylight for dismemberment.

As their scientific name implies, Wrens are well-known for entering caves and other dark places. In their excellent paper on hibernating moths, R.K.A. Morris and G.A. Collins (*Ent. Rec.* **103**: 313-321) report the unexplained loss during severe weather of 90% of the Herald *Scoliopteryx libatrix* moths hibernating in the upper chambers of a disused fort. I suggest that a Wren might well have been the culprit.

The numbers of Small Tortoiseshells seen the garden at Ordiquhill once spring eventually arrived were not noticeably affected by this localised carnage, such is the mobility of the species. Wrens themselves are short-lived, so the odds are that this particular individual will not be around next winter to remember where it found a good source of food.—ROY LEVERTON, Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS.

### Hazards of moth collecting

Over the years, Torben Larsen has given accounts of the hazards of butterfly collecting in various parts of the world, and these have made delightful reading. Unlike butterfly collectors, those of us who are more interested in moths must necessarily pursue our activities at dusk or at night, and it is understandable that those who do not share our interest should be a little suspicious of our activities and have a feeling deep down that we are up to no good. Once, when out sugaring, I was accosted by a suspicious allotment-holder, who thought I might have designs on his rabbits. On another occasion, I had just started up my portable light trap when the local gendarmerie turned up, curious to see what I was doing. When told, they wished me good hunting and went their way.

The moth collector may well find himself in a rather embarrassing situation, such as that experienced by by Skat Hoffmeyer, the Bishop of Aarhus (Denmark). This

was first broadcast on Danish radio and was related to me by an uncle of mine. The Bishop, who was a keen lepidopterist, happened to be taking a stroll not far from the local mental hospital, and wanted to collect some moths which had been drawn to one of the street lamps. To achieve this, there was only one thing to do, and that was to clamber up the lamp-post. However, just then a policeman came along, and the following conversation took place:

“Who are you?”

“I am the Bishop of Aarhus,” came the reply from the top of the lamp-post.

“Well,” replied the policeman, “if you are the Bishop of Aarhus, then I’m the Pope in Rome.”

“But I tell you, my name is Hoffmeyer, and *I am* the Bishop of Aarhus.”

– C.L. NISSEN, Bâtiment F2, Appt. 271, “Résidence Beauséjour”, ave. Clémenceau, 77100 Meaux, France.

### Report of *Wesmaelius mortoni*'s extinction exaggerated

I have recently discovered a female of this rare lacewing (Neuroptera: Hemerobiidae) among a collection of insects from the pine forest at Loch Garten (VC96), made during a survey organised under the auspices of the Diptera Recording Schemes on 14 June 1982. The site was visited fairly late in the afternoon and was high forest, very open with heather as the dominant ground cover and nearby was a small loch with marsh vegetation along the edge. The weather was fine and dry. The site was revisited the following morning and the loch edge was sampled.

*Wesmaelius mortoni* (McLachlan) was collected in Scotland on only a handful of occasions last century, the latest being in 1898 (Plant, 1997. *A key to the adults of British lacewings and their allies*. Field Studies Council), leading to speculation that it was now extinct in the UK. Happily, it seems still to be simply very rare.

The quality of this location is underlined by some of the other insects I obtained there - the RDB3 hoverfly *Chamaesyphus scaevoides*, the Notable/Nb insects were the plantbug *Lygus punctatus*, the planthoppers *Dicranotropis divergens* and *Oncodelphax pullulus*, the water beetle *Hygrotus quinquelineatus*, the click beetles *Ampedus nigrinus* and *Selatosomus impressus*, the crane fly *Limnophila pulchella*, the hoverfly *Platycheirus podagratus* and the helemomyzid fly *Chaetomus confusus* while the fungus beetle *Anisotoma glabra* and the caddisfly *Lype phaeopa* are Notable/Nr in Scotland. Many other significant finds were made by other members of the survey team.

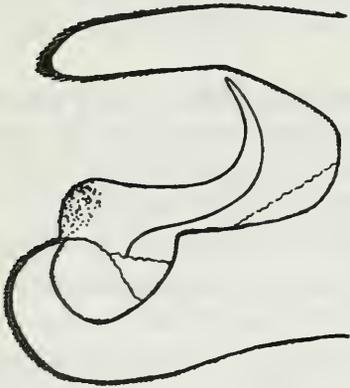
I should like to thank Colin Plant for confirming my identification and Alan Stubbs for arranging permission for the survey at Loch Garten. – BILL ELY, Rotherham Biological Records Centre, Grove Road, Rotherham S60 2ER.

**EDITORIAL COMMENT:** The re-discovery of *Wesmaelius mortoni* by Bill Ely is welcome news indeed. Readers should note that all present century records of this species in the entomological literature relate to other species and are the result of nomenclatural confusion (see Plant, C. W., 1994. *Provisional atlas of the lacewings*

and allied insects of Britain and Ireland. ITE). Together with the re-discovery by Stephen Hewitt in 1995 of *Nothochrysa fulviceps* (Stephens), which had previously not been seen in Britain since 1958 (see Neuroptera Recording Scheme Newsletter 16: 2) this leaves only *Hemerobius contumax* Tjeder on my list of presumed extinct British lacewings (see Plant *op. cit.*). *H. contumax* has not been seen in Britain since 1952 when one was taken at Leith Hill, Surrey; it is supposedly associated with *Pinus sylvestris*. Readers will hopefully take this as a challenge!— COLIN W. PLANT, 14 West Road, Bishops Stortford, Herts CM23 3QP.

***Halictophagus silwoodensis* Waloff, 1981 (Strepsiptera: Halictophagidae) confirmed as a Scottish Insect**

Strepsiptera are parasitic in their larval stages on a variety of other insects. The genus *Halictophagus* (and the family Halictophagidae) contains only two British species, *H. curtisii* Dale, 1832 and *H. silwoodensis* Waloff, 1981. *Halictophagus curtisii* is only known in Britain from the male holotype from Dorset, while both sexes of *H. silwoodensis* and its life history on *Ulopa reticulata* (F.) (Hom.: Cicadellidae) were described by Waloff (1981, *Syst. Ent.* 6: 103-113) from Berkshire (Silwood Park). It is also known from France and Finland (Waloff, *op. cit.*). The males of the two species differ in the form of the antennae and the shape of the aedeagus.



**Figure 1.**  
Terminal part of abdomen of *Halictophagus silwoodensis* from Perthshire

In 1975, Crowson (*Ent. mon. Mag.* 111: 62) reported finding a female *Halictophagus* species on *Eupelix cuspidata* (F.) (Hom.: Cicadellidae) in Wigtownshire and provisionally ascribed it to *H. curtisii*, the only British species known at the time. The true identity of this specimen is still uncertain. A single male strepsipteran was taken in a malaise trap by the Allt Féith Làir (OS grid reference NO 012802), Fealar, Perthshire (VC89) between 17-22.vi.1998. Comparison of this specimen with Waloff's description showed it to be *H. silwoodensis* Waloff, 1981, the first confirmed specimen of this species from Scotland. The aedeagus of the present specimen differs slightly from that photographed by Waloff in being slightly more angled at the base but all other characters match. The host of this species in the Highlands of Scotland is unknown. The only bugs taken in the vicinity at the same

time were *Javesella discolor* (Boheman, 1849) and *Northodelphax distinctus* (Flor, 1861) (Delphacidae), both more usually host to strepsipterans of the genus *Elenchus* Curtis.— K.P. BLAND, National Museums of Scotland, Chambers Street, Edinburgh EH1 1JF.

### **Geranium Bronze *Cacyreus marshalli* Butler (Lep.: Lycaenidae) in the Algarve, Portugal**

Myself and my girlfriend spent a week, from 18 May to 25 May 1998, holidaying in the Algarve. We were based in Monte Gordo, a resort in the eastern Algarve close to the Spanish border. On 19 May, the first full day of our trip, we decided to look around the nearby Reserva Natural Do Sapal De Castro Marim, a major bird reserve. It was certainly a fascinating place and well worth a visit, with Cattle Egret and Marsh Harrier among the birds to be seen, but the most interesting discovery was made after stopping for refreshments in the small town of Castro Marim itself.

We decided to walk up to the medieval fortress which dominates the town, anticipating some excellent views over the Reserve and the Rio Guadiana, which forms the border with Spain. The steep hillside leading up to the castle was covered in patches of scrub and a profusion of grasses and wild flowers. While climbing up to the gates, I saw a “blue” butterfly flit across the track and settle in some thistles. Before I could get close, it moved again, but fortunately, despite the glare of the sun, I just about managed to follow its flight. The butterfly landed amongst flowers about three metres above us on the slope under the battlements. I scrambled up towards it and luckily found it again immediately, sitting sideways-on with its wings closed.

I had been expecting to see Lang’s Short-tailed Blue *Leptotes pirithous* L. while in the Algarve so, when close enough to see that the butterfly had short tails and a grey and white underside, my expectations seemed about to be confirmed. Nonetheless, I took a close look, to ensure that it wasn’t a small specimen of the Long-tailed Blue.

The underside pattern seemed too strongly-contrasting for *pirithous*, with areas tinged brownish. On cue, the butterfly opened its wings to reveal a uniform, shiny brown upperside with a white and black checked fringe, particularly on the forewings. It was a fine specimen of the Geranium Bronze *Cacyreus marshalli*. This was quickly confirmed by checking the identification in the new edition of the Collins *Field Guide to the Butterflies of Britain & Europe* by Tolman & Lewington (1997).

Naturally, it was quite pleasing to think that I might be the first person to have found *marshalli* on Portuguese soil, albeit Castro Marim is only 3km from the border. But Portuguese flower-growers would no doubt be less thrilled to learn of the discovery of this South African pest species! I thought the butterfly might turn up again in other areas during the week, perhaps in the western Algarve, which would go some way towards showing that *marshalli* is a resident. Geraniums appear to be as popular in the Algarve as they are elsewhere in the Iberian peninsula, with fine displays in many gardens and on balconies in the towns. But despite looking out for the butterfly in suitable spots both in town and country areas to the west, I did not see it again.— MARTIN J. WHITE, 8 St.Nicholas Square, Martin Quarter, Swansea SA1 1UG,

***Euchromius ocella* (Haworth) and *Microthrix similella* (Zincken)  
(Lep.: Pyralidae) in Hampshire**

An *Euchromius ocella* came to m.v. on 14/15 May 1998. Thanks to Dr J.R. Langmaid for identifying it.

In Hampshire, I have only known *Microthrix similella* from the New Forest. Captures in my garden trap on 5/6 July 1997 and 17/18 June 1998 make me wonder if the species might be on the increase. My home is close to West Walk, and several species likely to originate from this established woodland appear in my trap.

– R.J. DICKSON, 39 Serpentine Road, Fareham PO16 7ED.

***Lozotaenoides formosanus* Geyer (Lep.: Tortricidae): a first for Wirral**

On 20.vii.1998, I took two specimens of this tortricid moth in my m.v. trap at Willaston, South Wirral (OS grid ref. SJ 331779). There is an ample supply of the larval foodplant *Pinus sylvestris* nearby.

This species, not recorded in Britain until 1945, has been regarded as having a mainly south-eastern distribution in England in Suffolk, Essex, Surrey, Kent etc. (Bradley, Tremewan & Smith, 1973, *British Tortricoid Moths*, Ray Society). However, there are sparse, scattered records of the moth in Cheshire from 1994 onwards, mostly in the eastern part of the county. It has not hitherto been recorded in the Wirral peninsula. It has been suggested that it is an immigrant. Perhaps it is now resident, and is spreading north-westwards.

I am grateful to Alan Creaser and Stephen Hind for previous records of the moth in Cheshire.— R.G. AINLEY, “Burford”, Briardale Road, Willaston, South Wirral L64 1TB.

***Tetropium castaneum* (L.) (Col.:Cerambycidae) and *Harminius undulatus*  
(Degeer) (Col.:Elateridae) sharing a Norway spruce log at Loch Arkaig,  
Invernesshire**

Examining a Norway spruce log at the east end of Loch Arkaig, (OS grid reference NN18) on 28.v.1998, I found two adults and several presumed larvae of *T. castaneum* and three larvae of *H. undulatus* under bark on the surface of the log exposed to the sun. The log had arisen from timber felling two or three years previously. One of the *Harminius* larvae was full grown about to pupate and the other two were half grown.

*T. castaneum* is a relatively newcomer to the British Isles, probably imported in not yet debarked conifer logs from Germany in the late 1940s (Kevan, D.K., 1964. *Ent. mon. Mag.*, **100**: 111-112). Since then, it appears to have become firmly established as a breeding species in Scotland. I first came across it on a snow field on Ben Macdui in June 1956 (see Kevan, *loc. cit.*) and then found the species breeding in larch logs at Inveraray, Argyll in April 1971 (Owen, J.A., 1986. *Ent. mon. Mag.*, **122**: 124).

In Britain, *H. undulatus* is a northern insect most often found in birch woods where the larvae develop as opportunistic carnivores under the bark of fallen birch

trunks or logs. More rarely, the larvae develop under bark of Scots pine logs (H. Mendel, *pers. comm.*) I am unaware, however, of any British records relating to Norway spruce but this tree now outnumbers Scots pine in many areas as a planted species and no doubt its logs provide sub-cortical conditions similar to those provided by Scots pine. It seem likely that the elaterid larvae in this case were preying on the *Tetropium* larvae.

Norway spruce was part of the British flora before the last ice age. Its re-introduction for commercial reasons has so far found little favour from naturalists. Its potential, however, in supporting these and possibly other rare beetles makes its re-introduction to the British scene perhaps a little more acceptable.— JOHN A. OWEN, 8 Kingsdown Road, Epsom, Surrey KT17 3PU.

### **Scarce Merveille du Jour *Moma alpium* Osbeck (Lep: Noctuidae) re-found in Devon**

On 4 July 1998, the night of the joint BE&NHS/Devon Moth Group Field Meeting to Roborough Wood, near Great Torrington, DMG member Dr Adrian Henderson decided to run his lights in a spot near to the River Torridge about three miles from the Field Meeting, because of the multitude of traps that would be running at Roborough Wood. He settled on a location where mature oaks were part of the woodland and around 01.00hrs three *M. alpium* came to his lights; these were all males and in good condition.

The following night another member of DMG and myself visited the same location but in a different spot to the previous night; around 01.00hrs we had three *M. alpium* come to our lights and these again were males and in good condition. We had none come to sugar which had been applied to oak trees. A follow-up on 15 July 1998 to locate the species at a new site, again mature oak woodland was unfortunately rained off. Follow-ups will be conducted to other parts of the oak woodland in the area in future years.

The history of the species in Devon so far is: 1865 – three specimens noted as “taken” in Plymouth; 1878 – a reference is given to Wembury near Plymouth, Lee Moor near Shaugh (again near Plymouth) and Great Torrington; 1948 – near to Plymouth; 1956 – a specimen taken by P. N. Crow on Dawlish Warren on 10 June. This specimen is in the Lees collection at Exeter Museum. More recent records are one taken (a worn specimen) at Roborough Wood, near Great Torrington on 14 July 1983 by C.W.D. Gibson and one seen but not taken by Mary Louise Hartley at Kingscott, near Great Torrington on 25 June 1994.— ROY MCCORMICK, 36 Paradise Road, Teignmouth, Devon TQ14 8NR.

### **Larvae of *Chrysolina staphylaea* (L.) (Col.:Chrysomelidae) subject to repeated submersion in sea-water**

Stopping at the roadside on the north side of Loch Creran, Argyll (OS grid reference NM94) on 3.vii.1997 I noticed a small strip of salt-marsh by the side of the loch which reminded me of the site where I found adults, and later larvae, of *Chrysolina crassicornis* (Helliesin) at the edge of neighbouring Loch Etive some years ago.

Examining the limited flora growing on the mud, I noticed that many small clumps of *Plantago maritima* had leaves showing signs of nibbling and, at the roots of a few of these clumps, found three small *Chrysolina* larvae, dull olive green in colour and not the deep black colour of *C. crassicornis* (see Owen, J.A. 1993. *Entomologist* **112**: 69-74.). I took two of the plants home for larval food and, about the middle of August, two adult *C. staphylaea* appeared in the container, entirely typical in appearance. I revisited the spot on 3.vi.1998 and found another five *staphylaea* larvae, similarly at the roots of *P. maritima*, together with a single adult. The site is strongly haline. The only other beetle noted at the spot was *Ochthebius dilatatus* Stephens, a recognised halophilic species.

Tested with leaves of different plants, the larvae and the adults would not eat any of the other plants growing with *P. maritima* on the saline mud - *Armeria maritima*, *Cochlearia officinalis*, *Triglochin maritima* or *Glaux maritima* but both stages fed freely on leaves of *P. lanceolata*, *Ranunculus repens* and *Achillea millefolia* collected elsewhere, with no apparent preferences. The latter two species are given as larval food plants by Marshall (*Systematic Entomology*. **4**: 409 - 417).

It seems likely that *C. staphylaea* is a permanent, or at least, semi-permanent feature of this strip of salt-marsh. Observations on the level of sea water at the site on different days, together with consultation of relevant tide tables indicate that, provided it is calm, the plants on which the larvae were feeding would be under at high tide for only an hour or so for five or six days each month. The loch-side, however, is very exposed and the plants are doubtless splashed or even covered by wind-promoted waves at other times. When the ground is under sea-water, adults present can presumably float ashore to drier situations and crawl back (e.g. if they have not completed egg-laying) when the waters go down but larvae do not float and have to stay put, surviving contact with sea water. The persistence of this beetle at this site with the hazard, particularly for the larvae, of repeated contact with hypertonic sea-water would suggest that the site offers some advantage over other nearby situations without this hazard.. All of the plants which adults and larvae ate grew at the site on dry land above the level of spring tides. Possibly, the saline habitat reduces attacks from predators or parasitoids. It may be relevant that the larvae of the congener *C. crassicornis*, which will eat various *Plantago* species available above high tide levels (Owen, *loc. cit.*), similarly lives on *P. maritima* in a salt-marsh habitat at its only known site on the Scottish mainland though in Orkney and Shetland it lives at the tops of sea cliffs. I thank David Owen for help in assessing potential tidal levels at the site.— JOHN A. OWEN, 8 Kingsdown Road Epsom, Surrey KT17 3PU.

#### **Provisional distribution of ground beetles in the London Area: request for records**

On behalf of the London Natural History Society, I would welcome all records of Coleoptera: Carabidae (including *Cicindela* and *Brachinus*) from the London Area. This area is defined by a circle with a radius of 20 miles centred on St Paul's Cathedral and includes all of Middlesex plus parts of the vice-counties of Hertfordshire, North Essex, South Essex, West Kent, Surrey and Buckinghamshire. I

can provide a list of included grid references on request but will be happy to sort records from the fringe of the area.

I would appreciate as precise a grid reference as possible and a description of the habitat of all records but will accept all records with an identifiable site description. The usual data (date of capture, identifier, etc.) should accompany the records. I shall be pleased to receive multiple records for the same species over several years as a possible indication of spread or decline of the species. To the same end, rough indications of population numbers might be helpful. I can accept records in writing or as computer files (ASCII or Xbase, possibly others) either on disc or by e-mail (fax by arrangement). The provisional distribution will be mapped and published by the London Natural History Society. The location of rare or endangered species may be obscured on publication.— PAUL MABBOTT, 49 Endowood Road Sheffield S7 2LY. e-mail: PRMabbott@aol.com

## BOOK REVIEWS

**The moths and butterflies of Cornwall and the Isles of Scilly** by F. H. N. Smith. 434 pp, 32 pages of coloured plates. 240 x 160 mm, hardbound, ISBN 0 906802 07 5. Gem Publishing Company, 1997. £44 plus £3 UK postage.

Surprisingly, it appears that the last published list of the Lepidoptera of the County of Cornwall was issued in 1906 within the pages of the *Victoria County History*; the publication of Frank Smith's book is, therefore, somewhat overdue and very welcome. However, if one is expecting to see the now almost obligatory tetrad distribution maps for the species recorded one will be disappointed - there are none at all! The author explains that the technology for mapping was not easily available to him and that he considers named localities to be more interesting and of more practical use than dots on a map. With the former, the reviewer sympathises but with the latter he disagrees, though this is largely a personal opinion and I am sure it is not shared by everyone. I for one do not have an intimate knowledge of Cornwall and I have never been to the Scillies so the names mean rather less to me than they will to entomologists regularly working within the county, though in fairness there is a relatively extensive Gazetteer (of names mentioned in the text?) in the rear of the book which may solve the problem. Localities are no doubt important to collectors, but to those of us wishing to study the objects of our desire in more detail, especially when it comes to monitoring range expansions and contractions, maps are a valuable tool.

On the positive side, the species accounts are comprehensive and evidently accurate and the records have clearly been properly vetted prior to inclusion. Two very valuable inclusions take the form of appendices - first a list of species added to the county list since the 1906 publication in *VCH* and second, a list of the species not seen since that publication, accompanied by the names of their alleged foodplants as a stimulus to further recording.

This is, overall, a very valuable work of reference on the Lepidoptera of Cornwall and the Isles of Scilly and it is enhanced by the inclusion of 152 superb colour photographs of moths and their habitats (although these may perhaps be partly responsible for the relatively high price of the work). The photographs of the micro-moths are better than many illustrations I have seen in expensive identification guides and I can't help feeling that Mr Smith might turn his attention next to a micro companion volume to "Skinner". If he does, then I recommend its purchase, as indeed I do for the present volume.

Colin W. Plant

**Inventaire commenté des Lépidoptères de l'Ile-de-France. I. Noctuelles (Lepidoptera: Noctuidae)** by **Philippe Mothiron**. 144pp, four-colour plates, two text figures, four tables of data, three maps on two folding sheets, 250 x 165mm, paperback, ISBN 2-903273-05-7, 1997, published by Office pour l'Information Eco-entomologique (OPIE) and *Alexanor*. 150 French Francs + 25 Francs postage and packing to EU countries. Available from OPIE, Domaine de la Minière, B.P. no. 30, 78041 Guyancourt Cedex, France and *Alexanor*, 45 rue de Buffon, F-75005, Paris, France.

There are not very many published records of the flora and fauna occurring in Paris and the neighbouring départements which make up the l'Ile-de-France region; this local list of more than 350 species of Noctuids, the first of a series on the larger moths of the region, is therefore more than welcome. It has been published as a supplement to volume 19 of the French lepidopterists' magazine *Alexanor*, but does not constitute one of the quarterly parts and is complete in itself.

Following the introduction and acknowledgements, there is a description of the l'Ile-de-France region. In addition to Paris, it covers the neighbouring départements of Hauts-de-Seine, Seine-Saint-Denis, Val-de-Marne, Essone, Yvelines, Val-d'Osie and Seine-et-Marne. In establishing this local list, the region has been split into eight sectors, depending on the degree of urban development and similar pressures, geology, woods and forests.

The author then describes how information was gathered in compiling the list; this covered field work (essentially light-trapping, collecting specimens at flowers at dusk, hunting for larvae, a little sugaring) collections and various publications. All this information was recorded in a microcomputer database. Discussion regarding the distribution of observations over the years and over the course of a year is illustrated by two histograms. There then follows a list of localities worked, with symbols indicating whether they were visited only occasionally, once or on several occasions and fairly extensively worked, or visited more regularly.

There is a pocket at the back, containing three maps on two sheets; one shows all the localities worked in establishing the list, indicating sectors and départements; the other two show districts which have been worked entomologically before and after 1970. The many blank spaces on these maps indicate how much research remains to be done.

With regard to the list itself, all species are cross-referenced to Leraut's list (1980). The classification largely follows that of Fibiger and Hacker (1991); the nomenclature is that used by Leraut (1980). There is an indication of the corresponding biogeographical distribution. The status of each species is graded, according to whether it is extinct, vulnerable, threatened or not, vagrant or migratory. Where a species is protected by law, this is also shown; in this region, 19 Noctuids have legal protection, including *Graphiphora augur*, *Naenia typica* and *Apamea anceps*. The flight-period in l'Ile-de-France is indicated. Foodplants on which larvae are known to feed in the region are shown. Localities are mentioned in accordance with the various geographical sectors, however, specific localities are not shown in the case of very common species which occur in all sectors. The list closes with an indication of species which need to be sought out and records not incorporated in the list.

The book concludes with an analysis showing the number of species occurring in each sector, a report on extinctions on the region, urban Noctuids and threatened habitats, a bibliography, a checklist of the species in each sector, a list of location recorders, abbreviations of authors of scientific names and indices of genera and species.

With regard to the butterflies of the l'Ile-de-France region, these have already been dealt with (Essayan *et al.*, 1978). The Noctuid volume under review will be followed by others on the families Geometridae, Sphingidae and the bombycids. We look forward to them with keen interest.

## References

- Essayan, R., Gibeaux, C. and Leraut, P., 1978. Contribution à la l'étude des Lépidoptères de la région parisienne, I Rhopalocères. *Bulletin de la Société des Lépidoptéristes français* 2: 125-152.
- Fibiger, M. and Hacker, H., 1991. *Systematic List of the Noctuidae of Europe*; Buchreihe zur Entomologie, Bd. 2.
- Leraut, P., 1980. *Liste systématique et synonymique des Lépidoptères de France, Belgique et Corse*. Supplement to *Alexanor* and *Bull. Soc. ent. Fr.*, Paris.

C.L. Nissen

**Fidrildi Á Íslandi 1995 (Lepidoptera in Iceland 1995)** by Erling Ólafsson & Hálfán Björnsson. 136 pp, 32 distribution maps, numerous figures and tables. 170 x 244 mm, paperback, ISSN 1027-832X. Published 1997 by Icelandic Institute of Natural History, Reykjavík. £10 inclusive of overseas postage.

Prior to spending a week in Iceland, a rather hasty search of the literature at hand failed to locate much on the country's Lepidoptera, particularly the butterflies, bar the rather disappointing statement in Tolman & Lewington (1997) "...Iceland, which has no indigenous butterflies." However, once there I had the good fortune of falling into conversation with Erling Ólafsson during a visit to Iceland's Museum of Natural History, who kindly gave me a copy of the above text.

It is number 32 in an irregular series of publications by the Icelandic Institute of Natural History, entitled FLÖLRIT NÁTTURÚFRÆDISTOFNUNAR, and is mostly in Icelandic. However, it contains an overall summary in English, together with numerous species' distribution maps, tables, lists and charts, all with English subtitles, and a list of 39 references. This allows English readers access to virtually all of the most important data.

This is a comprehensive account of the Icelandic Lepidoptera. Whilst listing all species known to have occurred in the country, both by family and status, much of the book is devoted to the recently initiated light trapping scheme and a detailed commentary on a selection of 58 species, including all of those trapped at light during 1995. The species' accounts are probably of the greatest interest, as they conclude with an English summary, ranging from a few lines to almost half a page, and distribution maps and charts showing the dates of all 1995 records are included where relevant.

Iceland joined the "Nordic Moth Monitoring Scheme" in 1995 and m.v. traps of the Swedish Ryrholm design (illustrated in the text) are now run at two locations, Tumastaðir and Kvísker, both in the south of the country. Four traps were operated from May to October or November 1995 and the paucity of the country's Lepidoptera is well illustrated by the catch: a total of 15,525 specimens representing 44 species. However, as well as capturing a remarkable 72.5% of all known wild species, three new migrants were added to the list, but the undisputed highlight of the year was the exceptional influx of *Agrius convolvuli* L., with 15 of these moths having been recorded.

An earlier account by Ólafsson (1991) listed 97 species of Lepidoptera and this latest review takes the number to 118, which are categorised thus: wild indigenous species - 51; indoor indigenous species - 7; immigrant species - 27; casually introduced species - 32; and extinct species - 1 (*Caradrina clavipalpis* Scop.). Four species are re-designated (no longer deemed to be native) and the authors take the opportunity of correcting the recent checklist of European Lepidoptera (Karsholt & Razowski, 1996), which shows two species of moth as occurring in Iceland which in fact do not. These are *Zimmermanniana monemvasiae* van Nieukirken (Nepticulidae) and *Prochoreutis myllerana* (Fab.) (Choreutidae).

As noted above, Iceland has no indigenous butterflies and all of those on the list are deemed to be either true immigrants or casually introduced. They include well known migrants such as *Cynthia cardui* L. and *Vanessa atalanta* L. which are regular visitors, together with several familiar nymphalids and pierids, which are all viewed as casuals, as are less familiar species such as *Nymphalis milberti* Godart, a North American insect for which there is one record. The moths fare far better, with over 50 wild species. Many are noctuids and geometers which jointly accounted for 29 of the 44 species caught at light during 1995, although the three species captured in the greatest numbers were *Epinotia solandriana* L. (Tortricidae), *Eana osseana* Scop. (Tortricidae) and *Hydriomena furcata* Thunb. (Geometridae). Most of the indigenous moths occur also in Britain but there are a few exceptions: the "Icelandic Plume" *Stenoptilia islandicus* Staud., which occurs in Norway, and the noctuid *Rhyacia quadrangula* Zett., from North America. More frequent migrants include *Autographa gamma* L., *Nomophila noctuella* D.&S. and *Agrotis ipsilon* Hufn.

All of Iceland's indigenous moths must be relatively recent colonisers as the country is geologically young and was never part of a major continental land mass, as was Greenland, which has several indigenous butterflies. How long, I wonder, before some butterflies establish a foothold, perhaps some northern species of *Erebia* or *Clossiana*?

Erling Ólafsson is presently working on a review of the 1996 season and hopes to publish an annual report from now on. He would welcome contact from any Lepidopterists visiting Iceland and can be contacted at the Icelandic Institute of Natural History, P.O. Box 5320, 125 Reykjavík, Iceland, tel. 00354-562-9822, fax 00354-562-0815, e-mail: erling@natfs.is.

Robert Bogue

**Danske Dagsommerfluge** by **Michael Stoltze**. 383pp., 20 colour plates of set specimens, 310 colour photographs, several line drawings, 93 distributional maps, hardback, size 270mm x 210mm. Gyldendal. 1996. ISBN 87-00-21276-8. 380 Danish Kroner, excluding postage. Available from Apollo Books, Kirkeby Sand 19, DK-5771, Stenstrup, Denmark.

Every species of butterfly which has so far been recorded in Denmark is described and photographed in colour in this superbly produced and lavishly illustrated identification guide.

Following the foreword and acknowledgements, there is a lengthy introduction; the author discusses the relationship between butterflies and other insects, their diversity, basic external anatomy and life-cycle; hibernation is also treated, as well as migration, enemies, parasites and diseases, classification and nomenclature, studying butterflies in the wild, photography, collecting, breeding and conservation.

There then follows the systematic section, covering the families HesperIIDae, Papilionidae, Pieridae, Nymphalidae and Lycaenidae. Three families have been downgraded to sub-family status – the Danaidae and Satyridae have been incorporated in the Nymphalidae and the Riodinidae in the Lycaenidae. There is an introduction to each family. For each species, there is a short introduction, followed by details on identification and variation. A detailed description of the imago is only given where it is required to differentiate between species which resemble one another. Only the commonest varieties are described. There are details about the flight-period, habitat, behaviour, early stages and distribution in Denmark and throughout the world; where a species is under threat, conservation is discussed; finally, the author discusses the Danish vernacular name, and gives the names used in Swedish, German and English. The scientific name is also explained. The nomenclature corresponds to that in Schnack's catalogue (1985).

The distribution maps for each species are based on the data gathered by participants in the Danish butterfly recording scheme. Areas where species have occurred before and after 1990

are coloured green, red areas show where a species has not been recorded since 1990, and where a butterfly has occurred since that date, the area is coloured blue. Some parts of Denmark are still largely unworked, especially western and southern Jutland.

After the systematic section, there are details of the species density in different parts of Denmark, accompanied by a map.

There are twenty high-quality colour plates showing set specimens of all species, upper- and underside, male and female, together with the commonest varieties. These plates are intended to supplement the photographs taken in the wild. As an aid to identification, closely-related species have been placed alongside each other, so that they may be compared.

The book concludes with a table of flight periods, a list of participants in the Danish recording scheme, a short bibliography, details of Danish entomological societies and an index with both vernacular and scientific names. Contrary to the usual practice, scientific names have been listed according to the generic name instead of the specific.

So far, 93 species of butterfly have been recorded in Denmark comprising 74 native species, 15 occasional vagrants and four migrants which arrive fairly regularly but cannot survive the winter. Three species, *Coenonympha hero*, Marsh Fritillary and Large Blue are protected by law and may not be taken. A number of other species are threatened or in decline, as a result of habitat loss, drainage, intensive cultivation and the use of fertilisers and chemical sprays; the author discusses how these species can best be protected, these include the Dingy Skipper, Swallowtail, Wood White, Silver-washed, Dark Green and Heath Fritillaries, Brown and Black Hairstreaks.

The colour photographs taken in the wild are all of superb quality. To enable easy identification, all imagines were photographed in characteristic situations and in their natural surroundings. There are also photographs of the early stages of a limited number of species; the illustrations showing ants finding and picking up a Large Blue larva are particularly impressive; there is also a photograph of some ants tending a larva of the closely related *Maculinea alcon*. Nowhere has the degree of magnification been indicated.

Although primarily intended for the general naturalist, this book is a "must" for anyone interested in the butterflies of northern Europe, many of which also occur in the British Isles. Given the high quality of production, the clear type on glossy paper and excellent illustrations, it is very good value for money. It is written in Danish throughout, which can prove a hurdle to those unacquainted with Scandinavian languages; however, the problem is not unsurpassable – the late Michael Tweedie taught himself Danish, so that he could read Skat Hoffmeyer's moth books. It isn't as hard as it looks.

#### Reference

Schnack, K., 1985. *Katalog over de danske Sommerfugle/Catalogue of the Lepidoptera of Denmark*. Ent. Meddr. Bind 52, hefte 2-3, Copenhagen.

C.L. Nissen

**Provisional atlas of the ground beetles (Coleoptera, Carabidae) of Britain by Martin J. Luff.** 194 pp., 349 distribution maps. A4 (297 x 210 mm), paperback ISBN 1 870393 41 4. Biological Records Centre, 1998. £7.50 by post from ITE Publication Sales, Merlewood Research Station, Grange-over-Sands, Cumbria LA11 6JU.

Ground beetles are one of the more familiar groups of British Coleoptera. They are present in just about every kind of habitat that we have in Britain and they include a good many species of some value as indicators of habitat type and quality. As such, they are useful insects to include in the ecological assessments of sites so this set of provisional maps, from Britain's foremost authority on the family, is therefore a very welcome addition indeed to the shelves of the entomologist's library.

Some seven species have been added to the list for Great Britain since the publication of the Royal Entomological Society's *Handbook* in 1974; all these species are included in this Atlas. On the downside, eight species not recorded here during the present century and one that has been recorded only once since 1900 (*Brachinus sclopeta*), are excluded on the basis that they are probably extinct here. Known introductions, such as *Carabus auratus*, are also excluded, though species that have become established and which have spread naturally, such as *Leistus rufomarginatus* and *Amara montivaga* are included.

The distribution maps, which exclude Ireland, are each accompanied by a short text which gives details of preferred habitat and other ecological and biological information. This work should be of immense interest to anyone who studies or collects carabids and a great help to anyone involved in using invertebrates in ecological assessment work. My only gripe is that neither my own name, nor that of the former Passmore Edwards Museum, features in the list of contributors, in spite of the several hundreds of records passed to Dr Luff by me in July 1984.

Colin W. Plant

**Lepidoptera in Warwickshire 1900- 1995: An historical summary** by Roger Smith. 70 pp., several maps. A4 (297 x 210 mm), spiral-bound paper with acetate front cover, ISBN 1 869841 27 1. Warwickshire Museum Service, undated [1998].

This spiral-bound booklet contains tetrad distribution maps for the butterflies of Warwickshire and a list of the macro-moths with a one or two word assessment of status within the county. Thus, for example, under the Thyatiridae we find

Peach Blossom *Thyatira batis* (1652) Widespread & fairly common.

The booklet takes the form of a working document, correcting many of the unbelievable errors in a 1987 publication covering the same area. The author states that "Working within a restricted budget but with a wide circulation in mind, any temptation to produce a prestigious and expensive publication has been avoided. This decision is reinforced by the fact that further more intensive recording for a national Millenium Butterfly Atlas is taking place between 1995 and 2000 and an Atlas of the rare macro-moths is also planned for the end of the present century". The present list is a valuable summary and will hopefully stimulate more of us to visit this Midland county and pass on our records to the County Recorder – either direct or through the Warwick Museum.

Colin W. Plant

**Hertfordshire and Middlesex Butterfly and Moth Report for 1997** by John B. Murray and Rob Souter. 56 pp, several maps, photographs and text figures. A4, folded and stapled. Butterfly Conservation (Hertfordshire & Middlesex Branch), 1998. £3.50 from BC Branch Organiser, 3 Scarborough Road, London N9 8AT.

This is the second in a series of annual reports. The first 40 pages are taken up with the butterfly report and moths are covered in the remainder. The report presents a useful summary of butterfly recording in the area and of the more interesting moth records that have been submitted to Butterfly Conservation. Provisional distribution maps are presented for a selection of day-flying moths and for seven common species of hawk moth (Sphingidae). Annual reports such as this as not normally reviewed in this journal but it is encouraging to see Butterfly Conservation embracing moths and encouraging active recording amongst less specialist naturalists, including an emphasis on the need for specimens to verify records of difficult species.

Colin W. Plant

## CORRIGENDA

From this volume onwards, **important** corrections to the journal will always be featured on one or both of the final two pages of the volume. Whilst the Editor freely admits to being less than perfect, authors of papers are reminded that it is their own responsibility to correct errors when they receive proofs and to return these by the stated deadline. This is especially important for longer papers. In the interests of scientific accuracy, however, authors are invited to notify the Editor of **all** errors as soon as they are noticed. The Editor's decision of whether these are sufficiently important to warrant publication on this page will be final. Minor errors, such as obvious spelling mistakes, having no bearing on the content of the paper, will be included only if space permits. The following corrections to the current volume have been notified to the Editor.

- Page 120 line 14 for "fossier" read "fossor"
- page 125 lines 12 - 13 Under *C. corticinus* delete the entire text and replace with "Also at the pond edge, singly: 7.vi.60, 23.vii.64, etc.; a number in blanket-weed taken off the pond and dumped at the edge, 15.iv.71.". The existing entry belongs to the following species in which the spelling of "definite" requires correction!
- Page 154 line 12 for "used to a vegetable plot" read "used to be a vegetable plot"
- page 155 line 27 for "*Maltodes*" read "*Malthodes*"
- page 156 line 26 insert brackets around "*Tenebrio molitor* (L.)"
- page 158 line 8 from bottom for "*P. maculicornis*" read "*Phyllobius maculicornis*"
- page 164 line 16 from bottom for "Woodroofe" read "Woodroffe"
- page 168 line 15 from bottom for "*Tomicus larius*" read "*Tomicus larius*"
- page 170 line 4 from bottom for "*bero*" read "*nero*"
- page 182 line 1 for "*Sciota (Denticaria)*" read "*Sciota (Denticera)*"
- line 3 for "Retuerta de Piña" read "Retuerta de Pina"
- line 3 for "Piña de Ebro" read "Pina de Ebro"
- page 186 line 9 from bottom for "Sahib" read "Salb."
- Page 247 line 1 for "Dingwell" read "Dingwall"
- under "*P. napi*" add "- Dennis and Shreeve, p. 94."
- page 248 line 2 in the section headed "Tiree Lepidoptera 1997" for "in a rough Lewisian gneiss cliff" read "on a rough Lewisian gneiss cliff"
- page 249 under "*Anthocharis cardamines*" for "Heyipol" read "Heylipol"
- under the penultimate reference for "Croon helm" read "Croom Helm"
- page 255 line 2 for "not a typical insect" read "not a typical garden insect"
- page 255 line 8 of note on *Pterostichus oblongopunctatus* for "is the most usual habit" read "is the most usual habitat"

### From the Editor's chair ...

Welcome to the end of volume 110. I hope you liked it. During the year we published some 29 papers and 112 notes – a total of 141 articles. Of these 83 (59%) concerned the British Lepidoptera, whilst 16 (11%) were concerned with Coleoptera and 13 (9%) with Diptera. Add on these the six *Hazards of Butterfly Collecting* produced by Torben Larsen and 25 book reviews and you will see that it has been a busy year. For those truly interested, the full analysis appears below.

Subject area	Papers	Notes and Communications	All
British macromoths	10	25	35
British micromoths	4	29	33
British butterflies	2	13	15
Foreign moths	1	1	2
Foreign butterflies	3	3	6
British beetles	4	12	16
British flies	1	12	13
Other orders (British)	2	12	14
miscellaneous topics	2	5	7

However, we are developing a backlog of material awaiting publication and at the same time we currently have an imbalance of material awaiting the printing process; these two situations are directly linked. The situation has arisen for a very simple reason - because we believe that the majority of readers are interested in British Lepidoptera, these articles are queue-jumped occasionally in order to maintain the balance of material we think you want. But as a result of doing this, articles on other Orders slip (only a little) to the end of the queue. Ironically, if more people wrote contributions on Lepidoptera we could get the beetle papers published faster!

The question is ... am I getting it right? In order to establish this I have enclosed a short questionnaire with this issue of the journal. Please, do take time to fill it in and return it to me as soon as possible. Your opinions *are* important and the questionnaire is entirely anonymous. This journal continues to be run on a voluntary basis, financed only by subscription (which is held steady at £28 for individuals and £40 for institutions this time around) and the occasional advert or sponsorship. Would you like to see more pages? If so, we need to pay for them – around £50 per extra page. To do that we need to get advertising revenue and to do that we have to convince the advertisers that we are worth the expense. And to do that we need to have a profile of our readership – the questionnaire. Your answers will assist me and my colleagues on the Editorial Panel to provide you with the journal that you want. It is after all your journal. I look forward to all those completed questionnaires dropping through my letter box before the end of the year.

Colin W. Plant

Continued from back cover

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# THE ENTOMOLOGIST'S RECORD

## AND JOURNAL OF VARIATION

(Founded by J.W. TUTT on 15th April 1890)

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Compiled by David Wilson

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