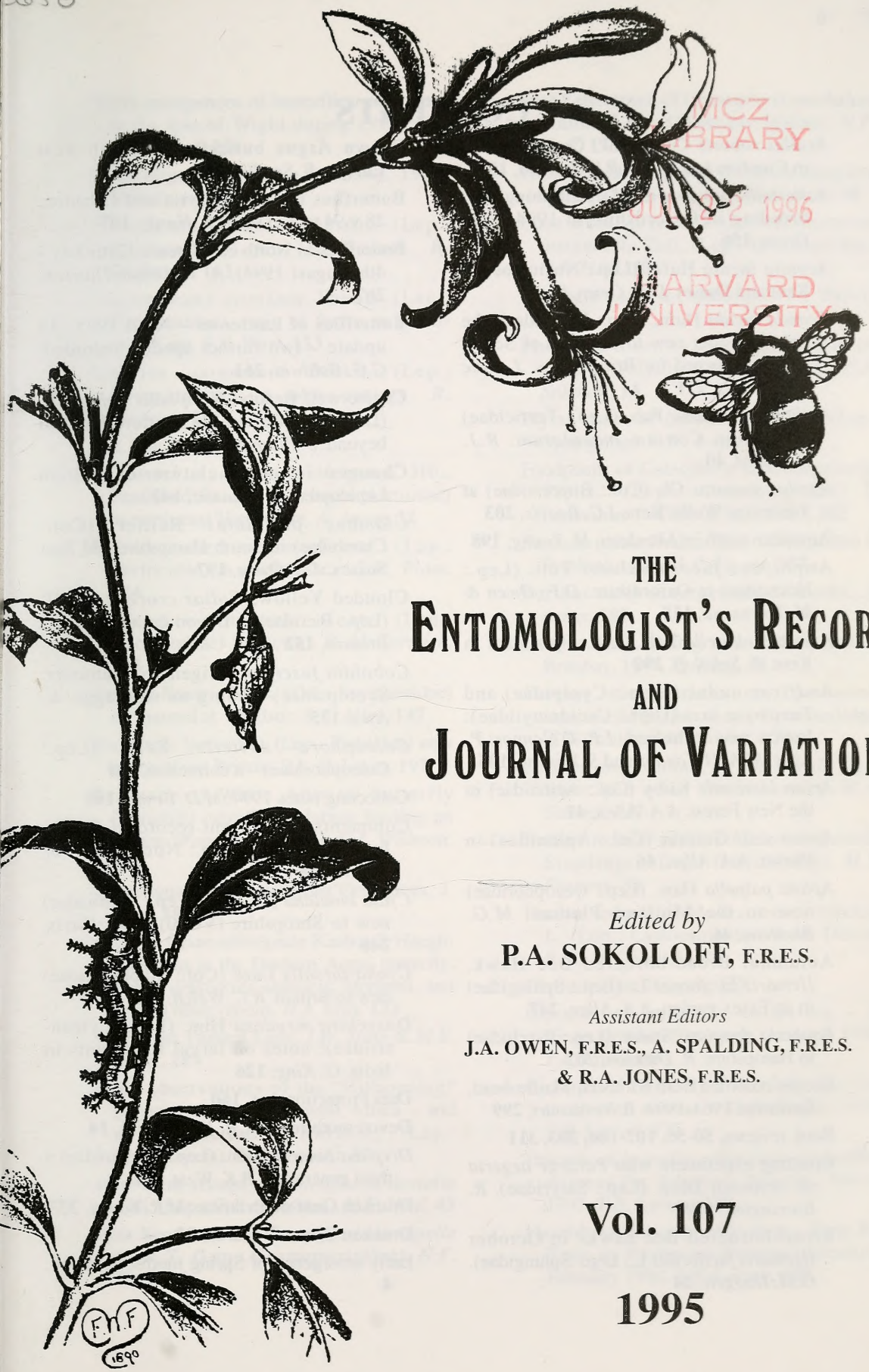

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Assistant Editors

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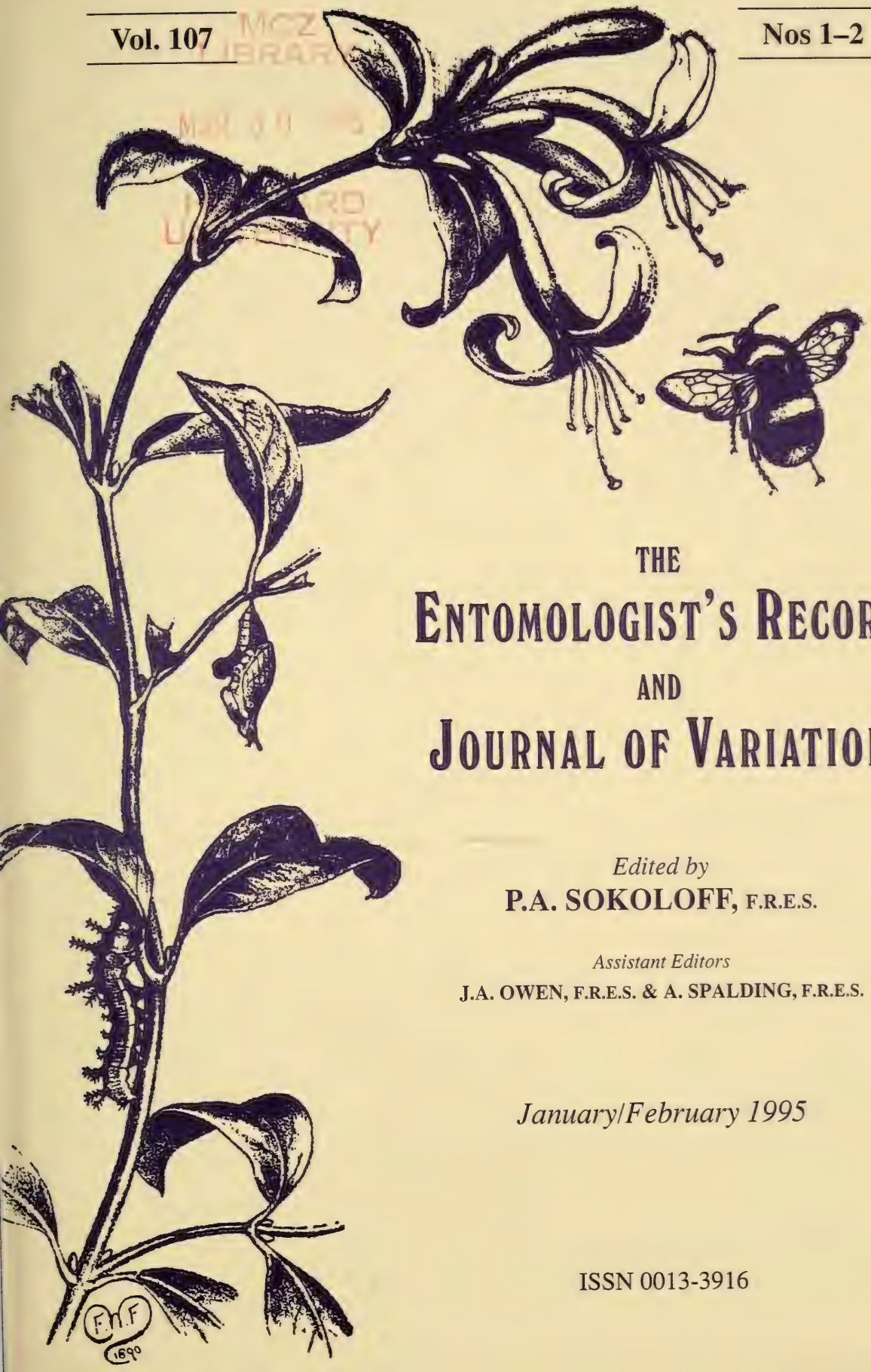

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SOME PRELIMINARY NOTES ON *ODONTOGNOPHOS DUMETATA* TREITSCHKE SSP. *HIBERNICA* FORDER (LEP.: GEOMETRIDAE)

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AFTER THE SUCCESSFUL identification of the unusual *dubitata*-like geometers found by Peter Forder and his wife in Co. Clare in August 1991 (Forder, 1991), the authors decided that an investigation was merited to determine if this attractive moth with its velvety deep slate grey ground colour, so perfectly matching the Burren rocks, was indeed a resident species and not a migrant.

A study of the nearest continental subspecies, of which there are a number, showed that it was closest to ssp. *margaritatus* Zerny from Aragon, Spain. Going eastwards, the resident form in France is ssp. *daubearia* Boisduval, which is brownish and more lightly marked. Going further east, the species tends to become browner and more heavily marked as is the case with specimens from the type locality in Dalmatia. In considering its likely origin, it presumably is yet another interglacial relict from the late pleistocene and is more evidence of a lingering mediterranean fauna on the west coast of Ireland. In this respect it is similar to *Calamia tridens occidentalis* Cockayne whose closest affinities appear to be with specimens from the Iberian peninsular according to Dr Cockayne (1954) and not to closer mainland Europe.

Culot (1919-1920) gave its foodplant as *Phillyrea latifolia* L., and the larva fully grown in June, but Forster and Wohlfahrt (1981) gave *Rhamnus* sp. as a foodplant as did Seitz (1912). Forster and Wohlfahrt also gave a somewhat misleading description of the larva as striped, smooth and flesh red, but more accurately, with a dorsal blackish line obliquely flecked with yellow.

During a visit to the Burren in June, 1992, B.E. spent three days searching for areas of likely foodplant and both *Rhamnus catharticus* L., and a prostrate form of *Frangula alnus* Mill. were discovered. Several days spent beating these potential foodplants producing a variety of larvae including *Philereme transversata britannica* Lempke, *Triphosia dubitata* L., in great abundance and *Hemithea aestivaria* Hübn. One possible larva of *Odontognophos dumetata* Trietschke which was fully grown was also obtained. This was confirmed when a male, the third Irish specimen, emerged on 24.7.92. We now had an idea of where to look.

We both returned in early August 1992, and spent a total of six nights running m.v. in likely areas in very poor weather conditions. Over a period of a week, we were able to record a total of eight *dumetata* males at light.

One female was discovered resting near one trap site. As this may have been a virgin female it was exposed in a makeshift cage in its habitat for possible pairing. No males were attracted and it was presumed that it had already paired. During the day, hours were spent unsuccessfully searching rocks and peering down nooks and crannies in the Burren locality where it was resident, but in this respect, none were seen or disturbed, so we had only the one female to rely on for a study of its life cycle.

About ten days later, the captive female produced many ova which were small for the size of the moth and a pale bluish-green in colour. They were laid loosely and not attached to any substrate; this was a surprise, since the area of the Burren where both moths and larva were found was low-lying and subject to winter flooding, judging by the detritus lying around. It would have been expected that the ova would overwinter on the twigs of its foodplant and hatch in the spring. A local farmer confirmed that in winter, the area would be under water for many days.

By the spring of 1993, it was obvious that the ova were infertile so we returned again, this time a little earlier, on the 20th May. Prolonged beating of the *Rhamnus* and *Frangula* bushes over several days produced only five *dumetata* larvae, which were half to threequarters grown, until realisation that larvae only seemed to occur in number where the *Rhamnus* was subject to winter inundation. Subsequently another locality was discovered which did not match the original situation, but was heavily sheltered by scrub.

The larva is somewhat rough looking, similar in texture to *Gnophos obscuratus* D.&S. At full growth it is 25-30mm in length, tapering to head. When young it is blackish-blue flecked with yellow dorsally. When fully grown, the ground colour is light to dark fleshy-grey with vague longitudinal striations running along the length of body. The dorsal line is prominent and blackish on segments 1, 2 and 3 and even more marked on 9, 10 and 11. On the middle segments, there is a yellowish dorsal mark with skin colour blackish anterior to it. The head is blackish and speckled dark grey. The larva perfectly matches its resting background, a *Rhamnus* twig, and if disturbed immediately drops without a silk thread and forms a characteristic U shape. The pupa is stout and reddish-brown and, if given a suitable peaty medium, pupates in a silk lined chamber. The first imagines in captivity emerged at dusk on 15.7.93 and continued until 4.9.93. Pairings were again attempted, but not observed and only infertile ova were produced.

In conclusion, it is to be wondered what other relict species are as yet undiscovered on the west coast of Ireland. It is remarkable that such a large moth, widely, if probably thinly spread, can survive undetected despite many visits by lepidopterists to the Burren. Professor E.B. Ford (Ford, 1955) prophetically stressed the need for entomological exploration in Ireland and this shows how right he was.

Finally, we would like to thank Anne and Tom Martin of "Villa Maria", now becoming well known as a base for lepidopterists, for their essential "back-up service" during our visits.

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Lepidoptera in Fuerteventura (Canary Isle) 1994

I spent a week on this very arid, very barren Island, from 14th to 21st September 1994. It was not surprising, given the nature of the terrain, that lepidoptera (and many other forms of wildlife) were extremely scarce. On 19th and 20th September, I positively identified about six specimens of the well-known migrant *Catopsilia florella.* I record this because Higgins and Riley (1983, p.34) state "recorded only from Gran Canary and Tenerife for the first time in 1964, and Gomera in 1974". There may, of course, be records for Fuerteventura of which I am unaware.

The only other Lepidoptera found were three specimens of the Lycaenid *Zizeeria knysna* Trimen, and a few *Macroglossum stellatarum* L.

Reference: Higgins and Riley. *Field guide to Butterflies of Great Britain and Europe* 5th Ed. 1983, Collins.

– Dr R.G. Ainley, "Burford" Briardale Road, Willaston, Wirral L64 1TB.

Two records of *Tipula* spp. (Diptera: Tipulidae) from Andalucia, Spain

A brief visit to Andalucia in mid-October, 1989, produced just two tipulids. They remained unidentified until recently when I received two reprints which solved the apparent problems. The two insects were collected while the weather was still seasonally dry. Only as we were leaving did a thunderstorm and associated rain suddenly fill the dry water courses and produce dramatic flash floods.

Firstly, a small male *Tipula* with long antennae had eluded any attempt even to be put into an appropriate subgenus. I now find that by coincidence the same species was collected by Dr Christophe Dufour in the previous week and has since been described by him as a new subspecies, *Tipula (Vestiplex) vaillanti andalucia* (Dufour, C. & Oosterbroek, P., 1990, *Mitt. schweiz.ent.Ges.,* **63**: 233-236). The finding of females allows the correct placement of this species within this large genus. The species was described from north Africa. My specimen, found on 14th October, 1989, near Mijas, was from a stony slope within an old olive grove, which habitat accords with the findings of this species to date.

The other is *Tipula (Acutipula) triangulifera* Loew, from the *maxima* species group which have been recently treated (de Jong, H., 1993, *Ent. Scand.,* **24**(4): 433-457). A male was caught at light near Fuengirola, near

Malaga, on the same date, within the geographical range of existing records. Its distribution appears to be restricted to southern Spain, predominantly Andalucia.– E.G. HANCOCK, Glasgow Museums, Kelvingrove, Glasgow G3 8AG.

Early emergence of Spring moths

I can now add details of further early first appearances of non-hibernatory spring moths at Selborne:-

	1994	1993	1992	MBGBI imago
Orthosia cruda	27 Feb	17 Feb	20 Mar	Mar, Apr
Anticlea badiata	27 Feb	6 Mar	4 Mar	Mar, Apr
Orthosia populeti	1 Mar	16 Mar	22 Mar	Mar, Apr
Orthosia munda	4 Mar	21 Mar	None	Mar, Apr
Trichopteryx carpinata	7 Mar	17 Mar	None	Apr, May
Selenia dentaria	24 Mar	18 Mar	28 Mar	Apr, May
Anticlea derivata	29 Mar	12 Apr	30 Mar	Apr, May
Lampropteryx suffumata	11 Apr	10 Apr	19 Apr	Apr, May
Pheosia tremula	19 Apr	8 May	24 Jun	May, Jun
Menophra abruptaria	22 Apr	30 Apr	3 May	Apr-Jun
Diaphora mendica	24 Apr	22 May	None	May, Jun
Xanthorhoe spadicearia	26 Apr	17 Apr	12 May	May, Jun
Lomographa bimaculata	29 Apr	25 May	22 May	May, Jun
Ecliptopera silaceata	29 Apr	17 May	7 May	May-Jul
Pheosia gnoma	29 Apr	29 Apr	None	May, Jun
Eupithecia vulgata vulgata	29 Apr	30 Apr	24 May	May, Jun
Thera obeliscata	2 May	26 May	26 May	May-Jul
Hada nana	5 May	12 Jun	26 Jun	May-Jul
Eligmodonta ziczac	5 May	7 May	26 Jun	May, Jun
Laothoe populi	5 May	22 May	21 May	May, Jun
Apamea crenata	6 May	24 May	24 Jun	May-Jul
Chloroclystis v-ata	7 May	26 May	30 Jun	May, Jun
Spilosoma lubricipeda	8 May	9 May	16 May	May-Jul
Lomographa temerata	10 May	22 May	25 May	May, Jun
Drymonia dodonaea	10 May	22 May	None	May, Jun
Stauropus fagi	10 May	22 May	23 May	May-Jul
Aphomia sociella	13 May	10 May	15 May	Jun-Aug
Axylia putris	25 May	22 May	15 Jun	Jun, Jul
Horisme tersata	25 May	28 May	9 Jun	Jun-Aug
Lomaspilis marginata	1 Jun	13 May	14 May	Jun, Jul

All observations were made at home. There is a tendency for the dates to be progressively early *for this locality*. Perhaps these data may assist any investigation of the causes.

Reference: Emmet, A.M., 1991. Chapter 3, Volume 7(2), *The Moths and Butterflies of Great Britain and Ireland,* Harley Books, Colchester.

– ALASDAIR ASTON, Wake's Cottage, Selborne, Hampshire GU34 3JH.

RECORDS OF MICROLEPIDOPTERA FROM SOUTH-WESTERN SCOTLAND, JULY, 1994

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

WHEN MY SISTER proposed that we should spend a week's holiday, touring with bed and breakfast accommodation, in the counties of Dumfriesshire (VC72), Kirkcudbrightshire (VC73), and Wigtownshire (VC74), I welcomed the suggestion, not least because south-western Scotland is one of the parts of the British Isles with fewest records for microlepidoptera. However, the holiday was not planned as an entomological expedition. The object was to visit some of the notable gardens and antiquities of the region and to enjoy the coastal and mountain scenery. Nevertheless, I took my light-trap and was able to do periodic roadside recordings for spells ranging from a few minutes to an hour or more. The gardens were mainly stocked with alien and often subtropical vegetation, unwelcome to British Lepidoptera, and my sister and I sometimes parted company so that I could search the peripheral native trees and plants.

I wished to ascertain whether the paucity of records was due to to an impoverished fauna or lack of recording, and found that both were responsible. Leaf-mining species were particularly scarce. I failed to find a single mine on hawthorn, hazel, sloe, bramble, rose, poplar or lime. Oak, apart from numerous vacated mines of *Eriocrania subpurpurella* (Haworth), yielded one vacated mine of *Stigmella ruficapitella* (Haworth) and not a single *Phyllonorycter* species. Sallow gave just one *Phyllonorycter* mine, identified as *P. salicicolella* (Sircom) when the adult emerged, and one larval feeding of *Caloptilia stigmatella* (Fabricius). Birch produced an occasional vacated mine of *Stigmella lapponica* (Wocke) and one or two *Phyllonorycter ulmifoliella* (Hübner); alder only a few widely dispersed mines of *P. rajella* (Linnaeus). Beech and rowan were more productive, most of their quota of leaf-miners being present; *Caloptilia syringella* (Fabricius) was abundant, mainly on ash.

I formed the impression that some species were more selective in their foodplant than elsewhere in Britain. For instance, holm-oak abounds in Castle Kennedy Gardens and the trees were almost disfigured by the innumerable mines of *Phyllonorycter messaniella* (Zeller), yet there was no trace of its feeding on deciduous oak or beech either there or elsewhere. In the Isles of Scilly holm-oak and beech are attacked by this species with impartiality. In the same gardens *Lyonetia clerkella* (Linnaeus) was mining cultivated apple in plenty, but I could not find a single mine on other rosaceous trees at any locality.

The scarcity of leaf-mines is not due to seasonal discrepancy between north and south, since this part of Scotland has a very mild climate as is testified by the lush green vegetation. Such leaf-mines as are present

conform in their timing with those in the south. My only other visit to this part of Scotland was in July 1975, when my wife and I concentrated almost exclusively on nepticulid records, finding them as hard to make then as in 1994. The late E.C. Pelham-Clinton and Dr J.R. Langmaid were in the area in 1988, and the latter tells me that they, too, were struck by the dearth of species. Is there an explanation?

I was able to run my trap on five nights and at four sites, two in VC74 and one each in VCs 72 and 73. Three of the cottages where we stayed were in rather bleak country, where big catches were not to be expected, but we had an excellent site at Holywood (VC72), where I recorded 114 species, 38 of them microlepidoptera. Yet from trap and fieldwork, in the whole week from all three counties, I encountered only 84 microlepidoptera, fewer than I recorded with the help of Dr Langmaid in my garden at Saffron Walden on the night of 3rd August 1990. These few species produced no fewer than 48 new county records. When *Pandemis heparana* ([Denis & Schiffermüller]) is new from two counties and *Cnephasia incertana* (Treitschke) from one, it is obvious that microlepidopterists have either avoided the region or failed to publish their records.The only "good" records I made were *Stigmella spinossisimae* (Waters) and *Apotomis semifasciana* (Haworth), both from VC 74. If the list that follows shames microlepidopterists who have operated in this part of Scotland to disgorge their records, a useful purpose will have been served.

The authenticity of my new records up to the end of of the Tortricidae should be 100%, since they have been checked against a draft species/vice-county table for Scotland prepared last winter by Dr K.P. Bland and others. The Pyralidae and Pterophoridae are not yet covered and I have relied on my maps for those families.

I am giving the list of microlepidoptera in full since coverage of the region is so poor. I also recorded 83 species of macrolepidoptera, but now that the recording scheme operated by the Biological Records Centre has been discontinued, I do not know where to send them. The list may be had on application.

There follows a list of the localities from which I recorded. Since I was working from a 1/4 inch map, I give only four-figure map references. They are arranged in chronological order.

13.vii. VC73. Twynholm (3 miles west of village), NX6354. Trap (16 species, including 3 microlepidoptera).

14.vii. VC73. Threave Gardens, NX7660, and footpath to Threave Castle, NX7562 (11 species, including 9 microlepidoptera).

14.vii. VC73. Roadside between Parton and Drumrush, NX6870. A potentially good area but rain intervened (11 microlepidoptera).

14.vii. VC73. Lay-by 1 mile west of New Galloway, NX6277. More rain (1 microlepidopteron).

15.vii. VC74. Monreith (2 miles east of village), NX3741. Trap for two nights (50 species, including 15 microlepidoptera).

16.vii. VC74. Unnamed tarn north of Mochrum Loch, NX3055. (7 species, including 6 microlepidoptera).

16.vii. VC74. Kirkcowan area, NX3360. (3 microlepidoptera).

17.vii. VC74. Glenwhan Gardens, Dunragit, NX1757. (7 microlepidoptera).

17.vii. VC74. Castle Kennedy Gardens, NX1260. (10 microlepidoptera).

18.vii. VC74. Car park adjoining beach, 1 mile south of Ardwell, NX1045 (1 microlepidopteron).

18.vii. VC74. Logan Botanic Gardens, NX0843. (1 microlepidopteron).

18.vii. VC74. Wood north of Aird, NX0961. (2 microlepidoptera).

18.vii. VC74. Rough ground by sea, 2 miles north of Innermessan, NX0866. (2 microlepidoptera).

18.vii. VC73. Loch Trool, NX4079. (11 species, including 10 microlepidoptera).

18.vii. VC74. Bargrennan, NX3576, on the county boundary, but our hostess assured us her cottage was in Wigtownshire. Trap (30 species, including 6 microlepidoptera).

19.vii. VC73. Clatteringshaws Loch, NX5474. (8 species, including 7 microlepidoptera).

19.vii. VC72. Maxwelton House Gardens, NX8389. (9 microlepidoptera).

19.vii. VC72. Holywood, NX9480. (114 species, including 38 microlepidoptera).

20.vii. VC72. Lockerbie, NY1482. (1 microlepidopteron).

Systematic list

An * asterisk indicates a new county record.

Eriocraniidae

Eriocrania subpurpurella (Haworth) – Vacated mines locally common on *Quercus*. VC72, Maxwelton House. VC73, Threave; Parton; Loch Trool. *VC74, Dunragit.

Nepticulidae

Stigmella sorbi (Stainton) – Vacated mines on *Sorbus aucuparia*. VC72, Maxwelton House. VC73, Loch Trool. VC74, Dunragit.

S. tityrella (Stainton) – Tenanted and vacated mines fairly common on *Fagus*. VC73, Threave. VC74, Castle Kennedy.

S. hemargyrella (Kollar) – Tenanted and vacated mines on *Fagus*. VC73, Threave. VC74, Castle Kennedy.
S. ruficapitella (Haworth) – One vacated mine on *Quercus*. *VC73, Parton.
S. spinosissimae (Waters) – Vacated mines and cocoons on *Rosa pimpinellifolia*. *VC74, Ardwell, the third record from Scotland, the others being from VCs 82 and 104. The Wigtownshire locality is in sight of the Isle of Man, 30 miles across the sea, where there is a strong colony at the Point of Ayr, its most northern extremity.
S. nylandriella (Tengström) – Tenanted and vacated mines on *Sorbus aucuparia*. VC72, Maxwelton House. VC73, Loch Trool. VC74, Dunragit.
S. magdalenae (Klimesch) – A vacated mine on *Sorbus aucuparia*. *VC73, Loch Trool.
S. lapponica (Wocke) – A few vacated mines on *Betula*. VC72, Maxwelton House.

Opostegidae
Opostega salaciella (Treitschke) – At m.v. light. VC72, Holywood.

Lyonetiidae
Leucoptera spartifoliella (Hübner) – Flying round *Cytisus*. VC73, Parton.
Lyonetia clerkella (Linnaeus) – VC73, Twynholm, at m.v. light. VC74, Castle Kennedy, tenanted and vacated mines common on *Malus*.

Gracillariidae
Caloptilia rufipennella (Hübner) – M.J. Sterling has recorded it from VC73. Although I searched assiduously for it in VC74, where sycamore is abundant, I did not observe it. VC72, Maxwelton House; Lockerbie, larval feeding abundant on *Acer pseudoplatanus*.
C. stigmatella (Fabricius) – A single larval cone on *Salix*. VC72 Maxwelton House.
C. syringella (Fabricius) – Mines on *Fraxinus*: the commonest leaf-miner. VC73, Threave. VC74, Dunragit.
Callisto denticulella (Thunberg) – Mines on *Malus*. *VC74, Castle Kennedy.
Phyllonorycter messaniella (Zeller) – Mines abundant on *Quercus ilex*. *VC74, Castle Kennedy.
P. sorbi (Frey) – Mines on *Sorbus aucuparia*. VC72, Maxwelton House, Holywood, at m.v. light. VC73, Loch Trool. *VC74, Dunragit.
P. corylifoliella (Hübner) – A single mine on *Malus*. *VC73, Footpath to Threave Castle.
P. salicicolella (Sircom) – A single mine on *Salix cinerea*; adult reared. *VC73, New Galloway.
P. maestingella (Müller) – Mines scarce on *Fagus*. VC73, Threave.
P. rajella (Linnaeus) – Mines scarce on *Alnus*. VC73, Parton. *VC74, Kirkcowan; Castle Kennedy.
P. ulmifoliella (Hübner) – Mines scarce on *Betula*. *VC73, Parton; Loch Trool.

P. geniculella (Ragonot) – Mines local on *Acer pseudoplatanus*. VC74, Dunragit.

Choreutidae

Anthophila fabriciana (Linnaeus) – Adults. VC73, Parton.

Yponomeutidae

Argyresthia pygmaeella ([Denis & Schiffermüller]) – One adult. VC74, Kirkcowan.

A. conjugella Zeller – Adults. *VC72, at m.v. light. VC73, at rest on *Sorbus aucuparia*.

Paraswammerdamia lutarea (Haworth) – At m.v. light. *VC72, Holywood, *VC74 Bargrennan.

Plutella xylostella (Linnaeus) – At m.v. light. VC72, Holywood.

Epermeniidae

Epermenia chaerophyllella (Goeze) – Larvae on *Heracleum*. *VC73, Threave, *VC74 Dunragit.

Coleophoridae

Coleophora serratella (Linnaeus) – Larval feeding on *Betula*. VC73, Parton.

C. laricella (Hübner) – Larval feeding on *Larix*. *VC73, Loch Trool; Clatteringshaw Loch.

C. peribenanderi (Toll) – At m.v. light. *VC72, Holywood.

Elachistidae

Elachista albifrontella (Hübner) – Swept from mixed grasses. VC72, Maxwelton House.

E. humilis Zeller – Swept commonly from *Deschampsia cespitosa*. *VC74, Aird.

Biselachista eleochariella (Stainton) – Swept from damp heathland. *VC74, Tarn north of Mochrum Loch.

Oecophoridae

Borkhausenia fuscescens (Haworth) – At m.v. light. VC72, Holywood.

Hofmannophila pseudospretella (Stainton) – At m.v. light. VC72, Holywood.

Depressaria daucella ([Denis & Schiffermüller]) – Larvae on *Oenanthe*. VC74, Kirkcowan; Castle Kennedy.

D. pastinacella (Duponchel) – Larvae on *Heracleum*. VC74. Dunragit.

Agonopterix alstromeriana (Clerck) – Adults reared from larvae on *Conium*. *VC73, Parton.

A. assimilella (Treitschke) – At m.v. light. VC72, Holywood. *VC74, Bargrennan.

Gelechiidae

Scrobipalpa clintoni Povolný – Larvae in stems of *Rumex crispus* growing on shingle. VC74, Innermessan.

Momphidae

Mompha raschkiella (Zeller) – Larval mines on *Epilobium angustifolium*. VC73, Clatteringshaws Loch, VC74, Innermessan.

M. conturbatella (Hübner) – Adult amongst *Epilobium angustifolium*. *VC73, Parton.

Cosmopterigidae

Blastodacna hellerella (Duponchel) – At m.v. light. *VC72, Holywood.

Tortricidae

Agapeta hamana (Linnaeus) – At m.v. light. VC74, Monreith.

Pandemis heparana ([Denis & Schiffermüller]) – At m.v. light. *VC72, Holywood. *VC74, Monreith; Bargrennan.

Aphelia paleana (Hübner) – Adult. VC73, Clatteringshaws Loch.

Lozotaenia forsterana (Fabricius) – At m.v. light. *VC72, Holywood. *VC74, Monreith.

Pseudargyrotoza conwagana (Fabricius) – Adult. VC74, Logan Botanic Gardens.

Cnephasia stephensiana f. *octomaculana* Curtis – At m.v. light. *VC72, Holywood.

C. asseclana ([Denis & Schiffermüller]) – At m.v. light. VC72, Holywood.

C. incertana (Treitschke) – At m.v. light. *VC72, Holywood.

Acleris bergmanniana (Linnaeus) – At m.v. light. *VC72, Holywood.

Olethreutes lacunana ([Denis & Schiffermüller]) – At m.v. light. VC72, Holywood. VC73, Parton, adult beaten from herbage.

Hedya pruniana (Hübner) – At m.v. light. VC72, Holywood. VC74, Monreith.

H. dimidioalba (Retzius) – At m.v. light. *VC72, Holywood. VC74, Monreith.

H. atropunctana (Zetterstedt) – Adult. VC73, Clatteringshaw Loch.

Apotomis semifasciana (Haworth) – At m.v. light. The second record from Scotland, the first from VC101. *VC74, Monreith.

Bactra lancealana (Hübner) – At m.v. light. VC73, Twynholm. VC74, Tarn north of Mochrum Loch, adults common.

Zeiraphera ratzeburgiana (Ratzeburg) – Old larval feeding. *VC73, Threave, on an unidentified alien *Picea* species; Loch Trool, on *Picea abies*.

Epiblema uddmanniana (Linnaeus) – At m.v. light. VC72, Holywood.

E. trimaculana (Haworth) – At m.v. light. *VC72, Holywood, VC74, Monreith.

Eucosma hohenwartiana ([Denis & Schiffermüller]) – At m.v. light. VC72, Holywood. VC74, Monreith; Castle Kennedy, adult.

E. cana (Haworth) – At m.v. light. VC72, Holywood. *VC73, Twynholm, VC74, Monreith.

Cydia succedana ([Denis & Schiffermüller]) – At m.v. light. *VC74, Monreith.

PYRALIDAE

Chrysoteuchia culmella (Linnaeus) – At m.v. light. VC74, Monreith.

Crambus pascuella (Linnaeus) – At m.v. light. VC72, Holywood. VC74, Monreith; Castle Kennedy, adult.

C. perlella (Scopoli) – At m.v. light. *VC72, Holywood. *VC74, Monreith.

Agriphila straminella ([Denis & Schiffermüller]) – Abundant in grassland. VC72, Maxwelton House; Holywood, at mv. light. VC73, Parton; Loch Trool. VC74, Tarn north of Mochrum Loch; Castle Kennedy.

A. tristella ([Denis & Schiffermüller]) – VC72, Holywood, at mv. light. *VC74, Tarn north of Mochrum Loch, adults.

Catoptria falsella ([Denis & Schiffermüller]) – At m.v. light. *VC72, Holywood.

Scoparia ambigualis (Treitschke) – At m.v. light. VC72, Holywood. VC74, Monreith.

Dipleurina lacustrata (Panzer) – At m.v. light. VC72, Holywood.

Eudonia delunella (Stainton) – At m.v. light. VC72, Holywood.

E. mercurella (Linnaeus) – At m.v. light. *VC72, Holywood. *VC74, Monreith.

Elophila nymphaeata (Linnaeus) – At m.v. light. VC72, Holywood. VC74, Monreith.

Nymphula stagnata (Donovan) – At m.v. light. *VC72, Holywood.

Evergestis pallidata (Hufnagel) – At m.v. light. VC72, Holywood.

Udea lutealis (Hübner) – At m.v. light. VC72, Holywood.

U. prunalis ([Denis & Schiffermüller]) – At m.v. light. *VC72, Holywood.

Pleuroptya ruralis (Scopoli) – At m.v. light. VC72, Holywood.

PTEROPHORIDAE

Platyptilia pallidactyla (Haworth) – *VC72, Holywood, at m.v. light. *VC73, Clatteringshaws Loch, adults common round *Achillea*. VC74, Monreith, at m.v. light.

Synanthedon formicaeformis (Esp.), Red-tipped Clearwing (Lep.: Sesiidae), further evidence of a two year life-cycle

Most of the current literature concerning the life-cycle of *Synanthedon formicaeformis* (Esp.) the Red-tipped Clearwing indicates that the species has a one year life-cycle. An observation by Dr Barry Henwood of a larva producing frass from June (when the gall was collected) until August and then overwintering to a prepupal larva in June of the following year suggests that this may not be the case. Fibiger and Kristensen discuss the species and refer to "presumably a single hibernation". The life-cycle charts in MBGBI volume 7 part 2 describe a one year life-cycle and the description in volume 2 includes the comment "life-cycle said to be one year".

In an attempt to breed this species osier stems with beetle damage were obtained from the environs of a gravel pit near to Chichester, Sussex, in March 1993. Over the next two months a few imagos emerged and in July the mines were dissected to demonstrate the anatomy of the larval mine and the position of the cocoon. Whilst splitting the stems a small sesiid larva (8mm in length) was encountered in the central portion of one of the thicker stems. This was placed in a hole drilled in a small branch (1.5mm in diameter) of a sallow in my garden. Some frass was extruded during the summer months but there was no sign of the larva the following spring until in May a small protuberant mass of frass (projecting only 2mm) held together with silk appeared from the place where the stem had been drilled. This was the end of the cocoon and the moth emerged in due course. It was fascinating how little outward presence of the larva there was; even in the spring before emergence there was nothing in the way of gall formation although the area drilled had developed some callus in response to the injury.

This represents further evidence that *S. formicaeformis* has a two year life-cycle and not the one year as suggested by most of the current literature. As the woody material was gathered very early in the year (mid-March) well before any potential flight period of the imagos, it is not possible to explain this observation in terms of there being a fertile ovum already laid on the stem when collected which then hatched, neither were imagos left in the cage to mate and oviposit.

After making an observation contrary to received opinion it is tempting to suggest that current literature is incorrect. This may indeed be so but alternatively the species may have a variable life-cycle with some larvae taking one and some two years before reaching maturity. This is a feature of some lepidoptera particularly encountered in the pupal stage with pupae lying over sometimes several winters before emerging. I have observed that in the case of *Bembecia chrysidiformis* (Esp.) most of the larvae will mature (from ovum to adult) in just one year given an adequate food supply but one larva took two years to complete the life-cycle. This would seem a sensible strategy in survival terms in that it provides a buffer against adverse circumstances (climate, predation or parasitism for instance) which might operate more during some years than in others. To take an extreme example; if a species was wiped out in a locality in a season two larvae or pupae overwintering an extra year could in effect reintroduce the species.

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– Dr Julian H. Clarke, Oaklea, Felcourt Road, Lingfield, Surrey RH7 6NF.

SERIOUS PESTS OF *URTICA DIVICA* LINN. AT 5500' ALTITUDE IN KUMAON HILLS IN INDIA

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URTICA DIVICA Linn. belongs to the family urticaceae and is commonly called "Bichhu" grass in the Kumaon hills. This plant is a perennial shrub and grows in fallen lands or in the crevices of retaining walls in the northern hills at an altitude of 1000-2500 metres. During August and September it blooms and young plants are eaten as vegetable and are also fed to cattle and goats as fodder grass. Aswal *et al.* (1987) has reported the biological activity of this plant as "Antiviral". Chopra *et al.* (1984) reported that through contact with the skin, stings of this plant result in minor or temporary irritation of the skin or painful irritation and inflammation with vesicles or blisters depending on the severity of the contact and the susceptibility of the individual. Also, this plant occasionally causes dermatitis, more so in individuals who are especially susceptible.

During the survey of insect pests of flora of district Pithoragarh situated at 5500' altitude in the Kumaon hills of central Himalaya in 1992, large numbers of caterpillars of two lepidopterous insects, *Aglais kaschmirensis* Kollar (Nymphalidae) and *Arcte coerula* Guenée (Noctuidae) were observed feeding on the leaves and tender shoots of *Urtica divica* Linn. in the months of July to September.

The caterpillars were collected and reared on the host plant in the laboratory. The detail biology of these insects is given in table 1.

Insects	Average larval period (days)	Average pupal period (days)	Average adult period (days)	Average total life span (days)
A. kaschmirensis	18	9.5	3	30.5
A. coerula	20	25	5	50

Table 1. Biology of *Aglais kaschmirensis* Linn. and *Arcte coerula* Decne.

Average total larvae population of *A. kaschmirensis* was recorded at 132 with minimum and maximum variation of 80-210 and 108 with minimum and maximum variation 55-138 of *A. coerula* per plant. These caterpillars voraciously feed on plants. In natural conditions *A. kaschmirensis* pupates on stems and underneath the leaves whereas *A. coerula* pupates under the soil, fallen leaves on the ground or in the root zone of the plants. From the available literature it reveals that the reported insects of the present study seem to be the first record of pests on *Urtica divica* Linn. in the Kumaon hills of Central Himalaya.

Acknowledgements

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A flurry of *Sitotroga cerealella* Olivier (Lep.: Gelechiidae) in Kent

Whilst browsing round a large garden centre at Badgers Mount, north-west Kent, on 10th December 1994 I saw a small child collide with a table containing dried flower arrangements. Although the child appeared undisturbed by this event, the same could not be said for a number of moths lurking in the arrangements who rose as one and dashed in all directions. Embarrassingly net-less and tube-less I could only watch the exodus, but the two or three moths that settled on the low ceiling began running around with a characteristically gelechiid gait. On closer inspection they turned out to be *Sitotroga cerealella,* a cosmopolitan but not often seen pest species.

Although no larval feedings could be found (not unexpected, as the larva can develop within a single grain of, for example, wheat), but it seems probable that the moths emerged from dried cereals used in the arrangements. Sprays of "corn", often dyed with unnatural colours, abounded. Another example of the adaptability of moths!– PAUL SOKOLOFF, 4 Steep Close, Green Street Green, Orpington, Kent BR6 6DS.

Devon moth records

I would like to record three new and unpublished records for Devon: *Pedasia contaminella* Hbn. (Pyralidae) found commonly on Dawlish Warren on 6th, 8th and 23rd August 1994; *Mythimna obsoleta* Hbn. (Noctuidae) previously recorded by B. Henwood at Colyton and A. Spalding at Slapton (both Devon localities) – recorded in numbers by myself at Exminster Marshes on 26.v and 19.vi.1994, where it appears to be breeding; *Arenostola phragmitidis* Hbn. (Noctuidae) previously recorded in the 1980s and several noted at Dawlish Warren 16.vii.1994, presumably a breeding colony. This species has been seen at Berryhead by B. Henwood and R.J. Heckford, 27.vii.1990; Colyton 1.viii.1982; Abbotskerswell 4.viii.1994.

A species recorded and reported before, although not confirmed as a breeding species, is the noctuid *Earias clorana.* This moth is very common on Dawlish Warren, being noted on 15.vi and 17.vii.1994.– R. MCCORMICK, 36 Paradise Road, Teignmouth, Devon TQ14 8NR.

THE BROWN ARGUS BUTTERFLY IN NORTH-WEST EUROPE

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Introduction

A SUBSTANTIAL paper by Høegh-Guldberg, 1966 (OH-G) on the Brown Argus in Denmark, Norway and Sweden contains details on many aspects of the *Ariciae*. Among these are results of cross-breeding experiments between parents from southern England (*A. agestis*), Durham (*A. salmacis*), north Denmark, southern Norway and Sweden, the three latter all forms of *A. allous* according to OH-G. This work was carried out in collaboration with F.V.L. Jarvis in Britain. In addition to this a great deal of data is presented by OH-G on selected colonies from the above three Scandinavian countries, including lunulation and the occurrence of several varieties.

Lunulation refers here to the series of orange spots near the margins of the upper forewing and hindwing with a maximum of six on each. It is generally accepted that *agestis* is well lunulated while *allous* is poorly lunulated: in previous papers the author (Smyllie, 1992a and 1992b) has shown that by quantifying upper forewing lunulation it is possible to classify British colonies according to the degree of lunulation shown by the whole colony rather than by any one individual in it. The main objective in this paper is the comparison of OH-Gs lunulation data for Scandinavia with my data for Britain, after the figures have been manipulated to allow this. Reasons for any modifications are given followed by the resulting Tables A and B. A discussion section follows involving the data generated, and including descriptions of and comments on four varieties. Broad similarities are shown to exist in both varieties and lunulation patterns between Britain and Scandinavia. Finally the main conclusions are summarised.

Lunulation Tables

In the following tables data is taken or modified from Høegh-Guldberg (1966) and Smyllie (*loc. cit.*). When any English or Scottish counties are mentioned, these have the former boundaries. All the 23 museum collections examined were completed before the present names and boundaries were introduced. The data for the OH-G tables has been originally supplied by Helge Rambring, a Swedish lepidopterist, who recorded the total number of orange lunules on the upper side of each specimen. Initially I did the same but soon dropped the hindwing count as I found that forewing lunulation (upfl) was more varied. Both forewing and hindwing lunulation (uphl) can vary between 0 and 6. Only occasionally do 6 occur on the uph. The norm for 5 and 6 upfl males is 5 uphl. Prints of 22 males with 5 upfl from English *agestis* and *salmacis* colonies were examined and all had 5 uphl. Females are better lunulated than males, and for a 6 upfl female I have not seen less than 5 uphl. In order to compare lunulation figures, males and females had first to

be classified as well lunulated (C) or poorly lunulated (P) from the Jarvis terms *crassilunulata* and *parvilunulata* respectively (Jarvis, 1966). C males were required to have 5 or 6 upfl while C females (which are better lunuated) needed 6, traces or more counting as a full lunule. It follows that P males have 0–4, females 0–5 upfl. In converting the OH-G Tables I have counted males with 10, 11 or 12 lunules as C, 0–9 as P, while females with 11 or 12 are C and 0–10 are P. The resulting Table A summarises males (M) from any colony/area as MC or MP where MC+MP=MT (T=total). Similarly for females FC+FP=FT. These figures are combined on a 50/50 basis by reducing the larger proportionally so that MT=FT, and adding up to give combined figures CC and CP where CC+CP=CT=2MT or 2FT.

All figures for any site are amalgamated to compare with my data, and the right-hand column gives the CC:CP ratio, a numerical figure which expresses the degree of lunulation – the higher the figure the better the lunulation and vice-versa. A much more complete Table of British sites is given in Smyllie (*loc. cit.*).

OH-G has split upfl and uphl into four categories:

I combinations of 4-6 upfl and 4-6 uphl

II – IV 0-3 upfl with combinations of uphl.

Because of the complication of uphl the comparison has to be restricted to 6, 5 and 4 upfl (category I). This can be matched by selected data from Smyllie (*loc. cit.*) which gives complete numerical details for male upfl for several British sites, plus similar information on females from the general data bank. Over a wide range of variation it is felt that a combination of both sexes gives a more complete picture. Table B gives 4-6 upfl expressed as a percentage of the total number checked. The numbers from which percentages have been derived are included. The higher the numbers the more stable the figures. Although more tentative, low figures (say <15) are better than nothing and do give some indication, so have been included.

Discussion

Lunulation

Conclusions from the Smyllie papers have to be stated as a necessary preliminary to any comparison of data. The three relevant sub-species of *Ariciae* involved are set out and described. I call them sub-species because they are capable of interbreeding – no other reason. They are referred to by their specific names for simplicity, and as far as I am aware there are no other species in Europe capable of interbreeding:–

1. *agestis*. Well lunulated with a dark upf discal spot.
2. *artaxerxes*. Poorly lunulated with a white upf discal spot.
3. *allous*. Poorly lunulated with a dark upf discal spot.

1. In England *agestis* occurs from the south coast up to and including three univoltine areas, Eyarth Rocks, the Peak District and the Yorkshire Wolds.

All these populations have CC:CP ratios >5.0 (Table A), and this figure gives a rugged and stable quantified measure of *agestis* lunulation.

2. North of this and up to the Scottish border there is a zone with its main axis between Durham and north Lancashire where both lunulation and CC:CP ratios are very variable (2.41–0.15) even for some colonies close together, and much below the 5.0 min. *agestis* figure. (This is generally known as *salmacis*.)

3. Further north *artaxerxes* in south Scotland still shows a moderate degree of lunulation, CC:CP approximately 0.5 which reduces going north until at Inverness lunulation is low, CC:CP approximately 0.15.

4. North of Inverness lunulation is lower still and is considered equal to *allous,* even though white discal spots persist, and we are still dealing with *artaxerxes*.

5. Since *agestis* is the only well-lunulated sub-species, the above indicates penetration as far north as Inverness. This comment is backed up by the presence of dark scales to varying degrees in *artaxerxes* discal spots.

6. On the other hand discal dots, white scales in the discal spots, are found down to the south coast of England (Smyllie *loc. cit.*). They increase somewhat up to the midlands and then significantly in *salmacis* territory.

7. Since *artaxerxes* is the only provider of white discal scales, this indicates some *artaxerxes* penetration right through England.

8. In addition to the interpenetration mentioned in 5–7, an addition of *allous* is also considered necessary to explain some aspects of the data in north England.

9. From all of the above points, we are dealing with a range of hybrids, not distinct species or sub-species.

Lunulation variation during the flight period.

The discovery of univoltine forms at Royston has been noted (Jarvis, 1966) well inside the *agestis* zone. Also, although in cross-breeding experiments the larvae were normally reared in continuous light, details of larval growth under normal conditions were given (Jarvis, 1969) in an experiment where Reading (*agestis*) females were back-crossed with second generation hybrid males via Sherburn (*salmacis*) males and Reading females. The resulting larvae showed variation from *agestis* colouring at one end of the spectrum leading to pupation before the winter, to diapause in more than one instar where the larvae showed increasing *allous* features. There was a variable rate of growth in the brood as a whole, and this would lead to a flight period where individuals with *agestis* characteristics would emerge first to be followed by an increasing trend towards *salmacis*. I had already noted signs of this in the field at Watlington Hill, Oxon (*agestis*), and in 1992 verified that a downward drift in lunulation occurred at Coombs Dale in the Peak District through the flight period. This is a univoltine colony with *agestis*

lunulation. Since all colonies show lunulation variation, it seems reasonable to state that they will all show a decrease in lunulation during the flight period, whether in Britain or in Europe. This decrease will be more marked in colonies containing significant percentages of *agestis, artaxerxes* or *allous*.

Mendelism is a theory of heredity tending to reduce to numerical law the recurrence of inherited tendencies. In aspects of the Brown Argus, the possible application of Mendelism has not been overlooked (eg Heslop Harrison and Carter, 1924). I consider that when two Brown Argus adults mate, their resulting progeny will display variation depending on their forebears going back to the time or times when different races were changing their ranges due to climatic or other influences. This can have happened over many years resulting in a complex application of Mendelism, the practical effect being to give a variation in several characteristics, among them upf lunulation. In the case of a typical *agestis* colony the following spectrum will apply for males:–

5 or 6 upf lunules: approximately 4 in 5 (80%). Because of reducing lunulation through the flight period which will have a bearing on what specimens are available to a collector on any particular date, it is not possible to give any meaningful separate figures for 6 and 5. The 0–4 figures are averages, and individuals will be less likely early on and more likely towards the end of any emergence.

4 upfl: approx. 1 in 6	17%
3 upfl: approx. 1 in 50	2%
2 upfl: approx. 1 in 200	0.5%
0 upfl: approx. 1 in 700	0.15%

These figures are not intended to add up precisely to 100%, and arise from an analysis of some 800 males from *agestis* colonies.

The position in north England is much more varied and cannot be expressed so easily. 4–6 upfl will be a maximum of c.90% at the southern end of the zone, eg at Perthichwareu, north Wales, reducing to 25% in parts of Durham. The 4–6 upfl requirement is not stringent, and for females this is 100% for *agestis* colonies and also at Pickering and Perthichwareu where reduction in male lunulation starts. Further north it reduces much more slowly than with males and in a similar "dappled" manner, ie the reduction is not smooth or even.

Table A

When the figures in Table A are compared there is a considerable surprise – the CC:CP ratios for the Swedish sites are below 2.0. It looks as if OH-G's *agestis* equates broadly with *salmacis* in north England. As a preliminary to any comments the differences in generating the data should be understood. Ove Høegh-Guldberg and his co-workers recorded all their dates. The

TABLE A: LUNULATION COMPARISON BETWEEN SWEDEN (S) AND BRITAIN

	Locality	Male C	Male P	Male totals	Female C	Female P	Female total	Combined C	Combined P	Combined total	Ratio of combined totals
1	Sandhammaren (S)	15	47	62	21	14	35	29.5	40.5	70	0.73
2	Skåne less (S)	10	10	20	12	3	15	19.5	10.5	30	1.86
3	S. England	232	49	281	184	11	195	345.0	45.0	390	7.67
4	Surrey	26	10	36	16	-	16	27.6	4.4	32	6.27
5	Peak District	71	16	87	42	-	42	76.3	7.7	84	9.91
6	Perthichwareu	20	28	48	14	-	14	19.8	8.2	28	2.41
7	N. Lancs. OSSD47	23	78	101	22	26	48	32.9	63.1	96	0.52
8	Durham: OSNZ43	10	75	85	39	23	62	46.3	77.7	124	0.60
9	Sherburn Hill	16	13	29	28	11	39	36.8	21.2	58	1.74
10	Hart Warren	2	15	17	2	13	15	3.8	26.2	30	0.15
11	S.W. Scotland	7	28	35	8	7	15	10.3	19.7	30	0.52
12	Perthshire	2	115	117	13	42	55	13.9	96.1	110	0.14
13	Europe: *agestis*	39	11	50	52	1	53	88.1	11.9	100	7.4
14	Europe: *allous*	1	80	81	1	40	41	1.5	80.5	83	0.02

KEY: C = *crassilunulata* P = *parvilunulata*

Smyllie data was generated largely from museum collections and no dates were recorded, only localities. Both methods will give quite satisfactory figures, but OH-G was able to split the Sandhammaren dates into three to provide a first generation *agestis* followed by univoltine *allous* followed by second generation *agestis*. Because the English data is for any one site or area regardless of dates, the Sandhammaren figures have been aggregated for the whole of one year. If they are split up, the best figure, ie the highest CC:CP ratio, works out at 1.38 for the first generation from 24.5 to 18.6. This is of course still very much below the 5.0 minimum. OH-G makes the point that bivoltine *agestis* flies at the same site as univoltine *allous*, and the latter has a larger wing-span than the *agestis*. I suggest that this is similar to Royston, but whereas at Royston the univoltine emergence is a small percentage of the whole, at Sandhammaren it is much larger and comes within the *salmacis* description. In the data for Britain only four *agestis* figures are included, numbers 3-5 and 13 while the *salmacis* sites are numbers 6 to 10. Both south Swedish figures seem to be *salmacis*, but another check can be made from Table B.

Table B

The paragraph on Mendelism above gave the 4–6 upfl percentage for English *agestis* colonies as approximately 97% from data covering 800 or so males. This does not take into account any allowance for chance encounters. Without going into statistics, there is little likelihood of *agestis* colonies having a 4-6 upfl percentage of less than 90%. Surrey (15) at 92% has been included as the lowest *agestis* area for which I have data. Perthichwareu, north Wales also is 92%, but its CC:CP ratio is well below 5.0. This overlap does illustrate the relative lack of focus of the 4–6 upfl percentage which does least well at either end of the lunule spectrum and best in the middle.

TABLE B: COMPARISON OF UPF4-6L% IN BRITAIN, DENMARK, SWEDEN AND NORWAY

LOCALITY			LAT 'N	MALE 4-6 L/T	%	FEMALE 4-6 L/T	%	COMB. %	CLASS'N
1	SSW	Skåne ex Sandh'n	55.3	44/53	83	26/26	100	91.5	2
2	DN	"*agestis*"	56.0	93/122	76	40/40	100	88.0	2
3	SSW	Sandhammaren	55.2	59/121	48	49/54	91	69.5	2
4	SSW	" 2nd Gen.	55.2	18/20	90	12/13	92	91.0	2
5	SW	Gotland	57.5	7/24	29	14/14	100	64.5	2
6	SW	Oland	56.5	9/24	37	6/9	67	52.0	2
7	SNR	Jomfruland	58.8	6/42	14	26/29	90	52.0	2
8	SW	Angermanland	63.5	0/8	0	5/9	56	28.0	3
9	SW	Uppland	60.2	0/19	0	3/8	37	18.5	3
10	NDN	Hirsthals	57.5	5/241	2	25/96	26	14.0	3
11	NNR	Lyngenfjord	69.5	0/9	0	1/5	20	10.0	3
12	ENG	Peak District	53.0	85/87	98	42/42	100	99.0	1
13	ENG	The South *	51.0	214/223	96	137/137	100	98.0	1
14	EUR	*agestis*	–	48/50	96	53/53	100	98.0	1
15	ENG	Surrey	51.3	33/36	92	10/10	100	96.0	1
16	NWA	Perthichwareu	53.2	44/48	92	14/14	100	96.0	2
17	ENG	Sherburn, Durham	54.6	21/29	72	20/20	100	86.0	2
18	ENG	Pickering N. Yorks	54.2	36/44	82	7/7	100	91.0	2
19	ENG	Witherslack	54.3	37/90	41	30/33	91	66.0	2
20	ENG	OSNZ44 Durham	54.8	25/92	27	30/39	77	52.0	2
21	SSC	Solway district	54.9	15/35	43	13/15	87	65.0	2
22	SC	Fifeshire	56.3	5/25	20	14/17	82	51.0	2
23	SC	Aberdeenshire	57.5	8/35	23	23/41	56	39.5	2
24	SC	Perthshire	57.0	16/117	14	34/55	62	38.0	2
25	NSC	N of Inverness	58.0	1/13	8	6/9	67	37.5	2
26	EUR	*allous*	–	7/65	11	14/35	40	25.5	3

NOTES:

1. Sources: 1-11 OH-G, Tables 18 & 19; 12-26 WJS
2. T=total; S=south; N=north; DN=Denmark; NR=Norway; SW=Sweden; EUR=Europe; ENG=England; WA=Wales; SC=Scotland
3. Latitudes are to nearest 0.1' at the localities centre
4. 4-6L/T%s are to nearest whole number, 0.5 rounded down
5. * indicates south of Thames Estuary and the Bristol Channel
6. CLASS'N = classification: 1 *agestis* >95% combined; 2 intermediates 30-95% combined; 3 *allous* <30% combined. Perthichwareu is >95%, but its CC:CP ratio (Table A) is <5, and therefore fails the test for *agestis*
   The border between *allous* and intermediates has been selected at 30% combined. This is an arbitrary figure, but seems reasonably sensible.

However, we have to use the data compiled by OH-G to construct Table B. With male *agestis* figures at over 90%, the combined figures will be 95% minimum. The highest Sandhammaren figure (4 SSW) is for a second generation at 91% combined, and this is equalled by a second generation figure for Denmark. Even these selected figures do not equal the 95% required for *agestis*. There is a genuine difference between English *agestis* and the bivoltine Swedish colonies via two different cross-checks, and the Danish bivoltine colonies show a similar difference in Table B.

Before leaving Table B it is worth commenting on the ssp. *vandalica* colony at Hirsthals. Numbers are high and the values will be stable, well within the *allous* range, and surrounded by colonies with higher lunulation. In Durham significant differences occur between colonies quite close to one another, and in discussing this previously I suggested that towards the end of the climatic optimum after the last ice-age, scrub and woodland had formed. This would restrict the movement of open country non-roaming species like the Brown Argus so that certain areas might be missed from one approach direction and not from another, thus enabling significantly different populations to exist relatively near one another.

Varieties

Var *albiannulata (snelleni)*

In this variety a white ring surrounds the upf discal spot, and examination under a microscope shows clearly that the ring is made up of individual white scales. In England the variety occurs more in females than males, although it can be seen in both. The thickness of the ring can increase with a correspondingly smaller dark central area. On the south coast only one female in ten or so shows the effect and this increases northwards until in Durham/north Lancashire one in three or four is likely. The variety is a stage in the progression from a few white dots (scales) associated with the discal spot to a point where the whole area is covered with scales as far as the naked eye is concerned and the specimen is a "whitespot". This occurs very rarely in *agestis* colonies, and when it does and is noticed it is regarded as quite an event.

OH-G mentions *albiannulata* as occurring fairly frequently in the Jomfruland, south Norway population (in 13 of 71 specimens). The other locality mentioned is Hirsthals, north Denmark where (ssp *vandalica*) it is found "fairly frequently". There is no mention of the form with Danish "*agestis*" or in Sweden. However, in *A Field Guide to the Butterflies of Britain and Europe* (Higgins and Riley, 1970) there is a comment "Rare individuals with white discoidal spot have been recorded from various localities in central and southern England and southern Sweden". In view of this comment I believe examples of var *albiannulata* should occur at least in southern Sweden.

Var *albisignata*

This form occurs regularly in several Scandinavian localities, so is included. It refers to white lines on the uph between the fringe and the dark outer area of the orange lunules, and occurs in most of the populations looked at by OH-G up to Uppland, a little north of Stockholm in Sweden. Further north in Sweden there is not enough data to draw any firm conclusions. A check on 151 British specimens shows that the variety is present in similar levels throughout England and also in Scotland. Again there is a higher percentage

in females than in males. The similarities between British and Scandinavian specimens leads to the conclusion that they are part of similar overlaps between sub-species.

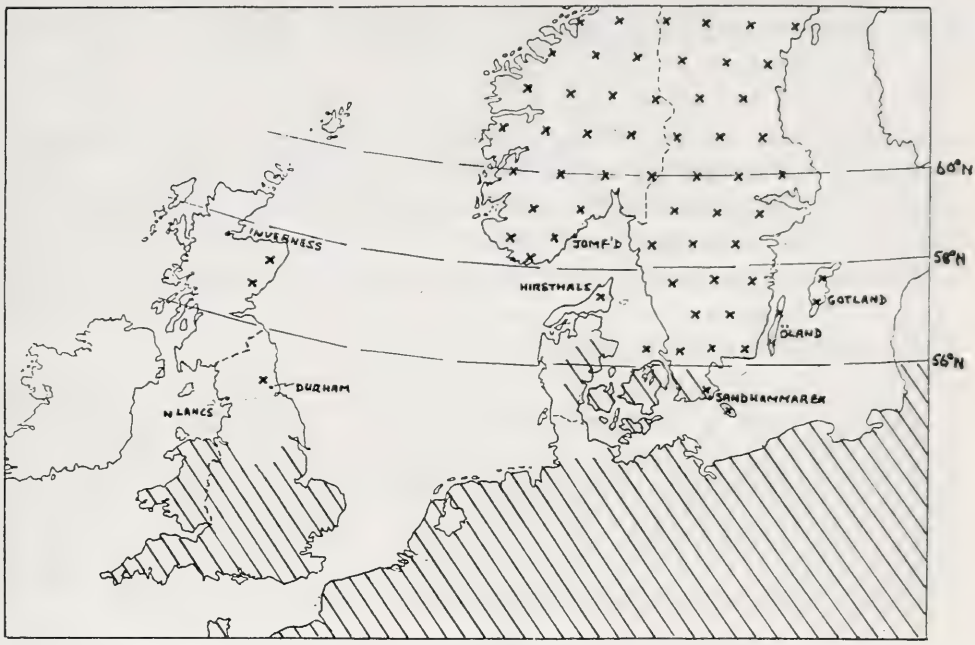
Vars *luxurians* and *unicolor*

There may be alternative words for these forms; *luxurians* refers to specimens with 12 well developed lunules and *unicolor* to those with no lunules on either upper wing. Again both forms are found in Britain and Scandinavia. There does seem to be one significant aspect relating to these varieties: I find it difficult to envisage examples at the opposite ends of the lunulation spectrum without postulating that one of the contributing ancestors must have had no lunules, the other 12. Today the one with no lunules does not seem to be extant. Even at Lyngenfjord there is some lunulation in both males and females. As for 12 lunules *A. cramera* appears to have these but I do not know the species, and the illustrations indicate a different venation. So it may be that again the second ancestor is no longer with us. Put in a different way, subsequent inter-penetration has been great enough to modify the original parents somewhat.

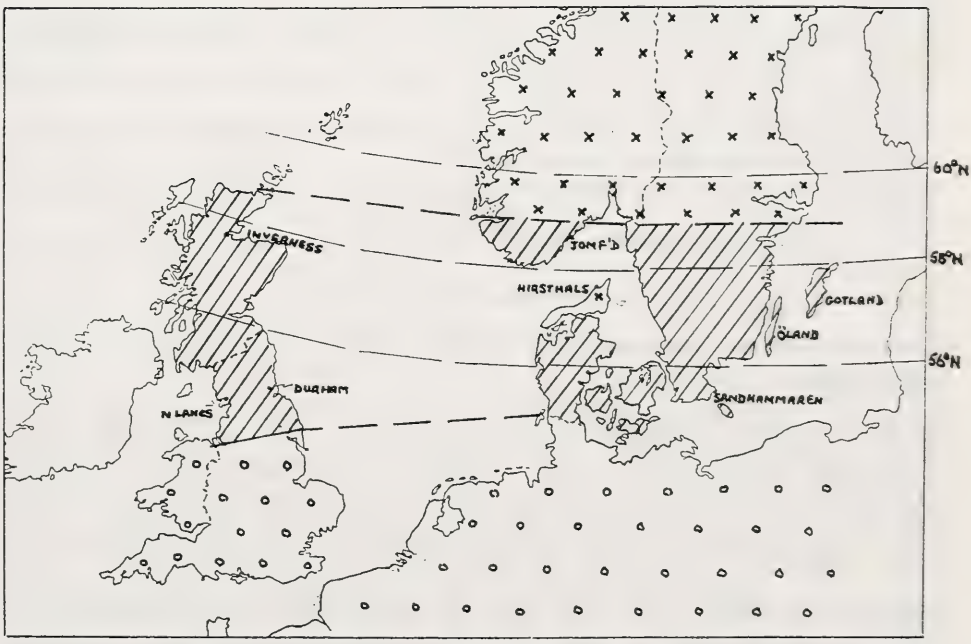
Summary

The main conclusions arise from the comparison of quantified upper forewing lunulation, and the extra focus which this approach has provided has allowed these to be made without taking climate into account. The belief that *agestis* would be bivoltine, and *salmacis* or *allous* univoltine has proved a significant stumbling block to earlier workers.

1. In western Europe, *Ariciae* are represented by *agestis* in the south and *allous* in the north.
2. The boundary between these two sub-species is not clear-cut and is formed by a significant buffer zone (c450km in Scandinavia and 600km in Britain) of intermediate hybrids. For convenience I have used the term *salmacis* in the text to describe the variable race in northern England. I would prefer the term "intermediates" since this is less likely to conjure up any picture of a distinct sub-species.
3. From British data, the boundary between *agestis* and the hybrids is clear-cut, and runs from Perthichwareu in north Wales to Pickering in north Yorkshire.
4. The boundary between *allous* and the hybrids is not clear-cut and has been defined in the present work in a somewhat arbitrary way which roughly coincides with latitude 59°N. In these circumstances Britain only contains *agestis* and the hybrid zone.
5. In this simplified situation *artaxerxes* is considered to be a modification of *allous*.
6. Since the OH-G work stopped at Denmark it is not possible to determine where the change from *agestis* to the hybrids takes place in mainland Europe. This could be in northern Germany.



MAP 1 HØEGH-GULDBERG 1966 *agestis* *allous*



MAP 2 SMYLLIE 1994 *agestis* intermediates *allous*

One question likely to be asked relates to the possibility of different species being able to retain their individual characteristics after mixing at any one site. Take the case of females which are well lunulated, a "southern" characteristic, and yet are also more likely to have vars *albiannulata* or *albisignata,* both involving extra white scales, a "northern" trend. In aggregate, particularly with lunulation which is easier to count, the figures do give sensible results, but the above variables are jumbled up as far as individuals are concerned. A well lunulated female is perfectly capable of exhibiting *albiannulata* and there is no trend relating these two aspects which are quite random. So there is a tension present which does not equate with the preservation of individual sub-species in their original form.

Maps 1 and 2 compare the conclusions reached by OH-G and Smyllie respectively. OH-G involves *agestis* and *allous,* while Smyllie adds the intermediate zone. Without the very adequate data collected by OH-G and his colleagues this comparison would not have been possible. My hope is that these conclusions represent a few steps forward rather than backward in the road to understanding more about our butterfly fauna. This understanding should help us to be more aware of, and therefore more caring for, our present heritage.

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Broad-bordered Bee hawks in October (*Hemaris fuciformis* L.; Lep.: Sphingidae)

Mr Ron Hoblyn witnessed two of these moths feeding at *Nicotiana* flowers in his garden at Santon Dowham, Suffolk, on 4th October 1994. The species has long been known to frequent the rides and open spaces of Thetford Forest and adjoining breckland, where in June and July it could be seen at Viper's Bugloss blossom. In recent years moths have appeared at garden flowers in locations well away from the forest, and larvae and eggs in the forest on honeysuckle in sunny situations as well as in shady woodland. Whatever its national status may be, this species continues to do well here and has enjoyed some very good seasons.– G.M. Haggett, Meadows End, Northacre, Caston, Norfolk.

AN APPARENTLY NEW SPECIES OF *MORDELLISTENA* (COL.: MORDELLIDAE) IN BRITAIN

A.A. ALLEN

49 Montcalm Road, Charlton, London SE7 8QG.

Mordellistena (*Pseudomordellina*) *imitatrix* sp.n.

VERY CLOSELY allied to and greatly resembling *M. (P.) acuticollis* Schilsky, from which it differs in the form and disposition of the hind-tibial ridges – a character of recognised importance in the genus. The foodplant is also different.

A small black species with yellowish or greyish-yellow pubescence; male with clypeus, mouthparts, front coxae and more or less of the femora reddish or yellowish, mid-femora often darker reddish or pitchy; female with these parts darker to pitchy-black. Antennae with base rather obscurely lighter, they and the palpi longer and stouter in male. Hind tibiae with only one pair of apical spurs. This will serve equally as a rough description of *M. acuticollis* (*cf.* also Allen, 1986: 49-50; Batten, 1986: 232-3). Male parameres not or scarcely different in the two species, which may be separated as follows:-

1/2 The two upper ridges on outer face of hind tibia thick, straight and ending abruptly, the foremost plainly ceasing further from base of tibia (about as fig. 1). On *Artemisia vulgaris* L. . . . . *.imitatrix* sp.n.

2/1 The two upper ridges thinner and longer, not ending abruptly but appearing to curve into, or towards, the longitudinal axis of tibia, the foremost approaching obviously nearer to the base (about as fig. 2). On *cirsium arvense* Scop. . . . . *acuticollis* Schil.

South-east England: in various localities mostly in west Kent from 1992 onwards. Holotype male (eventually) in coll. Natural History Museum, London: Woolwich Common, west Kent (south-east London), 15.vii.1992, A.A. Allen. Paratypes (same locality and captor, 4.vii.1993) in the collections of the following persons and institutions: J. Horák (Prague), the Natural History Museum (London), Manchester Museum, P.F. Whitehead (Pershore), J. Cooter (Hereford), and the author.

I first encountered this species on 15.vii.92, when two males were shaken off different plants of the *Artemisia* a short distance apart on Woolwich Common: no more were found that year. Though appearing to be *A. acuticollis,* the differing host-association raised serious doubts. Only later, when the hind-tibial ridges were seen to differ appreciably, was it clear that we had here yet another addition to the British *Mordellistena* spp. – and moreover, one not yet identifiable from the available literature.

The following year, a search on 20th June resulted in two further specimens at each of the above sites; from which, on the 23rd, my friend Professor J.A. Owen obtained a few. On the warm evening of 4th July, one of the two sites yielded numerous examples, the smallest among them scarcely larger than *M. nanuloides* Ermisch. An attempt was made to

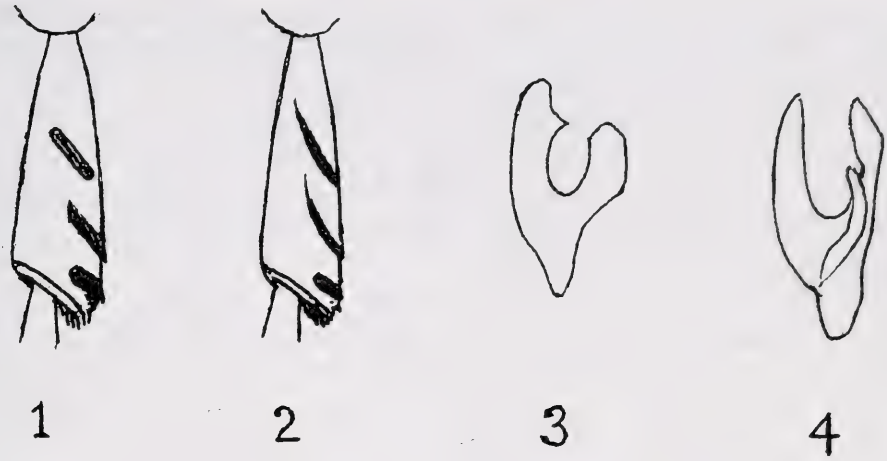
ascertain the beetle's status on the common, where the foodplant is very patchily distributed. It showed *M. imitatrix* to be, at the time at least, very local and almost confined to the two mugwort plants on which it was first found. A few specimens occurred in another area well separated from the original one; but the species seemed absent from the rest of the common, though several scattered but vigorous stands of the *Artemisia* were well worked. A less thorough search in other parts of the general area also gave a negative result. Last year, 1994, *M. imitatrix* was not seen. The very hot and extremely drying weather of July may have affected its life-cycle; but in any case, it was not actively sought.

Early in August 1993 Mr P.J. Hodge met with the same insect on the same plant along a field edge near Staines, Middlesex, where it was abundant. In August 1994 he found it at Addington, near Maidstone, and Professor Owen at Darenth in mid-July and early August; at these two places in west Kent it was again on the mugwort.

It will be seen that all finds of *M. imitatrix* to date (and there may have been others unknown to me) have taken place within the remarkably short space of three years – a phenomenon pointing to very recent invasion and the still active colonisation of new ground. No doubt the beetle is already present in many other places in the home counties, and new finds may confidently be predicted over the ensuing years. Clearly therefore it is necessary to have a name by which to refer to the species, even if it should later prove to have been described. Mr Jan Horák, in Prague, is engaged on a thorough revision of the genus, but it may be some time before he reaches the group to which the present species belongs.

It can safely be asserted that any *Mordellistena* with only one pair of hind-tibial spurs, occurring inland on *Artemisia vulgaris* in south-east England, will almost certainly be *M. imitatrix*. Doubt may, however, arise with casual specimens taken by general sweeping, and any such will need careful inspection as it might prove to be *M. acuticollis*. This latter, of which only three British specimens are yet known, appears to affect *Cirsium arvense* (creeping thistle) – *cf.* Ermisch, p. 187; Batten, p. 233 – an association not so far proved for Britain, however. It must also be remembered that other species of the genus may possibly live on *A. vulgaris,* notably *M. parvula* (Gyll.) – quite apart from *M. nanuloides* Erm. on the coastal *A. maritima*.

In practice, the difference in the hind-tibial ridges may not always be as clear-cut and satisfactory as one could wish. Not only is there some variation, but the ridges can be hard to see at first, and their appearance may change with the angle of incident light and the position of its source. It may require a fine adjustment of the lighting to bring them fully into view. They often show up best in a specimen mounted on its side; or when a hind leg is removed and mounted flat, outer face up. Discrimination may occasionally be difficult without a knowledge of the foodplant.



Figs. 1-4: *Mordellistena* spp. *M. imitatrix* sp.n.:
1. outer face of hind tibia; 3. left paramere; 4. right paramere.
M. acuticollis Schils.:
2. outer face of hind tibia.

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"Of all the cars, in all the world . . ."

Some years ago someone gave me a *Times* newspaper cutting which related how a South African Lycaenid, *Cacyreus marshalli* Butler, 1898, had arrived in Belgium with, it was thought, a pot of geraniums. I confess it wasn't particularly interesting at the time and I gave it no further thought.

Mid-day in the southern Spanish city of Granada was sweltering on the 12th of July 1994. The temperature was well into the 40s and I was sat in my camper-van at the head of a long queue of traffic, waiting for the traffic lights to change. They appeared to have been red for an age and I was idly watching the passers-by, when suddenly a tiny grey moth fluttered weakly on the inside of the quarterlight next to the driver's open window; it took a full second to register that the moth had tails and that it was actually a very "foreign" lycaenid butterfly.

Sod's Law immediately came into play and several things happened at once. I made a move to close the window; the butterfly flopped from the quarterlight to become lodged behind the altimeter attached to the dashboard by a velcro strip and – of course – the lights changed to green.

Somewhere in my van is a male *Plebicula sagratrox* Aistleitner 1986, which had disappeared down the side of a seat a couple of weeks previously, never to be seen again. Having learned that lesson the hard way, there was

no way I was going to let it happen again. The busy junction was blocked whilst I blundered around in the front of the van, trying to box the butterfly and sweating profusely in the sweltering heat which was made worse by my having closed all the windows. It didn't take long for the traffic behind to become impatient and in seconds the horns were blaring and a small crowd had gathered on the pavement to watch. Successful at last, I smiled weakly at them – and crossed the junction as the lights changed to amber, leaving behind some pretty angry motorists.

The butterfly turned out to be a freshly emerged female *C. marshalli* which I subsequently learned from Michael Tarrier ([F] E – Mijas), is now quite common in parts of southern Spain. Judging from the literature, the species has gained a strong foothold in the Balearics and is considered a potentially serious pest of geranium on the Spanish mainland. Anyone wishing to know more about the discovery and subsequent spread of the species in Europe should consult the reference at the end of this note.

Of course I may be wrong; there may have been dozens of *marshalli* stationed at traffic lights throughout Granada, waiting to fight their way into passing cars, but at face value, the words made immortal by Humprey Bogart (or Max Bygraves or whoever it was) in the film Casablanca, seem appropriate –

"Of all the cars, in all the world, you had to walk into mine . . .!!"

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LIPTENA PRISCILLA A NEW LIPTENID BUTTERFLY FROM NIGERIA (LEPIDOPTERA: LYCAENIDAE)

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Introduction

A MOST CHARACTERISTIC new species of *Liptena* has been in the collection of Mr R.G.T. St. Leger for more than thirty years. During a recent visit to discuss preparatory work on my book on the butterflies of West Africa, he asked me to describe it and entrusted me with one of his two specimens to be dissected and placed in The Natural History Museum, London.

The species in question belongs to the *undularis*-subgroup of the very large genus *Liptena* (70 species or so), characterised by being white or cream and by having more or less developed parallel black bands on the hindwing underside. The group, together with the other white, cream, or ochreous members of the genus was comprehensively revised by Stempffer, Bennett & May (1974). They recognised three species: *L. undularis* Hewitson, 1860; *L. ferrymani* Grose-Smith & Kirby, 1891 (with ssp. *bigoti* Stempffer,1964); and *L. septistrigata* Bethune-Baker, 1903. I have never seen *L. ferrymani bigoti,* but from the genitalia drawings in the revision paper, it may well be a distinct species. There are also ochreous species with similar underside patterns.

The genitalia of the new species come closest to those of *L. ferrymani bigoti,* but they are quite distinctive. The species is recognisable at a glance by the much wider dark bands on the hindwing underside and by the colour of the dark markings which are light chocolate rather than blackish-brown.

The purpose of this paper is to describe this interesting new species and to place it in context with closely related species.

Liptena priscilla sp. nov.

Male upperside: (Fig. 1) Forewing 18.5mm. The ground-colour is off-white and the dark markings are light chocolate-brown. Other similar species are purer white with darker brown markings. The forewing has slight chocolate basal shading. The costa is narrowly chocolate to the end of the cell, where there are traces of dark markings, not a prominent tooth as in *L. ferrymani.* The relatively large chocolate apical patch has an inner edge that consists of a series of steps, forming an angle of 90° along the veins as follows: the width is 6mm from the costa to vein 6; in spaces 4 and 5 the width is 4mm; in space 3 the width is 2mm; in space 2 it is also 2mm, but incomplete. Spaces 1a and 1b have no black margins. The hindwing has a linear dark margin, lighter brown than the markings of the forewing. The underside pattern is just visible due to transparency.

Male underside: (Fig. 1) The dark markings on the underside are lighter chocolate than on the upperside. The light areas of the forewing apex and of

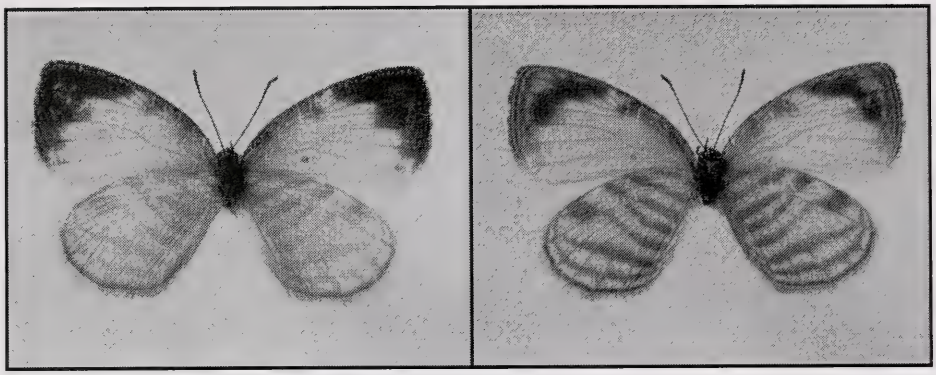

Fig. 1. Male upperside (left) and underside (right) of the *Liptena priscilla* holotype (slightly larger than life).

Fig. 2. The male genitalia of the *Liptena priscilla* holotype.

the entire hindwing are cream, the basal and discal area of the forewing being off-white. The basal third of the forewing costa is brown, with hardly any tooth at the end of the cell. Just after the cell the costa is almost white for 2mm, till the apical patch begins. This patch is much smaller than on the upperside. There is a row of cream apical spots as well as an additional fine cream submarginal line. The hindwing has seven almost parallel chocolate lines, distinctly wider than in the other members of the group. The fifth of these lines is broken just before a wider dark spot on the costa. There is also a fine chocolate marginal border.

Male genitalia: The male genitalia (fig. 2) have the typical configuration of the genus, and valves that are allied to those of many members of the group revised by Stempffer, Bennett and May (1974). They may, however, be recognised at a glance by the deeply bifid saccus. The uncus is broad, with a small central depression. The outer lobes of the uncus are drawn out to a point, a feature occurring in few other members of the genus. The recurved subunci are small and frail, with a slight swelling before the tip. The tegumen is very narrowly and loosely attached to the vinculum. The inner lobe of the valve is much more massive than in *L. ferrymani bigoti* and the outer, more heavily chitinized lobe is almost straight. The broad saccus is almost as long as the valves. Its distal end is deeply bifid, more so than I have seen in any other *Liptena* (only in *L. batesana* Bethune-Baker, 1926 is there a slight tendency to being bifid).

Male holotype: Obudu Plateau, 7.iii.1962 (R.G.T. St. Leger leg., coll. Natural History Museum, London) (genitalia no. 29358 – ex Larsen no. BBD).

Paratype: one male, same data (coll. R.G.T. St. Leger).

The species is dedicated to Mrs Priscilla St. Leger in appreciation of her hospitality to the many entomologists who have come to benefit from her husband's unrivalled knowledge of the butterflies from the area of Nigeria from which she hails.

Discussion

Liptena priscilla was caught in forest on the Obudu Plateau, one of the few areas of Nigeria which can be described as montane. Many interesting butterflies have been found there. The larger species were reviewed in a special paper (St. Leger 1965), and additional information on the montane zone in Nigeria on the Mambilla Plateau is given by Dowsett *et al.* (1989).

The Nigerian montane zones are outliers of the much larger Cameroun Mountains. Their specifically montane butterfly fauna (some 40 species) has been discussed by Libert (1991); the species number is relatively low and very few are endemic to the Cameroun Mountains even at subspecific level.

Though collected at montane levels on the Obudu Plateau, it is unlikely that *L. priscilla* is limited to montane levels. No members of the Lipteninae elsewhere in Africa seem to be strictly montane. There are, however, many

species with limited distributions, and the Cameroun-Nigeria border region and western Cameroun contain numerous endemic species. It is therefore likely that *L. priscilla* will be found also in Cameroun. It must be very local and scarce.

The closest relative of the new species, *L. ferrymani,* has quite different ecological preferences. It is one of the few West African Lipteninae found in the Guinea savannah zone; most of the material in The Natural History Museum, London is from as far north as Kaduna. *L. septistrigata,* however, is much more of a forest species.

Acknowledgements

I am grateful to Mr R.G.T. St. Leger for allowing me to describe the new species in this paper, which is no. 12 resulting from preparatory work for the book *Butterflies of West Africa – origins, natural history, diversity, and conservation.* The Carlsberg Foundation in Denmark supports my own field work, for which I am most grateful. I also wish to thank The Natural History Museum, London, and especially Messrs P. Ackery and C.R. Smith for their help and co-operation. The library of the Royal Entomological Society, London, and the assistance of the librarian, Ms Jacqueline Ruffle is also invaluable.

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Euchmichtis lichenea lichenea (Hb.) Feathered Ranunculus (Lep.: Noctuidae) in north-east Hampshire

At about 10pm on 8th October 1994 a male specimen of *Euchmichtis lichenea lichenea* flew to light at the cottage here in Selborne. This occurrence in north-east Hampshire would seem to represent an extension of *lichenea*'s previously published range in the south and north-west of the county.

References: Bernard Skinner & David Wilson, 1984. *Colour Identification Guide to Moths of the British Isles* Viking, Harmondsworth; Heath, J. & Emmet, A.M. (eds.), 1983. *The Moths and Butterflies of Great Britain and Ireland* **10** Harley Books, Colchester; Goater, B., 1974. *The Butterflies & Moths of Hampshire and the Isle of Wight,* E.W. Classey, Faringdon; Goater, B., 1992. *The Butterflies and Moths of Hampshire and the Isle of Wight: additions and corrections,* Joint Nature Conservation Committee, Peterborough.

– ALASDAIR ASTON, Wake's Cottage, Selborne, Hampshire GU34 3JH.

LEG TERATOLOGY IN *GALERUCELLA SAGITTARIAE* (GYLLENHAL) (COL.: CHRYSOMELIDAE)

RICHARD A. JONES

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BILATERAL SYMMETRY is one of the most basic rules governing the structure, growth and development of insects. Departures from it, as in the case of bilateral gynandromorphs and chimeras in the Lepidoptera, are highly prized by collectors and valued as perhaps giving some insights into developmental and embryological processes.

Teratological specimens in orders other than the Lepidoptera are not common, but do occur; their apparent rarity is probably due to the fact that they are difficult to spot in the field and are usually only noticed when specimens are mounted or later examined for identification. Usually a single specimen shows a unique malformation.

However, I recently came across two almost identical terratological specimens of the leaf beetle *Galerucella sagittariae* (Gyllenhal) together in the same locality.

Occurrence

On a visit to Powdermill Reservoir near Brede, East Sussex, on 23rd August 1994, I discovered that what was once open water in the north-westerly third of the lake was now standing high and moderately dry. The reservoir is owned and managed by South-East Water and the reduction of water levels by about six feet had left mud flats exposed for some weeks or months. These flats were now covered in a sea of amphibious bistort, *Polygonum amphibium* L.

The bistort stood knee-high and was being devoured by countless millions of the larvae of *Galerucella sagittariae*. The adults too were present in uncountable numbers and I took a sample of eight specimens from a single sweep of the net. It was not until these were set later that evening that the unusual teratology was noticed.

Description

Two of the eight specimens had severely stunted right middle legs (Figs 1, 2b & 2c). The remaining five legs and the antennae of each specimen appeared to be normal. Detailed examination showed that in both aberrant specimens the stunted legs were shorter and slighter. In the two specimens the right femora were reduced to, respectively, 77 and 60% of the left, the right tibiae to (both) 60% of the left and the right tarsi to 40 and 48% of the left. The deformed tarsi were severely shortened and misshapen (Figs. 2b & 2c). Table 1 gives body and limb measurements of the two aberrant specimens compared to the six "normal" specimens. Only the affected middle right legs showed a significant size discrepancy being well outside

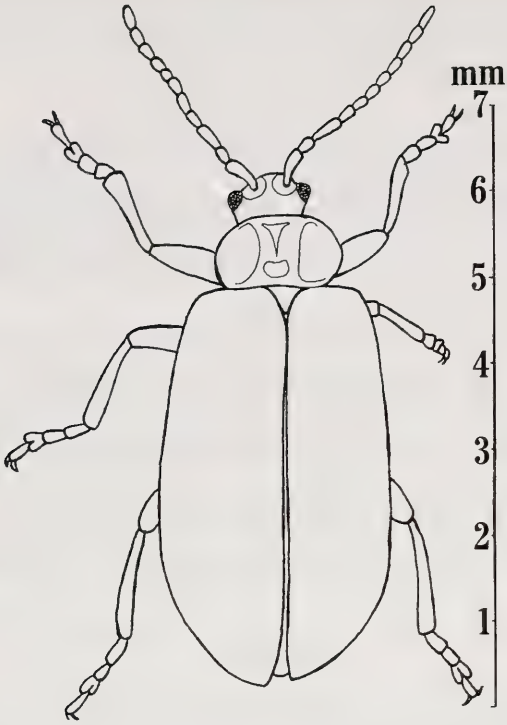

Fig. 1. Aberrant specimen (1) of *Galerucella sagittariae*, showing gross reduction in right leg size.

the "normal" range. Aberrant specimen 1 was slightly shorter than all the other specimens.

My father, Mr A.W. Jones was also present with me at Powdermill Reservoir that day and had also taken a number of specimens of the *Galerucella*. Examination of 11 of these showed that they all appeared normal. Detailed leg measurements of these specimens are not given, but they all fell within or close to the same "normal" range.

Discussion

Bilateral gynandromorphs and sexual mosaics or chimeras are uncommon, but because they are so distinctive in some Lepidoptera, they are moderately frequently captured and identified. Their occurrence is thought to be due to loss of the male Y chromosome early on in embyological cell division and development leaving some cells of the growing insect with XY genotype, hence male phenotype,and others with XO genotype which by default exhibits the female phenotype (Ford, 1945).

Teratological specimens of other orders are also not common, but they do occur. They are usually only noticed upon detailed examination long after capture and so their apparent rarity is compounded (Jones, 1989, Hancock, 1992).

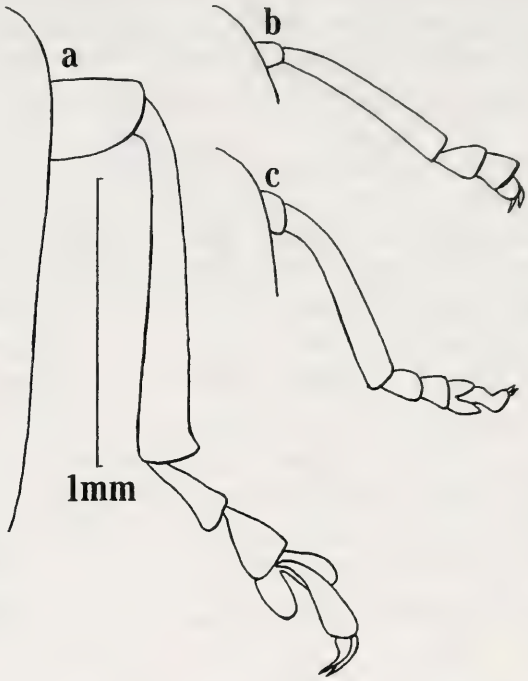

Fig. 2. Middle right legs of *Galerucella sagittariae*: a. normal specimen; b. aberrant specimen 1; c. aberrant specimen 2. All legs are in dorsal view and drawn to same scale.

A delightful and curious book by Mocquerys (1880) gives brief descriptions and small woodblock figures of numerous beetle "monsters" Many of these are malformations of the legs. Each is a unique specimen and apart from vague comments on interrupted development or embryological breakdown, no detailed explanation is offered for their appearance.

A model of leg development was propounded by French, Bryant & Bryant (1976) to explain supernumerary and other forms of growth produced during regeneration after surgery to amphibian limbs. Many of the "monsters" illustrated by Mocquerys (1880) show similar supernumerary digitation and it is tempting to suggest that the development of such aberrant limbs was brought about because of damage during ecdysis or metamorphosis. In the case of two almost identical deformations in the leaf beetles discussed here it would seem unlikely that two insects could suffer identical injuries to identical middle right legs.

In insects, adult structures such as wings and legs, are represented in the larval stage as groups of cells called imaginal discs (eg Gullan & Cranston, 1994, and other textbooks). These discs are analogous to buds. During metamorphosis they are pushed through to the outside of the body and change shape by cell reproduction, differentiation and movement. The underlying causes of these changes are not precisely known (Bard, 1990), but the development of *Drosphila* fruit fly leg discs from buds to limbs has been visualised using scanning electron microscopy (Fristrom, 1976, 1988).

Table 1. Body and limb measurements (in millimetres) of six normal and two aberrant specimens of *Galerucella sagittariae* collected together from Powdermill Reservoir, 23rd August 1994.

Measure (ventral)		Aberrant specimen 1		Aberrant specimen 2		Measures of six "normal" specimens (n = 12) mean (range)
		Left	Right	Left	Right	
Front	femora	0.99	0.99	1.09	1.13	1.10 (1.02–1.19)
	tibiae	1.02	1.02	1.19	1.19	1.06 (0.95–1.19)
	tarsi	0.75	0.78	0.82	0.75	0.79 (0.68–0.89)
Middle	femora	1.19	0.92*	1.30	0.78*	1.26 (1.19–1.36)
	tibiae	1.19	0.72*	1.30	0.78*	1.26 (1.13–1.36)
	tarsi	0.85	0.34*	0.85	0.41*	0.87 (0.78–0.95)
Hind	femora	1.33	1.36	1.36	1.43	1.38 (1.23–1.43)
	tibiae	1.36	1.36	1.43	1.47	1.41 (1.26–1.47)
	tarsi	0.82	0.82	0.85	0.85	0.87 (0.78–0.99)
Antennae		2.73	2.73	2.73	2.73	2.82 (2.73–2.90)
Body length (dorsal)		5.53*		6.33		6.21 (5.88–6.55) (n =6)

Measurements were made using a Meiji SKC-1 microscope and an eye-piece graticule (line divided into 100). Limb lengths were ventral, at x 30 magnification (29.333 units/mm).
Body lengths were dorsal, at x 10 magnification (8.85 units/mm).
*Measurement outside of the "normal" range.

The imaginal disc forms a series of folds representing the various limb segments; it then extents telescopically, transforming into a leg.

Morphological changes during growth and any underlying genetic controls have traditionally been studied apart, since it is still not known how the subcellular and biochemical changes wrought by the genes bring about the gross structural alterations during development. Nevertheless, it is well known that shape, size and form are inherited characteristics.

Drosophila also provides the best studied genetic model for limb development in insects, and during many years of genetic and mutational experimentation various bizarre genes have been discovered or engineered. Several control the embryological development of the various body

appendages – antennae, wings and legs. Mutants have often been created and genetically verified in which the two antennae are replaced with seventh and eight legs or the wings multiplied from two to four! I do not know whether left or right-legged characters have been identified in the *Drosophila* genome.

Galerucella sagittariae is gregarious as a larva. After hatching from the batch of five to ten eggs, the larvae move in concert up the leaf, nibbling away the upper surface until as later instars they feed individually, skeletonising the leaves they attack. Since the two aberrant specimens were taken in the same sweep of the net, it is tempting to suggest that they were siblings and that the stunted legs were the result of a naturally occurring mutant gene in the population. However, though one abnormal specimen was of normal size, the other was slightly shorter than normal (Table 1), hence perhaps nutritional factors are also somehow involved.

Butterfly and moth aberrations are usually obvious enough to be spotted while the insects are alive, offering at least some possibility of studying their genetics. Unfortunately, as is too often the case, the oddity of these two beetles was not spotted until it was too late to consider such a course of action.

Acknowledgements

Thanks are due to my father, Mr A.W. Jones for supplying further specimens of *Galerucella sagittariae* from Powdermill Reservoir, to Ms C.B. Ure for statistical advice and Mr P.J. Hodge for identifying the *Galerucella*.

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Scrobipalpa artemisiella (Treitschke) (Lep.: Gelechiidae), a larval description

Stainton (1865, *The natural history of the Tineina* IX: p214 and plate VII) describes the larva of *Scrobipalpa artemisiella* (Treitschke) (then *Gelechia artemisiella*) as "Greenish, with a dark greyish-green dorsal line, and similar subdorsal lines; ordinary spots minute black, in pale rings; the head pale-brown, darker behind, with the mouth and sides black; second segment yellowish-green, rather marbled with brown." There is no mention of the colour of the legs; the thoracic legs appear transparent in the illustration, which otherwise follows the description, but the prolegs are not shown. Meyrick ([1928], *A revised Handbook of British Lepidoptera*) follows Stainton, in a condensed form.

I have bred *S. artemisiella* from west Cornwall on several occasions. Each time I have noticed that the larva has not agreed with Stainton's description but has been as follows: head and prothoracic plate black; body dull brownish-green, dorsal, subdorsal and lateral lines purplish-brown, second thoracic segment dark purplish-brown; pinacula small, black; anal plate blackish; thoracic legs black; prolegs concolorous with body.

– R.J. Heckford, 67 Newnham Road, Plympton, Plymouth, Devon PL7 4AW.

Further records of *Gelechia senticetella* (Staudinger) (Lep.: Gelechiidae)

Langmaid (1994) reviews the first three records of this species in Great Britain. On 13th July 1994 and 3rd August 1994 further single examples of this species came to actinic light in my back garden at Raynes Park, Surrey (VC17). This identification was confirmed by examination of the genitalia of the July specimen (a male). These captures constitute a new vice-county record for the species. A few other examples of what were probably this species were seen at the trap at around the same time, but these were not retained or noted as their significance (and indeed identity) was not realised at the time.

Reference: Langmaid J.R., 1994. A third British record of *Gelechia senticetella* (Staudinger) (Lepidoptera: Gelechiidae). *Entomologist's Gazette,* **45**: 36.

– M.S. Parsons, 3 Stanton Road, Raynes Park, London SW20 8RL.

The Small Rufous, *Coenobia rufa,* Haw. (Lep.: Noctuidae) in Buckinghamshire

On 29th July 1994 I took at light a specimen of *Coenobia rufa* at Stoke Hammond, North Buckinghamshire.

As far as can be ascertained this appears to be a new county record for this species.– G.E. Higgs, The Cottage, Willen, Milton Keynes MK15 9AD.

THE LARVAL HABITAT OF *LEIODES RUFIPENNIS* (PAYKULL) (= *CLAVICORNIS* (RYE)) (COL.: LEIODIDAE): SOME PRELIMINARY OBSERVATIONS

R.M. LYSZKOWSKI

"Glenwood", 57 Henderson Street, Bridge of Allan, Stirlingshire FK9 4HG.

THE WRITER, on 26.vi.1986, was looking for *Bledius* larvae along the Allt Cuaich at NN6786 at a site 5km from Dalwhinnie, Inverness-shire. At one spot near the edge of the stream, some 2cm below the surface of sparsely vegetated sand, three small whitish unfamiliar larvae were found. The larvae, along with a sample of the surrounding sand, were collected for further study.

Close examination revealed that the larvae were living in small hollowed out cells surrounded by a matrix of sand and microscopic, sand-coloured spheres. It was a fair guess that what I had found was some sort of subterranean fungus together with the larvae of a Leiodid beetle. Very few published observations existed on the relationship between the Leiodinae and their larval food (Crowson, 1981), so it was decided to try and rear the larvae.

The mature larvae were roughly 3mm long with well developed head and mandibles and spent much of their time with their abdomen arched up and over their heads. On being disturbed, a larva would rub the dorsal tip of its abdomen to and fro quite rapidly over the anterior part of its head, as if it were stridulating in some sort of way. Small tranverse ridges of chitin are present on the surface of the last tergite and undoubtedly form a stridulatory file, the shape of which, together with the placement of associated bristles, could be useful characters for identification. Competing larvae probably use stridulation as a warning, thus avoiding injury from the relatively powerful mandibles. Of the three original larvae, one succumbed to a bite inflicted by one of the others, whilst two successfully pupated. One of the pupae collapsed a couple of days later, but the other produced a male *Leiodes rufipennis* (Paykull) which was kept alive until mature.

Two problems arose during the rearing. Firstly, the small samples of sand and fungus were often covered by the hyphae of *Mucor*-like moulds but regular brushing of the surface of the sand with a small paint-brush managed to keep the mould under control. Secondly, hundreds, if not thousands of nematode worms were present in the sand around the fungus samples and at times the worms could be seen in numbers at the extremities of grains of sand, waving their bodies around in the air. Because of the possibility that the nematodes were responsible for the death of the first pupa, the worms were regularly removed from the liquid film on the surface of the surviving pupa. Paint-brushing proved to be the most effective means of removal.

A dried sample of the fungus in which the larvae had been feeding was eventually sent to Dr C. Walker at the Forestry Commission's Northern

Research Station at Roslin, Midlothian via Dr N. Dix (University of Stirling) and Dr R. Watling (Royal Botanic Garden, Edinburgh). Dr Walker identified the fungus, and added, "It is a typical sporocarp of the species *Glomus macrocarpum* Tulasne & Tulasne, and consists of many hundreds of individual chlamydospores bound together (relatively tightly) by a matrix of sterile hyphae." Fresh sporocarps are globose, subglobose, elongate or irregular, up to 10x10x8mm, and have debris adherent to the surface (Berch & Fortin, 1983). A mature specimen recently found by the author also had a very pungent smell, somewhat reminiscent of some decomposing fish.

Acknowledgements

Dr N. Dix and Dr R. Watling are thanked for the part they played in having my fungus sample identified, and I especially thank Dr C. Walker for carrying out the identification and also for much useful information concerning the fungus together with a copy of the paper by Berch & Fortin. I would also like to thank Dr Graham Rotheray (Royal Museum of Scotland) for looking over my paper.

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Aethes francillana (Fabricius) (Lep.: Tortricidae) bred from *Conium maculatum*

On 29th April 1990 Dr John Langmaid and I were recording micro-lepidoptera at Chesil, Dorset. John observed some small round holes in old stems of *Conium maculatum* which we assumed were made by *Aethes beatricella* (Walsingham). As this was a species I had not seen I collected a few stems.

Moths emerged between May and June and I noticed how similar they looked to specimens of *A. francillana* (Fabricius) which I had bred from *Daucus carota* in Devon. In January 1994 I dissected a male from Chesil and to my surprise found that it was not *beatricella* but *francillana,* which I believe has not been recorded from *Conium maculatum* either in the British Isles or on the continent.– R.J. HECKFORD, 67 Newnham Road, Plympton, Plymouth, Devon PL7 4AW.

A record of the Heart Moth, *Dicycla oo* L. (Lep.: Noctuidae) from north-west Kent

On the night of 12th July 1994 a female *Dicycla oo,* in excellent condition, came to a garden m.v. trap in West Wickham, north-west Kent. Its identity was confirmed by Graham Collins. This is an interesting record as there has been no confirmed record of its occurrence in Kent since 1919. Chalmers-

Hunt (*Butterflies and moths of Kent* **2**: 244-245) gives West Wickham as a historic locality, with records from 1896 and 1897. The moth also occurred widely in the adjacent localities of Hayes and Bromley at the end of the last century. The moth is not known to wander far from its known habitats and it is interesting to speculate upon its origin.

In the adjacent county of Surrey the Heart Moth is quite widely distributed, with Ashtead as the most well-known locality (where it is sometimes common, and produces ab. *renago* from time to time). Those who have run traps at this site know the moth's disinclination to wander, as it is normally found at the top of a hill (a stiff walk with a generator). Those who run their light at the bottom of the hill invariably come home empty handed! Other localities in Surrey include Thorpe, Virginia Water, Leigh, Dorking, Betchworth, Buckland and East Horsley, although at none of these localities can it be described as either regular or common.

We are most grateful to Graham Collins for his helpful comments, and for supplying data from the *Surrey insect recording scheme*.– PETER JUPP, 125 Birch Tree Avenue, West Wickham, Kent and PAUL SOKOLOFF, 4 Steep Close, Orpington, Kent.

Apion laevicolle Kirby (Col. : Apionidae) in the New Forest

Among a number of beetles taken on 29.vi.1952 at Brockenhurst in the New Forest, south Hampshire, but not critically examined until now, I was much surprised to find a specimen of the very local and usually scarce *Apion laevicolle* Kb. On that occasion I collected only in the vicinity of Butts Lawn and the nearby part of Balmer Lawn, obtaining among other things a good series of the uncommon ladybird *Hyperaspis pseudopustulata* Muls. The *Apion* was probably taken by sweeping, but the type, or types, of situation explored were quite unusual for the species, which is chiefly coastal or maritime. There are, it seems, no records for the Hampshire mainland; Fowler (1891, *Col.Brit.Isl.* **5**: 147) gives three for the Isle of Wight, and one as far inland as Windsor. However, it appears to be more especially a Kent and Sussex species – I once found several at Deal on a sandy waste slightly inland, at roots of herbage, besides one at the Lizard. As the host is thought to be white clover, *Trifolium repens,* the weevil's range is obviously limited by factors other than the range of that ubiquitous plant.– A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

Hazards of butterfly collecting – getting the shakes – United Kingdom, April 1993

Nine days after returning from six weeks of butterfly collecting in Ghana I was not really feeling my best, but then who does when exchanging the tropics for the vagaries of the English weather in early spring. A couple of aspirin generally kept the discomfort at bay.

On the tenth morning it was clear that I had a fever and that more radical action was called for. While trying to book a doctor's appointment, I

suddenly got the shakes – and I mean the shakes. A piping hot bath was no help. I shook so seriously that the water splashed all over the floor. There could be no doubt. This was malaria.

It took a couple of hours to get to the St. Pancras Hospital for Tropical Diseases. By then the fever had shot up to 42° and I could feel my ability to reason and act rationally abandoning me.

Within fifteen minutes of arrival at the hospital I was in bed with an intravenous infusion of quinine in my arm and a mild sedative in my stomach: "We'll deal with the formalities later". I have little recollection of the following day, but two days later I was basically fine, while starting a course of *Mefloquine,* a fancy new anti-malarial.

On a steep recovery curve . . .

The consultant arrived to fill me in. It was falciparum malaria, the most dangerous and drug-resistant of malaria strains, cerebral malaria apart. When I arrived at the hospital I had 5.5% of my blood cells affected, rising to 9.5% by the time the quinine took effect. "So it was a good thing I came in straight away", I said brightly. "Yes", said the consultant drily, "because you'd have been dead in 24 hours".

Normally, 1.5% infection is enough to lay you low, and at any point above 3.0%, death is a distinct possibility. Possibly because I have been exposed to malaria for nearly fifty years, I had extraordinary resistance, which made the whole episode so much more dangerous. The speed at which the illness developed was frightening; from having mild discomfort to death's door in less than 24 hours. Imagine it happening 14 days earlier. I was then camping in a national park, without transport and without radio. I might not have made it in time as my decision-making facilities deteriorated.

In several of these essays I have stressed that butterfly collecting in the tropics is not a macho activity. On the whole, wild animals do not lurk, hordes of insects do not engulf you, tropical diseases do not strike you down, and the local people are not hostile. In general, transport is the only real danger, with poor roads, bad drivers, and cars in frightful mechanical condition conspiring to create mayhem – at least fifteen times the number of people killed per 100,000 cars than in my native Denmark.

Malaria, too, is not a great danger if you take your anti-malarial tablets correctly. I have regularly lived in or travelled to malarial areas for 45 years and never had malaria before. What had happened in this case is that I

packed my anti-malarials in my checked luggage, despite an overnight stay in Cairo, and forgot to take them on the first day in London. Two days of letting down the defences, combined with the bad luck of being bitten by a very nasty mosquito, was sufficient window of opportunity for the parasites.

Three days after hospitalisation I felt fine (my wife was deeply relieved when I asked her to bring some Indian take-away instead of the awful hospital fare), but it took a few more days to get the parasite count down to zero. After a total of five days I was back behind my computer as if nothing had happened. It had been my first time in a hospital, my first brush with serious illness, and the whole episode rapidly began to seem unreal. But I now carry a full kit for malaria treatment – quinine and *Mefloquine* –which I still have not needed to use. I have also acquired the nasty habit of persistently nagging those of my friends and colleagues who do not maintain anti-malarial discipline. At least, they cannot say: "But nobody ever gets malaria, anyway."!– T.B. LARSEN, 358 Coldharbour Lane, London SE9 8PL.

***Sedina buettneri* (Hering) (Lep.: Noctuidae) in Essex, 1994**

On the night of 16th October 1994 a male *Sedina buettneri* (Blair's Wainscot) was found in the Heath light trap operated by Ms Barbara Lock in her garden at Frinton-on-Sea, Essex. She took the specimen to Reg Arthur, a member of the Essex Lepidoptera Panel who also runs a light trap at St. Osyth on the north Essex coast and he was able to confirm the identity. The moth was later photographed by another north-east lepidopterist, Ian Rose, before Ms Lock released it at Frinton as she did not wish the specimen to be retained. Colour prints of the moth were shown to Essex Lepidoptera Panel's animal records meeting on 19th November 1994, for further confirmation of identity. This is believed to be the first UK record of *S. buettneri* since 1966. J. FIRMIN, Chairman, Essex Lepidoptera Panel, 55 Chapel Road, West Bergholt, Colchester, Essex CO6 3HZ.

First Kent record of *Coleophora deviella* Zell. (Lep.: Coleophoridae)

During a visit to the Swale National Nature Reserve at Shellness on 21st August 1983, I noticed three larval cases on the seeds of *Sueda maritima* and did not recognise them as being one of the common salt marsh species, but looking similar to *C. deviella,* the cases of which I had collected the previous October at Peldon, Essex.

I returned on the 2nd October 1983 and was able to establish that they were indeed *C. deviella* and a concentrated search produced a good number of full grown cases, albeit very sporadically distributed. They are very conspicuous on the foodplant and as I had not searched this same area for several consecutive autumns I can only surmise that at the time it was a recent arrival. Further cases were found on 7th October 1984, in the company of Michael Chalmers-Hunt.

The cases are larger than many species, being between 9 and 19mm long when full fed, very clean with no sand particles attached; pale whitish-ochreous in colour, often with between two and four orange longitudinal

"gussets". This description agrees fairly well with an unidentified case collected by R.W.J. Uffen at Shellness, Kent on 24th May 1980 but which was subsequently misplaced.

I personally found this to be a most difficult species to bring through the winter, and even overwintering suspended on a garden fence in linen bags in the time-honoured fashion, a very large proportion of the cases had become affected with mould by the spring.

I believe this to be the first time the species was recorded in Kent.

– N. HEAL, 44 Blenheim Avenue, Faversham, Kent ME13 8NW.

First Kent record of *Cosmopterix lienigiella* L.&Z. (Lep.: Cosmopterigidae)

A single specimen of this species was attracted to m.v. light at Stodmarsh National Nature Reserve on 8th July 1984, the first record for Kent. The foodplant, *Phragmites* is abundant, but rather inaccessible at this locality.– N. HEAL, 44 Blenheim Avenue, Faversham, Kent ME13 8NW.

Further notes relating to an Indian Arctiid, Bombay, 1994

Following on from my observations on the Indian Arctiid, *Estigmene nigricans* (More, 1872) (*Ent. Rec.* **106**: 193). The moth was re-identified by the BM(NH) in September. It is now known as *Estigmene perotteti* Guerin.

As two generations have now been reared through it seems to be of importance to detail what foodplants have been accepted by the larvae. These are: *Buddleja davidii, Mentha, Geranium, Polygonum aviculare,* white dead nettle, nettle, hawkweed, dandelion and *Rorippa aylvestris.* Plants not accepted have included Jasmine and bramble. Professor Michael Boppré has reported successful results with the insect on his own artificial diet.

The most interesting aspect of the moth must be the amount of variation. Four basic "forms" have been noted, these are: a form with a "cream-stripe" on the forewings; a "sooty-black" form where the whole wing area of the moth is "sooty-black" except the body; the latter form but with "tufts" of white as the base of the forewings and a form where there is no trace of "pink" either on the abdomen or the wing area and can only be described as being "melanic". The normal "pink" being replaced with "grey".

A couple of examples have in addition been in possession of a broken "cream stripe" and in one case only where the "cream" colour has been reduced to a single spot on the forewing. The most frequent variety is the "cream-stripe", in the F2, 88 examples emerged of this type; the second most frequent is the "sooty-black" form, 59 in the F2. 51 examples emerged of the third-named. Of the "melanic" form a mere four examples have eclosed.

Presently, the larvae of the F3 are in first instar on nettle and *Rorippa sylvestris.*

References: Bergomaz. R. & Boppré, M. A simple instant diet for rearing Arctiidae and other moths. *Journal of the Lepidopterist's Society* No. 3, **40**: 1986; Clumo, G. *Estigmene nigricans* More (Lep.: Arctiidae) in Bombay, 1994 *Ent. Rec.* **106**: 193; Hutchinson, John. *British Wild Flowers.* Vol. I. 1955.

– G. KING, 2 Cooper Court, Clays Lane, London E15 2HL.

The very first light-trap, 1565?

In 1856 Townend Glover described a lantern type light trap for helping to control insect pests of cotton (Glover 1856). This trap was so designed that the insects attracted were either burnt or deposited through the open bottom into a barrel of molasses or other adhesive substance. Glover then re-designed his trap so as to catch the insects alive and so be suitable for collectors. He did not publish this but on a visit to London described it to H.G. Knaggs who then published an illustrated account (Knaggs 1886). According to Wilkinson (1969), this was the first account of a light trap to be used for catching insects, but he had not then come across Glover's 1856 paper (Wilkinson 1974).

Light, in the form of lanterns of various sorts, either carried or placed in windows had been known and used to attract insects for very many years, the first traceable account being that of Petiver (1695). That the origin of the independent light trap, as well as the knowledge that light attracts moths, goes back even further I came across recently by chance.

Amongst an assortment of books I acquired at a recent auction was a copy of *The Countrie Farme*. "Compleyed in the French tongue by Charles Stevens, and John Liebault, and translated into English by Richard Surfleet. Now newly reviewed, corrected and augmented by Gervase Markham. Adam Islip, London 1616". This book is the English translation of *La Maison Rustique* by Charles Estienne and John Liebault first published in France in 1565. It is a textbook on husbandry, gardening, beekeeping, viticulture, forestry, etc and cannot resist giving medical instructions!

Browsing through the index I came across the intriguing entry *Butterflies eating Bees*. Finally locating the reference (which occurs on page 326, not 226 as stated in the index), I found the following, which is in Chapter LXVI "Of the remedies of the diseases that Bees are subject unto". The spelling is modernised.

> "The butterflies, which use sometimes to hide themselves in the hives, and do kill the bees, will themselves be killed, if when mallows are in flower, and they abounding in great quantity, there be set amongst the hives, in the night season, a high and narrow mouthed tin-pot, with a burning light in the bottom of it, for presently all the butterflies will hasten and fly thither unto the light, and flying about it, will burn themselves: for they cannot easily, from a narrow bottom, fly right up, neither yet shun and avoid the light, in getting themselves far off from it, seeing they are forcibly kept within a narrow scantling, the pot itself being not wide, but narrow".

This is not only an account of a light trap but also an early example of pest control, pre-dating Glover by three centuries! From the context it seems certain that the "butterflies" concerned are one of the wax moths, most likely

Galleria mellonella. The fact that they are called butterflies is easily explained by this being a work translated from the French where "Papillon" translates as "butterfly", moth being "Papillon de nuit" and all French books in my library with "Papillons" in the title deal with both moths and butterflies.

References: Knaggs, H.G., 1866. The new American moth trap. *The Entomologist's Monthly Magazine,* **2**: 199-202; Glover, Townend, 1856. *Insects frequenting the cotton plant.* In: Report of the Commissioner of Patents for the year 1855, Washington, DC; Petiver, James, 1695. Letter to John Scampton, March 17th, Sloane MS 3332.f.128v; Wilkinson, R.S., 1969. Townend Glover (1813-83) and the first entomological light trap. *The Michigan Entomologist,* **2**: 55-62; Wilkinson, R.S., 1974. The sources of Townend Glover's "American moth trap." *The Great Lakes Entomologist,* **7**: 127-128.

– BRIAN O.C. GARDINER, 2 Highfield Avenue, Cambridge CB4 2AL.

Aplota palpella (Haw.), (Lep.: Oecophoridae) new to the Midland Plateau

During warm summer evenings when working in my study, it is occasionally my habit to leave a window slightly open whilst at the same time switching on the 22-watt ring light on my drawing table. It is not improbable that a number of readers have done a similar thing when for some reason conventional moth trapping is off the agenda: it gives one the feeling of at least being partially in touch with what is going on. For much of the time the consequences are that the room is invaded by a horde of common insects which eventually cause far more trouble than anticipated as they vanish behind books and under tables! There are occasional surprises, however, and one came my way on the evening of 25th July 1994 when *Aplota palpella* (Haw.) appeared. It was about to be returned to the wilderness of my garden as a *Depressaria* when I realised that something about it was not quite right. Being only an occasional lepidopterist, I sent it to Mr R. Warren (Staffordshire County Recorder) and he revealed its identity and significance.

My garden is in no way unusual. It is bordered by 1700 acres of open country in the shape of the Sandwell Valley and our moth list has a number of unexpected components, some possibly introduced via garden plantings. It would be interesting to know if there is any evidence of an increase in numbers or northwards movement of this scarce moth during recent times. Maybe it does get overlooked, being mistaken for a *Depressaria*. My thanks go to Mr Warren for his help in this matter.– M.G. BLOXHAM, 1 St. John's Close, Sandwell Valley, West Bromwich.

Apion sedi Germar (Col.: Apionidae) in Dorset

Several years ago I discovered that a small *Apion* which I had long supposed (though with no great confidence) must be an undersized and peculiar example of the common and variable *A. curtirostre* Germ., was in fact a definite *A. sedi* Germ. It was taken by grubbing on the Chesil Bank, near the Weymouth end, on one of three visits in August 1937. Curiously, this seemed to be the first known capture of the species in Dorset, though by now probably not the only one. Professor M.G. Morris had not met with *A. sedi* in

the county when I informed him of my find. Elsewhere I have taken it, again singly, at the Lizard, Deal, and in the Suffolk Breck.– A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

Hypena obsitalis (Hb.) the Bloxworth Snout (Lep.: Noctuidae) new to mainland Hampshire

At 6.50pm on 12th November 1994, as I went into our conservatory I saw an unfamiliar moth at rest on the outside of the window. It appeared to be a medium-sized snout, with pointed wings and strong lines on its underside. I hurried out but had only the briefest glimpse of its upperside before it flew off in the breeze towards my m.v. lamp. It was not until 8.15pm that I rediscovered it in a patch of shadowed wall and boxed it, recognising it from the illustrations as a female *Hypena obsitalis* Hb., the Bloxworth Snout. I was later able to obtain several photographs.

This Mediterranean species was first noted in Britain on 21st September 1884 by the Reverend Octavius Pickard Cambridge at Bloxworth in Dorset. By 1983, seven further records had been published: Cambridgeshire (1895), Dorset (1917 and 1965), Cork (1936), Cornwall (1943), Scilly (1962) and Sussex (1983). Bernard Skinner has kindly this week sent me details of four more occurrences:

Shanklin, I.O.W.	A.H. Greenham	27th January 1968
Dover, Kent	G.H. Youden	18th August 1985
Perranporth, Cornwall	F.H. Smith	8th November 1987
Brixham, South Devon	B. Henwood	29th July 1989

The Selborne insect is therefore probably the thirteenth British record as a primary immigrant. I am grateful to Barry Goater for confirming the identification and for ratifying the new to mainland Hampshire status.

It is not clear whether this specimen arrived from abroad on the southerly airstreams of the preceding week or whether it had been disturbed from hibernation by the chopping down of next-door's ivy tods on 11th November. As there is plenty of the foodplant (*Parietaria judaica,* Pellitory-of-the-wall) in this village, the discovery of a local resident or temporarily resident colony, in addition to those found since 1990 in Devon and Cornwall, might be a possibility. A thorough search is intended, since absence of evidence is not evidence of absence.

References: Bernard Skinner & David Wilson, 1984. *Colour Identification Guide to Moths of the British Isles* Viking, Harmondsworth; A.M. Emmet, 1991. *The Moths and Butterflies of Great Britain and Ireland* **7**(2), Ch.3, Harley Books, Colchester; R.F. Bretherton, B. Goater & R.I. Lorimer, 1983. *Ibid.* **10** Harley Books, Colchester.

– ALASDAIR ASTON, Wake's Cottage, Selborne, Hampshire GU34 3JH.

A minor infestation of *Atropos* (Lep.: Sphingidae) in Hertfordshire, 1994

I received a call for advice in the village on 27th August this summer, from a gardener who had encountered a very large caterpillar devouring his potato plants. The description certainly fitted that of *Acherontia atropos* Linn. so I

set off, suitably equipped for great things. A healthy, full grown larva of the green form confirmed my telephone diagnosis and I immediately set about searching for signs of others, ie stripped potato stems. There were signs on several clamps of recent feeding but no trace of the cause. Assuming that these larvae were also full fed, I presumed that they had gone down. I was assured that I would be informed if more were found and in due course a larva and pupa were dug up.

In the meantime I had begun scouring the area for potato fields and signs of larval activity. I was unaware of reports of other *atropos* in the country at this time so was particularly keen to see how strong a local presence the moth had established (I suspect most entomologists enjoy a brush with such a spectacular insect) in the area. Any creature that beats the "Best kept Village" tidy up operation and the tendency of farmers to spray everything that moves or might do, is of interest here. Anyway, alert to the old tales of great areas of stripped potato plants, I spent several days walking up and down furrows of potato fields looking for signs. Two fields looked promising, with tops of stems stripped and Mills-bomb like frass (but smaller) below in evidence. No sign of larvae made me wonder if sprays had beaten them, but the farmer assured me that only fungicides had been used in recent weeks. (How I wonder does fungicide affect *atropos*?) A short while later a defoliant spray was used to kill off the plant tops prior to lifting the crop.

I therefore made plans to be in at the harvesting. This farm still uses an old tractor mounted machine that uses a wheel with tines, that spins and throws the potatoes sideways out of the soil clamp. A rather violent action only limited by the need to avoid cutting the potato in half or bruising it. The exposed potatoes are then lifted by hand into crates and taken off the field by tractors. A talk to the team of workers and their children, together with a small financial incentive created sufficient interest to get pupae put to one side rather than destroyed or discarded. Lifting the crop began on a 27-acre field on the 3rd October. On the first day only three pupae appeared and it was necessary to assure some of the workers that these could not sting. Over the next two weeks about 54 pupae were found or reported. Bearing in mind the fragility of the pupae and the violent disinterment, it was surprising how few were damaged, about 15%. This figure was aggravated by the hands of several of the smaller workers, one of whom approached me barefoot, wielding a sock which in due course yielded a live but dying, mashed pupa. It was interesting to speculate how many pupae were being passed over that had remained buried. Certainly there were signs that a very substantial proportion of the potato crop remained covered and so lost, crushed and ploughed back in. The chances of pupae surviving this treatment or the moths being able to reach the surface through impacted mud seems small. The declining ground temperature as winter approaches must add to the odds against successful emergence. Having studied the excavated soil after the

passing of the tractor, I would not be surprised if less than half the pupae in the field come to light. In captivity and artificial warmth, moths are now emerging in the latter half of October.

It was interesting to note how the pupae were scattered throughout the field, but in definite groups. Not particularly more plentiful round the outer rows of plants, but of the three varieties of potato grown; Cala, Maris Piper and King Edward, the small area put down to the latter produced a notable increase in finds. It had not occurred to me that a Death's-head Hawkmoth might show a preference for such a good old fashioned spud. Next year this farmer will be switching from manual potato lifting to contracted mechanised potato harvesters. It will be interesting when the next "*atropos* year" occurs to see if it is still possible to salvage any pupae.– DAVID WILSON, Joyce House, Green Tye, Much Hadham, Hertfordshire.

Little-known entomological literature 3

I believe that *The Theater of Insects* by Thomas Moffett is well-known, if not consulted, by many entomologists. It was first published in 1634 as *Insectorum sive minimorum animalium Theatrum* and subsequently translated into English by John Rowland when it was then issued in 1658 as the third book of Edward Topsell's 2nd edition of his *History of Four-footed Beasts and Serpents: Whereunto is now Added The Theater of Insects, or lesser living creatures: As Bees, Flies, Caterpillars, Spiders, Worms & c. A most Elaborate Work: By T. Muffet, Dr of Physick.* Although originally published as one volume, the three separate "books" have frequently been split over the centuries and *The Theater of Insects* in particular is often to be found individually. What, however, is not so well known is that Topsell's *History of Serpents* contains a considerable amount of entomology and although some of this repeats (with embellishment by Topsell!) some of the matter in the *Theater,* it can be argued that to be entomologically complete, *Serpents* and *Theater* should be kept together.

The *Serpents* contains the following entomological matter:- Bee, 14 pages; Wasp, 7 pages; Hornet, 4 pages; Cantharides, 4 pages; Caterpillars, 7 pages; Scorpion, 7 pages; Spiders, 21 pages: a total of 64 pages or 20% of the book and while we can perhaps understand "caterpillars" as being "serpent-like," the other insects take a great deal of imagination to fit in with snakes, chameleons, crocodiles, dragons and basilisks!

It is not easy to tie down just how "Moffet" spelt his name or indeed how it should be spelt. On the title page of *Four-footed Beasts* it is as above, but on the title page of the *Theater* it is "Mouffet, Doctor in Physick". Freeman, in his *British Natural History Books: A Handlist* gives "Muffett see Moffett". To further confuse us, it is Edward Topsel in *Four-footed Beasts* but Edward Topsell in *Serpents*!

Although the *Theater* is generally reported to be the first British entomological book, this is not so. That honour belongs to *The Silkeworms, and their flies* by T.M. (almost certainly Thomas Moffett) which was

published in 1599. It could well have been this book that aroused the interest of King James I, who made a determined, but not entirely successful attempt to establish a silk industry in Great Britain. The failure of this venture was perhaps more due to our weather than to any other cause, but its legacy still exists in the presence of ancient mulberry trees, usually in the grounds of, or on the former site of, large country houses and estates.

If the honour of being the first entomological book belongs to *Silkeworms,* then surely the second – in spite of its title *Serpents* – must belong to that book in view of its extensive entomological content and the date of the first edition which was 1608.– BRIAN O.C. GARDINER, 2 Highfield Avenue, Cambridge CB4 2AL.

Thera juniperata Linn. (Lep.: Geometridae) in west Gloucester in Autumn 1994

Between 29th October and 5th November 1994, I recorded 12 specimens of *T. juniperata* Linn. at light whilst carrying out landscaping work for a customer at Whiteshill, near Stroud, Gloucestershire. These were noted alongside six *Lithophane leautieri* Boisd. and numerous *Colotois pennaria* Linn.

The Juniper Carpet is extremely local in Gloucestershire. Newton, J. (*Macrolepidoptera of Gloucestershire, Proceedings Cotswolds naturalists' field club.* 1982) states that "The species has not been recorded in the county since Richardson, Nailsworth 25.ix.69."

The occurrence of this species originated from an introduced juniper bush brought from Oxford during March 1994. According to its owner the bush was planted in his garden at Whiteshill but failed to establish itself, died, and was thrown out. It appears evident that the bush contained ova or more probable larvae, which produced the imagines I recorded.

Juniper is very scarce in this part of Gloucestershire, being restricted to a few upland areas of the county. There is no presence of the plant around the Stroud area which will undoubtedly lead to this brood being short lived.

In conclusion I will add that the recent mild weather has produced very large numbers of *Autographa gamma* L. and on 28th October two *Nomophila noctuella* D.&S.– M.N. MCCREA, 223 Mathews Way, Paganhill, Stroud, Gloucestershire GL5 4DP.

Invertebrates of Wales by Adrian Fowles. 157pp. Numerous colour and monochrome illustrations. A4 Boards. Joint Nature Conservation Committee and the Countryside Commission for Wales. 1994. Price £24.50.

Although dealing with invertebrates in general, much of the coverage relates to insects. Wales is divided into three regions: North, Dyfed and mid-Wales and the south. This strange division is adopted because it corresponds with the former administrative regions of the now defunct NCC! Within each region there is a general introduction followed by a habitat-by-habitat coverage, typically coastlands, woodlands, lowland grasslands, lowland heathlands, open water and its margins, lowland peatlands and uplands.

The main thrust is to look at the rarer and more unusual invertebrates found in each habitat, their ecology and general significance. There are descriptions of nature reserves and other important sites, a list of invertebrates in Wales protected by British and/or European legislation (19 species!) and a range of indices.

The text is narrative in nature and very easy to read. There is much useful information and comment woven into the text, and it is pleasing to read a sensible and balanced view of conservation problems today. Wales contains many very interesting species, particularly from the Lepidoptera and Coleoptera and these are given full coverage. The book is well illustrated with habitat and insect photographs which complement the text.

Overall a highly recommended book for anyone interested in the fauna of Wales, but with much of general interest as well. Surprisingly, the normal bibliographic information is absent from the front of the book with the ISBN number and publication date only appearing on the back cover. The attractive layout is spoiled by the ragged right-hand margins of the double columns of text, which should have been right-justified in this type of publication. Paul Sokoloff

Practical hints for the field lepidopterist by **J.W. Tutt.** A facsimile reprint with foreword by **Paul Waring** and introduction by **Brian O.C. Gardiner.** 170pp. 7 plates. A5 Boards. *Supplement* 8pp. *The Amateur Entomologist* volume 23. Amateur Entomologists' Society, 1994. Price £21.00.

J.W. Tutt, the founder of *The Entomologist's Record,* originally published this work in three parts between 1901 and 1905. Most extant copies contain the 1908 reprint of volume 1 but this facsimile uses the original edition. In recent years this work has been increasingly hard to find on the second-hand market and as a consequence very expensive when found. So why should anyone take the trouble to reprint a practical handbook that is now 90 years old?

Tutt himself was a master field worker and prolific author. As editor of a leading entomological journal he had access to all the tips, hints and secrets of his readers and he collated these into the *Practical hints* volumes which are still the most comprehensive practical manual on Lepidoptera available today. Not only is the book packed with hints and information, but it also includes a number of essays by Tutt including collectors, collecting and collections; Lepidoptera eggs (from a highly practical point of view), larvae and larval stages, and the pupae. Each part deals with finding both micro and macrolepidoptera family by family, and month by month. Hints include where and how to find early stages and adults and often tips on how to successfully breed through.

Two things have changed dramatically since Tutt first wrote this book. Firstly the habitats and abundance of individual species have in many cases declined, a sad reflection on the advance of civilisation. Secondly, the activities of taxonomists have contrived to make many of the scientific

names used in Tutt's day unrecognisable to the modern lepidopterist (can you recognise the Noctuid *Xylophasia rurea*?). This makes using the book a trial, but the AES has published a supplement which cross-references the names used by Tutt with the modern scientific name and the vernacular name (although these were not used by Tutt). The supplement can be used alongside the main work, saving the irritation of constantly flicking backwards and forwards to the index.

For anyone interested in finding the early stages of Lepidoptera, or any other aspect of field work this is an enormously useful book to have. The Amateur Entomologists' Society have done a great service in making available again this classic work at an affordable price. Paul Sokoloff

The butterflies and moths of Berkshire by **Brian Baker.** 368 pp., 3 monochrome illustrations; 2 maps. A5 Boards. Hedera Press, 1994. Price £25.00

This welcome local list covers all the Lepidoptera recorded from Berkshire (VC22), and adds some 410 species to the 1260 recorded in *The Victoria County History of Berkshire,* 1906. After a brief foreword and introduction, there is an interesting chapter on the early collectors of Lepidoptera in the county followed by a synopsis of the county, notes on the records and bibliography.

The bulk of the work comprises the list of species and records with an index of place, English and scientific names. The layout follows that of *The butterflies and moths of Hampshire and the Isle of Wight* published in 1974, except that species are listed and referenced by their *Log-book* number. The records themselves are meticulously presented with a comment on distribution followed by locality, date and source of record. In this respect, and as might be expected from such a well known author, it is a "model" local list. So often a reader will consult a local list, find the desired species and be confronted with a pithy statement "uncommon" – with no other information. In this work you have the locality, date last recorded and recorder. More than enough to make a judgement on authenticity or, as is often the case, weigh up one's own chances of encountering the insect. An essential work of reference. Paul Sokoloff

UK Nature Conservation No. 3. A review of the scarce and threatened Coleoptera of Great Britain by **P.S. Hyman,** revised and updated by **M.S. Parsons.** Part 1 1992, 484pp, £18.00; part 2 1994, 248pp, £8.00. The Joint Nature Conservation Committee, Peterborough.

These two volumes summarise available information on the scarce and threatened Coleoptera inhabiting England, Scotland and Wales – their distribution, ecology and national status. In addition, there is for each species an account of the perceived threats to its continued existence in these areas and proposals for management and protection of their habitats. The information contained in the volumes was obtained from whatever source

was available to the authors but particularly from data supplied by a large number of recreational entomologists, duly acknowledged, based on their own experience in the field. The two volumes provide the first comprehensive account of many species since the publication more than a century ago of *The Coleoptera of the British Islands* by Fowler over the years 1878 to 1891 and, of course, cover many species not known in Fowler's time to be British beetles.

Somewhat selective references to relevant publications are included in the accounts of individual species. Conservation matters concerning rare beetles in Northern Ireland are not covered, in spite of the fact that these volumes are produced by a body purporting from its title – UK.J.N.C.C. – to represent Northern Ireland as well as Great Britain.

The review does not provide accounts of scarce and threatened "water beetles" for which a separate list of status gradings is provided. This is an ill conceived omission apparently derived from the view that conservation of "water beetles" requires different principles to the conservation of other beetles, some of which, eg *Macroplea* spp. have an almost totally aquatic existence. At the very least, the two sets of authors should have got together sufficiently to ensure that one beetle species (*Cercyon atricapillus*) is not given different status gradings in the two lists.

Both volumes have twin indexes dealing with beetles and plants respectively with entries for both genus and species. The plant index, however, contains only scientific names. It would have been better if it coped also with ordinary names. Thus, when the Duke of Edinburgh recently approved the felling of a number of old lime trees in Windsor, it might have been useful in putting forward alternative proposals to have had ready reference to those rare and threatened beetle species associated with this tree. The plant index, however, gives only one page reference to lime (under the entry *Tilia*) whereas "lime" is not indexed though it is mentioned under many species.

In order to quantitate the need for conservation of individual species, nine different grades have been used to express their status. To some, this would appear excessive. No doubt it has given satisfaction to those involved in defining and assigning the grades but it seems very doubtful to the reviewer that the use of this number of grades will contribute any more to the welfare of the relevant species than the use of half this number of grades or less. Apart from this, the choice of the code RDBI for rare species of currently indeterminate status is particular unfortunate because of the potential confusion of RDBI with RDB1. The very assignment of grades tends to obscure the fact that the many are likely to require continual revision over the years as the fortunes of species wax and wane.

The suggestions offered for management and conservation are for the most part repetitive, already known to most conservators and are unlikely to be of much practical help. Thus if a species inhabits dead wood in old trees

in broad-leaved woodland, it is quite obvious that felling old trees and removing the dead wood will have a deleterious effect and it can only be an irritation to conservators reading these volumes to have it spelt out repeatedly. There is a great deal of repetition in the section headed "Threats" and "Management and conservation". For example, these sections are repeated *word for word* for the first three species covered. The publishers of the review seem to have forgotten that unnecessary use of paper causes unnecessary felling of trees and unnecessary pollution by paper mills and printing-ink factories.

To the reviewer, the most serious worry in using these volumes is the reliability of the information, especially that on distribution. Thus it is stated (p401) that there are post-1970 records for the scolytid *Pityophthorus lichtensteini* from south-east Yorkshire and south Aberdeenshire but when the reviewer looked into these records both turned out to be spurious. This has understandably made him reluctant to accept other distribution data without checking it, which rather detracts from the value of the production. Such faults lie not with the compilers of the information but on those who designed the system to allow information to be collected and reproduced in an uncritical fashion. It would no doubt have required extra funding to have had all the information checked by experts but these are important volumes produced by the British national conservation body and the reliability of the information presented warrants rather better treatment than it has been given.

J.A. Owen

The butterflies' fly-past by **Clive Simson.** 127pp. 8 colour illustrations painted by **Mandy Shepherd.** A5 Boards. Peregrine Press, 1994. Price £19.00.

The pages of the *Record* have seen many reviews of books on butterflies, and although the majority of new publications are technically excellent and packed with information and advice on life histories and conservation, there is a tendency to draw a deep breath before reviewing *another* butterfly book. But this book looked different – the dust jacket said ". . . a remarkable book describing the trials and thrills of studying butterflies in the field . . ." reminding the reviewer of the many pleasant hours spent reading the various "moth hunting" books by P.B.M. Allan.

Where better to start than the Foreword, here by Wilson Stephens, former editor of *The Field*. Instead of the normal plaudits and platitudes, the foreword launches into a bitter criticism of the "nature establishment" and the "nature professionals" as agents for the restrictive practices and erosions of civil liberties that progressively beset the field naturalist. This not very thinly disguised swipe at the conservation lobby is balanced by reminding us of the contributions made by the amateur – exemplified by Gilbert White of Selborne – whose enthusiasm for their subject has done so much to advance our knowledge of the natural world. If that was the foreword – what would the book itself be like?

The author describes his experiences with some 55 species of British butterfly under a number of chapters with titles such as "Birth of the Blues" and "Skip for Joy" which convey the essentially light-hearted nature of the coverage. These experiences are very much personal ones, and into each is woven a story, some humour and more often than not, observations on behaviour and life history. For many species the author describes his own first encounters – the planning, the trip, the pint in the friendly local, the excitement, the disappointments, the chase and the capture.

Clearly aware of the hazards of describing in print how one obtained cabinet specimens of such as the Swallowtail and Large Blue, the author tackles the issue of collecting head-on in his introduction. As with all other topics, he takes a somewhat robust view, quoting Auberon Waugh (writing in 1992) *the most oppressive piece of legislation since children were hung for stealing apples, is the 1981 Wildlife and Countryside Act.* Town dwellers are also singled out for their tendency to interfere with the pastimes of country folk. That being said, the author is no advocate of collecting long series of butterflies, and his views are quite reasonable.

It would not be fair for the reviewer to judge the merits of this book as any reaction is likely to be personal to the reader. Some have commented that it is not at all to their taste, totally out of tune with the times and typical of the thankfully diminishing "old school" (whatever that means) of collectors. The reviewer is happy to admit that he found the book an enjoyable read with many interesting observations on behaviour and breeding, and tastefully illustrated with paintings of butterflies. The author is refreshingly open and honest about his entomological pleasures, and writes with a charmingly informal style.

Paul Sokoloff

Die Tagfalter Nordwestasiens (Butterflies of North-west Asia) by **Vladimir Lukhtanov and Alexander Lukhtanov.** 440 pages, 56 colour plates, coloured frontispiece, compact bound, size A4 (21x30cm), Herbipoliana *Buchreihe zur Lepidopterologie* Band 3, price DM 248.

In this book, for the first time, the butterflies of one of the most interesting areas of the Palaearctic are comprehensively reviewed.

Dr V. Lukhtanov writes in great detail about 400 species and numerous subspecies, which have been shown to exist in north-west Asia. Beginning with the original descriptions (including synonyms and disputed taxa), the places of discovery, ecology and distribution (with a distribution map of each species) to the differential diagnosis between similar species are covered. The book is a marvellous publication, and an almost unlimited source of previously unpublished information. Some new descriptions (*partim* with Dr A. Dantchenko) also found their way into the book, and they are almost revisionist in character (for example *Oeneis*). The 561 pictures

(enlarged 1.33 to 1.5 times) on the 51 plates are from watercolour originals by A. Lukhtanov, and are supported by a further five plates. To show distinction between difficult species, a further 51 pictures of genitalia preparations are presented.

What is extremely interesting is the information about the geography and climate of this heterogenous area.

The bibliography and detailed species index also make this publication a "must". It is a unique work.

The text in general is written in German, but the main parts of the systematic part are also translated into English.

Ulf Eitschberger

Scottish Diurnal Lepidoptera Project

The SDLP is a new initiative, funded by Scottish Natural Heritage, to identify sites of scarce butterflies and day-flying moths and to set up a framework for monitoring both populations and habitats. The project is being managed by the Institute of Terrestrial Ecology, and we would like to involve interested individuals or groups in identifying sites, habitat recording and subsequent monitoring.

The main target species are:

Butterflies:

Carterocephalus palaemon, Erynnis tages, Cupido minimus, Aricia artaxerxes, Boloria euphrosyne, Eurodryas aurinia, Erebia epiphron.

Moths:

Zygaena species (except *Z. filipendulae*), *Procris statices, Endromis versicolora, Coenocalpe lapidata, Epione paralellaria, Semiothisa carbonaria, Psodos coracina, Anarta melanopa, A. cordigera.*

Anyone possessing records of any of the above species which have not already been submitted to national recording schemes is invited to send details to the project co-ordinator at the address below. Entomologists in Scotland, or planning to visit Scotland in 1995, who would like to spend some time assessing populations of target species, would also be most welcome to participate. Further details, including Newsletter and sample recording forms, are available from:– Geraldine McGowan, Institute of Terrestrial Ecology, Hill of Brathens, Banchory, Kincardineshire AB31 4BY.

Contents and Special Index

The Contents and Special Index for volume 106 (1994) will be distributed with the March edition of the *Record*.

Contents – *continued from back cover*

LEPIDOPTERA RECORDS FOR DEVON

Could any Lepidopterists who have spent time doing field work in the County of Devon please send a list of their records for compilation into the county list. Legible field notes, not necessarily in any order, with indications of numbers seen and at least a 4-figure map reference with any other relevant information would be appreciated. All records will be acknowledged, and material returned if requested.

With thanks, in anticipation, Roy McCormick, 36 Paradise Road, Teignmouth, Devon TQ14 8NR.

THE ENTOMOLOGIST'S RECORD

AND JOURNAL OF VARIATION

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

Contents

Notes and observations

(Continued on inside back cover)

SPECIAL NOTICE. The Editor would be willing to consider the purchase of a limited number of back issues.

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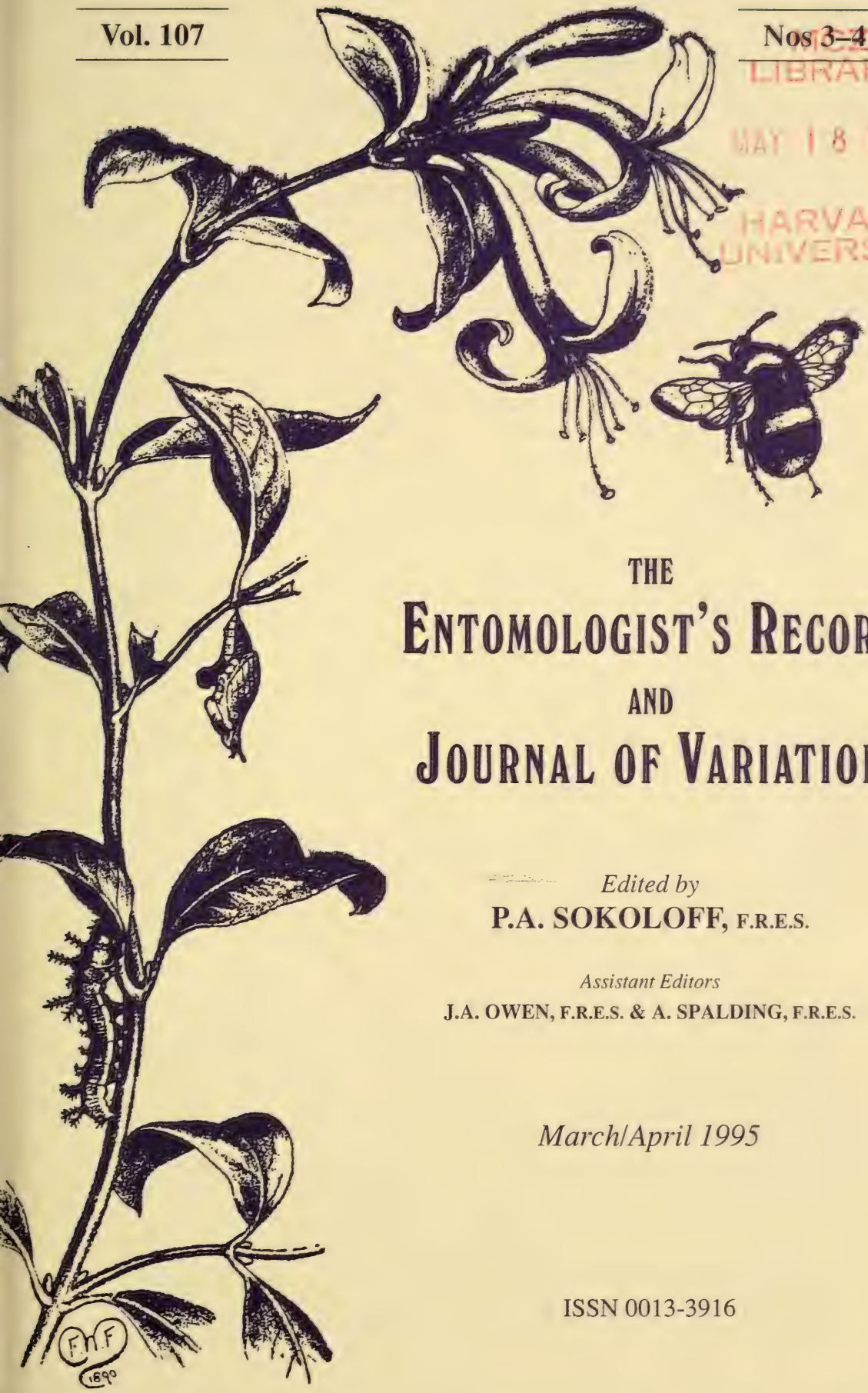

THE ENTOMOLOGIST'S RECORD AND JOURNAL OF VARIATION

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WHERE TO WRITE

EDITOR: All material for publication and books for review.
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It would greatly help the Editor if material submitted for publication were typed and double spaced. Two copies are preferred. Please DO NOT use block capitals and DO NOT underline anything except scientific names. Word-processed text should not use italic, bold or compressed typeface. References quoted within the text can be abbreviated (eg Ent. Rec.), but those collected at the end of a paper should follow the standard *World List* abbreviations (eg Entomologist's Rec. J. Var.). When in doubt try to follow the style and format of material found in a current issue of the *Record*.

Illustrations must be the original (not a photocopy) without legend which should be typed on a separate copy. Photographs should be glossy, positive prints. Authors of long papers, or submitting valuable originals are advised to contact the Editor first.

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FIELD OBSERVATIONS OF THE "HILLTOPPING" PHENOMENON IN NORTH-WEST AFRICA – AND AN INTRODUCTION TO "RAVINING" (LEP.: RHOPALOCERA)

W.J. TENNENT

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Introduction

THE PHENOMENON known as "hilltopping", in which butterflies congregate, often in large numbers, on the summits of hills, mountains and ridges, is well-known to anyone who has collected butterflies in the tropics, south Europe, or in the Middle East and other desert localities. The phenomenon is not confined to the Lepidoptera and has been noted in other insects, including Diptera, Hymenoptera and, less frequently, Coleoptera, Odonata and Orthoptera.

In the case of butterflies, much has been written on the subject, notably by Shields (1967), who carried out comprehensive studies in California and defined hilltopping as "a phenomenon in which males and virgin or multiple-mating females instinctively seek a topographic summit to mate" (Shields, 1967:150). The behaviour undoubtedly serves to bring males and females together to ensure fertilisation and is of paramount value in species which have a low population density.

Other interpretations have been suggested, including that winds and updrafts, combined with aimless, non-directional flight, cause butterflies to congregate "against their will" on the tops of hills. Shields (1967, pp.154-156) discarded this explanation for good reasons and the author can confirm not only that hilltopping takes place on days when there is little or no air movement, but that many species fly into even a moderate or strong breeze and some species, notably *Papilio machaon* Linnaeus, 1758 and *P. saharae* Oberthür, 1879, may sometimes deliberately seek the windward side of a ridge on windy days. The reason for so doing is not clear; perhaps it is easier for a resting butterfly to escape potential predators in windy conditions; certainly when butterflies are disturbed under such conditions, they are whisked away by the wind much more quickly than they could ever escape by flying. However, the best explanation for the phenomenon, now generally accepted as being the most likely purpose served by hilltopping, is that of finding a mate.

Not all butterfly species hilltop; in the western Palaearctic most Papilionidae, many Pieridae and to a lesser extent, Lycaenidae and Satyridae do so. Species from other families do so occasionally. Some species observed on hill-tops cannot be regarded as truly hilltopping since they are transient, flying "up and over", rather than remaining at the summit.

This paper records the author's observations of an assemblage of butterflies on a ridge in the Moroccan High Atlas mountains in June 1994, remarkable in terms both of total numbers and diversity of species. General

comments on the phenomenon in north-west Africa, based on the author's field experience, are incorporated where appropriate. Additional observations of a different phenomenon, which may be described as ravining and which may serve the same purpose as hilltopping for some species in semi-desert regions, are included.

Observations on Adrar-n-Guinnous

At 2788 metres, Adrar-n-Guinnous is the highest peak above the Tizi-n-Test, a well-known pass which crosses the western end of the High Atlas, from north to south; it lies to the east of the road and is reached with difficulty by either scrambling up the steep western side, or by walking along the ridge from the auberge to the south-west. It is part of a series of ridges and summits running west-south-west/east-north-east; the summit consists of a narrow ridge some 250 metres in length, slightly higher at the north-east end (the actual summit). The ground falls away sharply on the western side and there is a very steep drop of several hundred metres to the east. The upper slopes have bare, rocky patches, but also support a variety of flowering shrubs and other sparse vegetation. The area is largely undisturbed, except by the inevitable mixed herds of goats and sheep which, at present, do not seem to be sufficiently large or frequent enough to cause serious or lasting damage.

On 11th June 1994, the author climbed to the summit in conditions which included bright sunshine and, *very* unusual for this area and altitude, no wind. In a period of some four hours, many hundreds of individuals of 32 species, representing 26% of the total butterfly fauna of Morocco, were observed on the summit ridge. Some species were present in small numbers; others were in very large numbers and in the case of some species, in particular *Pontia daplidice* Linnaeus, 1758, *Nordmannia esculi* Hübner, 1804, *Berberia lambessanus* Staudinger, 1901 and *Coenonympha vaucheri* Blachier, 1905, it was difficult to see what advantage was gained by the behaviour.

Annotated list of species seen at the summit

Hesperiidae:

Thymelicus sp. (probably *sylvestris,* Poda, 1761)

A solitary male seen which could not be said to be hilltopping since it was feeding on the flowers of a spiny *Astragalus* sp. (Leguminosae); two or three *sylvestris* were seen between 2100 metres and 2300 metres lower on the mountain. With the exception of *Hesperia comma* Linnaeus, 1758, Hesperiids are only rarely observed hilltopping in north-west Africa.

Papilionidae:

Papilio machaon Linnaeus, 1758

Four males seen flying swiftly around the summit; the species is a frequent hilltopper throughout its range; none were seen lower on the mountain.

Pieridae:

Pieris brassicae Linnaeus, 1758
Three males on summit; a few individuals of both sexes seen on slopes and in a gully between 2000 metres and 2100 metres. Not a species which routinely hilltops, single specimens of this strongly migratory butterfly are often found wandering aimlessly in apparently unsuitable areas, including barren places.

Pieris rapae Linnaeus. 1758
Approximately ten males and at least two females, although total numbers were difficult to establish in the chaos. The two females were observed for some time; they remained on the summit ridge but were not paid any attention by the males present. There would seem to be little advantage in hilltopping for such a common and widespread species which presumably would have no difficulty in finding a mate lower down, without resorting to the (presumed) inconvenience of flying to a hilltop.

Pontia daplidice Linnaeus, 1758
The most numerous species present, several hundred were dashing around the summit ridge, making accurate counting impossible. Most were males, although there was a small number of females, possibly as many as 20; no courting or mating behaviour was observed. Some 200 metres to 400 metres lower down, the species was abundant, with males only slightly more numerous than females; most females were being pursued by at least one male and many pairs were seen *in copula*. The species was common almost everywhere else on the slopes.

It certainly was not necessary in this case for "males and females to find a topograhic summit to mate" and the only apparent practical advantage for the species appeared to be that, with so many males otherwise engaged on the summit ridge, females lower on the mountain were able to go about their business of egg laying relatively undisturbed.

Euchloe ausonia Hübner, 1820
Only three males were seen, although the presence of others may have been masked by the enormous numbers of other white Pierids. This was a late date for the species here and no other individuals were seen elsewhere on the slopes.

Elphinstonia charlonia Donzel, 1842
A single male of this notorious hilltopper was observed. At best the species is sporadic and uncommon at this level in the High Atlas and is unlikely to have found a mate, even though it was generally more widespread than usual in 1994 due to a damp spring which ended three years of drought. The species is also found well into northern desert regions in Morocco, Algeria and Tunisia, where almost every ridge and hill-top in the spring harbours a few *charlonia* males.

Colias croceus Geoffroy in Fourcroy, 1785
Several observed with males and females in approximately equal numbers; it was common on the lower slopes. The volume of butterflies made observations of individuals somewhat difficult and it may be that the species was not truly hilltopping; Shields (1967:161) noted that *Colias* species apparently never hilltop in North America.

Gonepteryx cleopatra Linnaeus, 1767
Two males seen. Like *P. brassicae* and *Gonepteryx rhamni* Linnaeus, 1758, *cleopatra* is often seen singly some distance from an apparently suitable biotope although the author has never found it defending a territory on a hilltop; its presence on high points is probably coincidental.

Lycaenidae:

Nordmannia esculi Hübner, 1804
Approximately 15-20 males on the summit resting on bare rocks and occasionally feeding on one of the flowering shrubs. The butterfly was sporadic below 2500 metres, becoming gradually more numerous lower down and very common below 2300 metres in the *Quercus* forest (Fagaceae). The species often swarms in North Africa in June when, in parts of the High Atlas and Middle Atlas mountains, dozens of individuals occur on almost every patch of thistles. It does not usually hilltop and on this occasion there did not appear to be any advantage to the species to do so.

Lycaena phlaeas Linnaeus, 1761
Three males and one female; the species often hilltops; it was quite common on the lower slopes.

Lampides boeticus Linnaeus, 1767
Seven males and one female; the butterfly is a regular hilltopper, flying at breakneck speed around isolated peaks. Seen in small numbers on the lower slopes.

Syntarucus pirithous Linnaeus, 1767
One male positively identified, although some males tentatively identified as the previous species may have been *S. pirithous*; like *boeticus,* it frequently hilltops and is common at lower levels.

Aricia agestis Denis & Schiffermüller, 1775
Two males feeding at flowers; not usually a hilltopping species.

Polyommatus icarus Rottemburg, 1775
Four males and one female; the female was seen to be pursued half-heartedly by one of the males for a short time but otherwise remained unmolested.

Nymphalidae:

Nymphalis polychloros Linnaeus, 1758
Three individuals (sex not determined) sailed slowly over the summit

without lingering. This is quite usual behaviour and the species cannot be said to hilltop. It was just emerging in the *Quercus* scrub at 2000 metres.

Cynthia cardui Linnaeus, 1758
Approximately ten seen (sex not determined); the butterfly was common on the lower slopes. The species is a regular hilltopper and is often the only species to be found in cold weather on isolated barren hilltops.

Polygonia c-album Linnaeus, 1758
One (sex not determined); it is not renowned for hilltopping behaviour, even though in North Africa it is found only locally and in small numbers and would therefore surely benefit from doing so. None were seen lower down.

Pandoriana pandora Denis & Schiffermüller. 1775
Five males were seen flying actively on the ridge and around the summit. This species hilltops only sporadically and is usually found only singly on a summit when it occurs; it was quite common on the lower slopes where both sexes were found in approximately equal numbers.

Fabriciana auresiana Fruhstorfer, 1908
One male flying around the summit in company with *P. pandora*; the author cannot recall seeing this butterfly previously on a summit.

Issoria lathonia Linnaeus, 1758
Approximately 30-40 individuals, predominantly males but at least five females seen in flight, each of which had a stream of three to six males following. The species was very common, and was behaving in a similar manner lower on the slopes; the ratio of females to males was considerably higher lower down,

Melitaea cinxia Linnaeus, 1758
Two males and two females were seen and, like most other species seen that day, females remained unharrassed by the males. Males often hilltop; 1994 was an early season and the species was almost over; it was found in small numbers in very poor condition at 2000-2100 metres.

Melitaea didyma Esper, 1779
One male observed;none were seen lower down; the species rarely hilltops.

Satyridae:

Melanargia ines Hoffmannsegg, 1804
An inveterate hilltopper throughout north-west Africa, ca. eight to ten males were seen on the summit and ridge; only a solitary female was seen lower on the slopes.

Hipparchia aristaeus Bonelli, 1826
Three males; the species was only just emerging and only a further three males were seen lower down. It commonly hilltops.

Pseudochazara atlantis Austaut, 1905
This butterfly hilltops very frequently and in most areas where it is found,

the top of each hill supports a small number of males which defend their territories vigorously. However, on this occasion only a solitary female was seen on the summit ridge (probably one of the first females to emerge), with several males occupying a bare, rocky area immediately below.

Berberia lambessanus Staudinger, 1901
During the four hours or so that these observations were made, eleven males (or possibly a lower number with some individuals appearing more than once) came to the summit from the direction of a large stand of *Stipa* grass (Gramineae) ca. 200 metres lower. Each patrolled the summit and a part of the ridge for up to 15 minutes, flying leisurely about one to four feet above the ground in the manner of males patrolling their more usual habitat in search of females. At one point, a female flew up to the summit from the *Stipa* below (it was seen approaching whilst still some distance away although not identified as a female until it was on the summit) and settled directly on a rock in (presumably) plain view of the two males patrolling at the time; she stayed there immobile for almost five minutes and was completely ignored by the males, before returning whence she came. The species is not noted for hilltopping behaviour; males were quite common on the upper slopes and amongst the *Stipa* slightly lower down; only two females were seen, probably because of their more secretive habits.

Hyponephele maroccana Blachier, 1908
Three males on the summit; a further two males lower down. The butterfly was just emerging and no females were seen.

Coenonympha vaucheri Blachier, 1905
Approximately 20-30 males; no females were noted. The butterfly is a familiar and persistent hilltopper throughout its range in the mountains of Morocco; on this occasion the behaviour appeared to give no advantage to the species since both sexes were common and widespread from 2000 metres to the summit. Indeed, those males which chose to remain on the top would appear to have been at a disadvantage in the sexual stakes.

Pararge aegeria Linnaeus, 1758
Three males seen; it was quite common at 2150 metres and occasional on the higher slopes.

Lasiommata megera Linnaeus, 1767
Another inveterate hilltopper, four males were observed; small numbers of males and two females were seen lower on the slopes. The species is found on most peaks and ridges in suitable habitats throughout the Maghreb.

Lasiommata meadewaldoi Rothschild, 1917
One male was seen on the summit, another male was found at 2500 metres; two females were seen at 2200 and 2500 metres. Like other *Lasiommata* species in North Africa, *meadewaldoi* is a familiar hilltopper and, since its population density is generally quite low, the behaviour is probably of considerable value to the species.

Species flying locally but not on the summit

The following species were also flying that day, lower on the slopes. None usually display hilltopping behaviour.

Pieridae:

Pieris segonzaci Le Cerf, 1923
Flying in small numbers from 1900 to 2150 metres; it often flies at 2800 metres or more and has been observed by the author above 3000 metres on the Toubkal Massif to the north of the Tizi-n-Test.

Colotis evagore Klug, 1829
Three seen at ca. 2150 metres; it is generally more frequent at lower altitudes.

Lycaenidae:

Plebicula atlantica Elwes, 1905
Quite common in a dry, rocky ravine where the hostplant was common, from 1950 to 2100 metres. Although some individuals may be found wandering some distance from its usual haunts, most remain in the vicinity of its hostplant, *Anthyllis vulneraria* (Leguminosae) (Tennent, pers. obs.).

Lysandra punctifera Oberthür 1876
A few individuals of this common and widespread species were seen between 1900 and 2300 metres; it flies in other localities up to 2700 metres.

Other species which may be found on summits in north-west Africa

Hesperiidae:

Hesperia comma Linnaeus, 1758
This is the only Hesperiid in the region which regularly hilltops.

Papilionidae:

Papilio saharae Oberthür, 1879
Like *P. machaon, P. saharae* persistently hilltops in suitable localities throughout Morocco, Algeria and Tunisia. On isolated hilltops and ridges there may be several individuals which fiercely defend their territories; in many places adults are rarely seen other than on high points.

Iphiclides podalirius Duponchel, 1832
Another frequent hilltopper.

Pieridae:

Euchloe tagis Hübner, 1804
None of the three North African races of this butterfly usually hilltop although a number of very worn males of *E. tagis reisseri* Back & Reissinger, 1989, were observed by the author flying very swiftly around the summits of Djebel Lakraa in the west Rif mountains of Morocco in July

1993. The true biotope of the butterfly is considerably lower; it usually flies in April/May and has a rather weak flight. The species has been observed hilltopping in France in small numbers (Gurney 1907: 196).

Euchloe falloui Allard, 1867
Like most *Euchloe* species in the region, *falloui* is a constant hilltopper wherever it occurs.

Euchloe belemia Esper 1792
A common hilltopper, often flying together with *E. ausonia, E. falloui* and *P. daplidice*.

Lycaenidae:

Callophrys rubi Linnaeus, 1758
Occasionally found on peaks and ridges, but probably not a true hilltopper.

Tomares mauretanicus Lucas, 1849
Not usually considered a hilltopper, solitary males have occasionally been found on isolated summits in the Moroccan Anti-Atlas mountains.

Heodes alciphron Rottemburg, 1775
Males of this local species are often found hilltopping, sometimes in quite larger numbers.

Pseudophilotes abencerragus Pierret, 1837
Occasionally observed on summits but probably not a true hilltopper.

Nymphalidae:

Charaxes jasius Linnaeus, 1766
Commonly found hilltopping in Morocco, Algeria and Tunisia, usually only in the morning (Tennent 1993:259); males are fiercely territorial and return time after time to the same favoured rock or low bush on a ridge or summit. It is interesting that Shields (1967:150;154) reported other large Nymphalid butterflies, *C. cardui* and *V. atalanta,* only hilltopping in the afternoon.

Vanessa atalanta Linnaeus 1758
Very occasionally found hilltopping; not a common species in North Africa.

Satyridae:

Melanargia occitanica Esper, 1793
A habitual hilltopper, often flying in company with *M. ines*.

Neohipparchia statilinus Hufnagel, 1766
Occasionally observed hilltopping.

Neohipparchia hansii Austaut, 1879
In suitable localities, a few male *hansii* may be found on most high points and ridges.

Coenonympha fettigii Oberthür, 1874
Sometimes found hilltopping in some numbers, though never as frequently as *C. vaucheri*. The other *Coenonympha* species found in north-west Africa, *C. pamphilus, C. austauti* and *C. arcanioides,* have not been noted doing so.

Lasiommata maera Linnaeus, 1758
This species and *L. meadewaldoi* are very local and uncommon in North Africa and males of both invariably hilltop in areas where they occur, including on rugged, rocky peaks and vertical rock slabs.

Additional comments

Summit populations are comprised primarily of male butterflies; the apparent scarcity of females may be due to the fact that pairs *in copula* are usually inconspicuous or that females only stay long enough to mate, or leave the summit with the successful male to complete the mating procedure lower down. Shields (1967:153) found evidence that rarer species of butterflies are more likely to hilltop than abundant species and the author's observations support this view. Indeed, the proposition may be expanded to include the probability that common and widespread species are more likely to hilltop in those parts of the range (ie in dry, arid areas with sparse vegetation) where population density is lower than elsewhere and may rarely or never hilltop in parts of the range where, presumably, a mate is easier to find using other methods.

Having said that, there are instances where the circumstances of such behaviour do not fit the "searching for a mate" theory well and apparently serve no obviously useful purpose. Indeed, in the majority of cases where females were observed on Adrar-n-Guinnous, they were not subjected to harassment from the larger number of males present. Is this some kind of relict behaviour? Or is the urge to find a hilltop strong even when local circumstances make it an exercise without apparent value? In this case did the volume of individuals and diversity of species present in such a limited area override normal behaviour (certainly it would have been difficult, if not impossible, to establish and defend a territory in the mêlée)? It may be that in species where males emerge before females, for example *P. atlantis,* the first females are guaranteed a mate at the nearest hilltop, although this behaviour might be considerably less important later, when both sexes are emerging in larger numbers.

An introduction to ravining

In carrying out more than 23 months of field work in North Africa between 1991 and 1994, the author became aware of a quite different, but possibly parallel, phenomenon to hilltopping. In semi-desert areas, a number of species were routinely found in dry river beds (wadis) and ravines, under circumstances which suggested behaviour primarily designed to ensure finding a mate.

Some butterfly species may defend territories in wadis in areas where they also patrol adjacent slopes in a search for females. For example populations of *Melitaea deserticola* Oberthür, 1876, a primarily eremic species, occupy geographically well-delineated habitats which might incorporate a number of wadis. Adults fly on dry slopes where the hostplant grows and within this area, males may patrol sections of a wadi which they defend territorially. Both sexes of other, more widespread species, for example *Glaucopsyche melanops* Boisduval, 1828, and *Spialia sertorius* Hoffmannsegg, 1804, may be found commonly in dry wadis and bare slopes in the southern part of their range, but occupy woodland, rough open places and flowery slopes further north.

However two species (one confined to the Anti-Atlas mountains of Morocco, the other a widespread and common butterfly) were seen to occupy dry wadis under circumstances which strongly suggest a parallel phenomenon to hilltopping.

Spialia doris Walker, 1870 (Hesperiidae)

This species flies in very hot and dry places and, in the Maghreb, is apparently confined to the Moroccan Anti-Atlas mountains. The author has seen several hundred individuals but on only four or five occasions has he seen butterflies other than in a dry wadi. To be fair, adults are inconspicuous, fly very swiftly close to the ground and may therefore be overlooked; but it is certain that, in the same way that one can almost guarantee to find the males of certain hilltopping species by climbing to the summit of a suitable hill, so, with a practiced eye, finding *S. doris* can almost be guaranteed in a suitable wadi.

Each male defends a section of river bed the length of which is directly related to the density of the local population. Often, there is no vegetation extant in the wadi and males perch on stones, from which they dart off to investigate any passing insect; each male has one or more favoured spots within the territory. Other males apparently have no territory of their own, but fly along the wadi disturbing each resident male in turn as they do so.

The author has come across female *S. doris* infrequently, but on two occasions observed a female enter a wadi from an adjacent area. On 5th March 1994, in a deep gully below the Tizi-n-Tinififft south of Ouarzazate, a female was seen to fly from above the lip of a walled section and land on a flat rock slab; the resident male was immediately alerted and pounced on the female, a short mating "dance" ensued and the pair flew off. The second occasion was on the edge of a wadi west of Agdz on 26th March 1994 when, very early in the morning, a female, disturbed when it was almost stepped on, flew the ten metres or so to the wadi. A male, which had been resting close to where she came to rest, immediately flew to her side and they sat head to head with wings quivering, for almost a minute. They then remained together motionless for several minutes, probably because the air temperature had not yet risen sufficiently for butterflies to be active.

Although the spiny *Convolvulus* sp. (Convolvulaceae) hostplant grows in profusion at the edge of some wadis or on an adjacent hillside, other river beds are several hundred metres from the nearest hostplant. Other than a device for finding a mate, there seems to be no obvious explantion for this behaviour.

Melitaea phoebe Denis & Schiffermüller, 1775

M. phoebe is a different story. It is a widespread and sometimes common butterfly found in a wide variety of habitats throughout the region. In very dry and barren places, like the Anti-Atlas mountains or the Tizi-n-Taghzeft in the Moroccan High Atlas, females are seldom seen and males are almost never seen away from dry river beds; in the Anti-Atlas it often flies together with *S. doris* (and *S. sertorius*). Although instances of mating behaviour like those described under *S. doris* have not been observed, it is probable that the behaviour of *M. phoebe* serves the same purpose under these conditions.

This phenomenon does not seem to have been remarked upon previously. Shields (1967:151) said ". . . other methods for bringing the sexes together for mating besides hilltopping probably includes . . . in canyons, stream courses, and gullies . . ." and T.B. Larsen (pers. comm.) observed similar behaviour in the Lebanon in addition to noting that *Lycaena asabinus* Herrich-Schäffer, 1851, is ". . . usually found in gorges and dried-out water courses . . ." in the Lebanon (Larsen, 1974:157). Other than these brief references, the author has not seen any record of the phenomenon.

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When a small white equals a large, or American confusion

Some years ago I noticed that in the Zoology Museum of Cambridge University, in the teaching collection, there was an example of the Large Cabbage White butterfly (*Pieris brassicae*) labelled "Small White, *Pieris rapae*." This specimen was embedded in plastic and had been supplied by an American Biological Supply House.

Recently, searching the literature for some information, I noticed that in two American books, although the text describes and calls them "Cabbage White, *Artogeia* (Sedenko) or *Pieris* (Simon & Schuster) *rapae*", (the two books differing on the generic name and we even have *Pierus* in one of the indices!) the illustrations are quite clearly that of our Large White, *Pieris brassicae*.

The books concerned are *The Butterfly Garden* by Jerry Sedenko, published by Villard Books 1991 and *Simon & Schuster's Guide to Butterflies & Moths,* by Mauro Dacordi, Paolo Triberti & Adriano Zanetti, published by Simon & Schuster Inc. 1988. In the Sedenko book, while the close-up of a head could well be *P. (A.) rapae* we are shown on the opposite page the undersides of a mating pair of *P. brassicae* while in the Simon & Schuster book the illustration for *Pieris rapae* L. Small White is a female underside of *P. brassicae.* Elsewhere in the book, correctly identified, is an upperside of a female *brassicae,* but to compound their error, although perhaps more by omission than intent, is that on two un-numbered pages which follow page 71, there is an illustration of several *P. brassicae* larvae (the genetic recessive yellow form, oddly enough) on nasturtium and under the *P. rapae* entry it states "feed on Cruciferae but sometimes also attack cultivated Tropaeolaceae (nasturtiums)." Since there is no mention of these caterpillars either under the *P. brassicae* entry, nor in the index, what can an un-informed reader infer but that the caterpillars illustrated are those of the Cabbage White *P. rapae*!

One wonders if there are other similar errors in these or other American entomological books. Correct identification of these two species is now of considerable importance, for, like the African killer bees which have spread from south America to the United States, so too has our Large Cabbage White, *P. brassicae* (first established in Chile some 60 years ago) been steadily extending its range. Has it, perhaps, already reached the United States and not yet been properly identified due to its being confused with the Small White?

– BRIAN O. C. GARDINER, 2 Highfield Avenue, Cambridge CB4 2AL.

Comments on a recent record of *Sedina buettneri* Her. (Lep.: Noctuidae)

It would appear that the recorder of the recent occurrence of *Sedina buettneri* (Hering) Blair's Wainscot from Essex (Firmin, 1995) had overlooked the three published additional records since 1966. These were at Walberton, West Sussex on 30th September 1985 (Bretherton and Chalmers-Hunt, 1986); Lydd, Kent on 2nd October 1987 (Riley, 1991) and Dungeness, Kent, on 12th October 1991 (West, 1992).

It is regrettable that the specimen from Essex was released and such short-sighted actions should be strongly discouraged. Past history has shown that genitalia examination of some species including migrants has revealed the existence of a second species and without voucher specimens to study much historical, distributional and scientific data is lost.

References: Firmin, J., 1995. *Sedina buettneri* (Hering) (Lep.: Noctuidae) in Essex. *Entomologist's Rec. J. Var.,* **107**: 43; Bretherton, R.F. and Chalmers-Hunt, J.M., 1986. The Immigration of Lepidoptera to the British Isles in 1985. *Ibid.* **98**: 228; Riley, A.M., 1991. *Sedina buettneri* Her., Blair's Wainscot (Lep.: Noctuidae) in Kent. *Ibid.* **103**: 266; West, B.K., 1992. British Macrolepidoptera (Exhibition Report). *Br.J.ent.Nat.Hist.* **5**: 57.

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THE STATUS OF *STRANGALIA ATTENUATA* (L.) (COL.: CERAMBYCIDAE) IN BRITAIN

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"*STRANGALIA ATTENUATA*, L., is decidedly doubtfully indigenous. I can learn nothing trustworthy about it, and why it is kept in the *Catalogue*, instead of being placed amongst the doubtful species, I cannot understand. The specimens in the Power collection are not *S. attenuata* at all, but only aberrations of the preceding species". [*Strangalia armata* (= *maculata* Poda)].

That was the opinion expressed nearly a hundred years ago by the young and rising Coleopterist, Horace Donisthorpe (Donisthorpe, 1898). There is a hint of exasperation, almost peevishness, in such forthright remarks. The catalogue referred to was no doubt the latest published in 1893 by Dr David Sharp and Canon W.W. Fowler (Sharp, 1893).

And yet . . . over forty years later the mature Donisthorpe, now an eminent and leading entomologist of the day, included the species without further remonstrance in his published list of Windsor Forest beetles (Donisthorpe, 1939). But this is to anticipate.

Thomas Marsham, at the beginning of the last century, appears to be the first English entomologist to accept *Strangalia attenuata* as a native species. His description, freely translated from the Latin, reads, ***attenuata.*** *Lep. [tura] with tawny-yellow gradually tapering elytra; with four black fasciae, yellow legs.* Neither length nor habitat is given. He continues: *Hind body strongly tapered. Head, pronotum, thorax black. Abdomen rust-coloured, apex black. Elytra with four yellow fasciae with the same number black. Apex of hind femora black.* Marsham adds: *Perhaps a male form of the preceding?* This was a reference to *Strangalia quadrifasciata* (L.) (Marsham, 1802).

Dr Turton (1806), describes *S. attenuata* as under, but his work, based upon Linnaeus and subsequent authors, merely indicates that the species is Continental: *Shells [elytra] tapering, yellow with four black bands: legs testaceous. Abdomen rufous tipt with black, sometimes wholly black* (Turton, 1806).

In 1819 the beetle's name appears in a list of Cerambycids detailed by Samouelle in his Compendium's calendar, with the added information that it occurs in July, and a reference to Marsham's work (Samouelle, 1819).

The species, listed as *Leptura attenuata,* is included in Curtis' Guide, but marked that his cabinet specimen is not of British origin (Curtis, 1837).

Turning next to Stephen's Systematic Catalogue, published in the same year (1829) as the above, the insect, similarly named, is quoted as no. 2071 in the Stephensian collection (Stephens, 1829).

S. attenuata is described in considerably more detail by Stephens in his *Mandibulata,* and for the first time it is learned that the beetle is "*Very rare: several specimens have been captured at different periods near Salisbury . . .*" Is it conceivable that the two examples in the Dale collection come from this source? Dale *père* and Stephens were on friendly terms (Stephens, 1831).

In his Manual, published in 1839, Stephens describes *attenuata* in much the same way, adding to the Salisbury locality, Southend, and that it occurs on flowers during June, size approximately 14mm (Stephens, 1839).

Not surprisingly, *S. attenuata,* because of its great rarity, is not named in either Spry and Shuckard's (1840) *The British Coleoptera delineated*, (or in the second edition of 1861) or in Janson (1863).

In about 1845 a specimen of *S. attenuata* was found in Windsor Forest, Berkshire by T. Desvignes, a competent Coleopterist not likely to have mis-identified the species, albeit being better known, perhaps, as a Hymenopterist. After his death, his collections were sold at the S. Stevens sale in 1868, at which E.W. Janson is believed to have purchased this beetle, according to his son, Oliver Janson, and later bought from Jansons (who were entomological dealers in Great Russell Street, London, W.C.) by George R. Crotch. His collection of Coleoptera is now in the keeping of the University Museum, Cambridge. It is listed in Crotch's 1863 Catalogue. That suggests that the latter knew of *attenuata*'s existence, but that he had to wait for some years before its acquisition.

It is relevant to observe that much later, in 1938, Donisthorpe compiled the Coleoptera list in the Victoria County History of Cambridgeshire and Isle of Ely. This undertaking would surely have entailed a detailed examination of the collections and materials held by the Department of Zoology in the University Museum: that being so, the Crotch collection would not have escaped Donsithorpe's inspection. If he saw Desvignes' *attenuata* specimen, this would serve to confirm his seeming *volte face* in the preparation of his Windsor Forest list.

But did he? For, this particular beetle is neither in the Crotch nor in any of the other collections in the Cambridge University Museum!

Significantly, too, the beetle is not named in the Coleoptera section of the Victoria County History of Berkshire (Holland, 1906).

In this connection it is not inappropriate to interpolate that of the fifteen catalogues of British Coleoptera published between the years 1829-1977, only three exclude *S. attenuata,* of which Donisthorpe's was one in 1904, when he evidently convinced his co-author, T. (later Sir Thomas) Hudson Beare, that the species be omitted, an exclusion which the latter repeated in his own catalogue (Beare, 1904 and 1930). Waterhouse marked the species as non-indigenous in his Pocket Catalogue of 1861, but not in his earlier enlarged edition (Waterhouse, 1858 and 1861). The two Exchange Lists both include *attenuata.*

Cox, in his two-volume Handbook of 1874, describes *attenuata* in terms not dissimilar from Marsham's and Stephens', emphasising once again its

black and reddish-yellow elytral banding and a similar coloration of part of the abdominal segments: size 10.5-12.5mm. He adds, "*Rare*". (!) (Cox, 1874).

Referring now to Fowler's monumental work on the British Coleoptera, there is a very detailed description of *S. attenuata*. He quotes Stephens' two place-names and its presence on flowers, but comments: " . . . *very rare and somewhat doubtfully indigenous . . .; there are one or two other specimens in collections without locality.*"

Of Fowler's second observation there is no question, so Donisthorpe's strictures seem to have had some influence for Desvignes' find is not featured, nor does it appear in Fowler's sixth (supplementary) volume (containing additional localities), with whom Donisthorpe collaborated in 1913 (Fowler, 1890 and 1913).

Omitted from their 1945 Check List, Kloet and Hincks reinstate the species in the second edition (1977 – the latest to be published in this country), marked as extinct, influenced possibly by Mr Allen's suggestions in 1957 and again in 1968 in the *Entomologist's Monthly Magazine* (Allen, 1957 and 1968).

Other than the missing Desvignes beetle there are only four known specimens of *S. attenuata* of British provenance. These have been examined and re-examined on a number of occasions and as recently as the autumn of 1994: they are undubitably *attenuata*.

Two are in the Dale collection kept in the Hope Department, University Museum, Oxford. One is a male, simply labelled "Little"; the other, a female, is marked "Burney, 1846". There is no indication as to whether or not these beetles were found in Wiltshire or Essex. Both examples are small (under 15mm) and badly damaged: their abdominal segments are coloured reddish-yellow. In one specimen the hind tarsi are completely missing; in the other, the hind tarsi are incomplete, but what remain of the latter are still longer than the hind tibiae – an important superficial determinant. Each has the typical long, protruding pygidium.

The remaining two specimens are in the national collections at the Natural History Museum, London. They are simply labelled "ex Power coll.". One measures 13mm and the other 14.2mm, with an all black abdomen and a deep reddish-brown to black abdomen respectively. The coloration of the femora, tibiae and tarsi conform with Fowler's description. The pygidia are protrusive.

Since the British Museum examples come from the Power collection, they must have been the two upon which Donisthorpe published his initial views *supra*.

What is it that makes *S. attenuata* so strikingly different from, say, *S. maculata,* or indeed, *S. quadrifasciata*? It is its small and very slender, tapering body – this may vary from as little as 9mm to (exceptionally)

17mm, its yellow legs, with notably the posterior femora and tibiae tipped with black, the hind tarsi, nearly always, but not invariably, considerably longer than the hind tibiae and that protruding, quite differently-shaped pygidium (Kuhnt, 1913, fig. 90a). There are other distinctions, such as the shallow pitted markings along the 5th or 6th – 11th antennal joints, unidentifiable "in the field".

A slender female micromorphous example of *S. maculata* var. *sinuata* F., which is heavily banded black and yellow (Villiers, fig. 833),might fulfil a number of these characteristics: not so *S. quadrifasciata.*

In late July, 1982, a beetle of narrow appearance with elytral banding similar to that of *S. quadrifasciata,* but with yellow legs, was found amongst grass in Holmbush Forest, Sussex. Two years later, it was identified from a coloured illustration in Harde (1984) as *Strangalia attenuata* (Moon, 1991).

After an absence from this country of 150 years, this – the determination being confirmed – would be a remarkable find. Sadly, the specimen was released and not collected.

Sapiens nihil affirmat quod non probet?

Acknowledgements

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Note: Illustrations of *attenuata* are difficult to locate. References below marked * figure this beetle. Other references not cited in the text contain narrative comment. Some of the lists and catalogues cited are notable in their exclusion of *attenuata.*

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Olethreutes mygindiana (D.&S.) (Lep.: Tortricidae) – new to Shropshire (V.C.40)

The status of the lepidoptera of Shropshire has been reviewed by Riley (*A Natural History of the Butterflies and Moths of Shropshire*, Swan Hill Press 1991). Although he deals in the main with macrolepidoptera, he includes an inventory of the microlepidoptera of which the more recent records tend to originate from Whixall Moss. Riley has updated his 1991 publication with significant additions and a corrigenda to the Shropshire list (Riley *et al* – *Entomologist's Gaz.* **45**: 167-182, 1994). Having been prompted by Riley's book to restart recording macrolepidoptera in the south-west corner of the county, I decided in the spring of 1994 to widen my interest to include micros. I am pleased to report that the fifth micromoth that I took in Shropshire was what I believe to be a first record for the county of *Olethreutes mygindiana* (D.&.S.).

Over the late May Bank holiday we visited several sites on the west face of the Stiperstones, where warm and sunny conditions persisted for over five days. On the 29.v.1994 we collected a number of micros at an altitude of 430 metres in Mytton Dingle and Perkins Beach – an area covered with heather, and *Vaccinium*. Of the specimens collected one has now been identified as a well marked female of *Olethreutes mygindiana,* and another as a slightly worn female of the species. Two days later we found a male of the species at approximately the same altitude on Nipstone Rock (SO3596), an area recently cleared of conifers, but which now has a similar flora to that at Mytton Dingle and Perkins Beach.

O. mygindiana lays its ova on the lower leaves of *Vaccinium vitis-idaea* – Cowberry (Emmet – *A Field Guide to the Smaller British Lepidoptera,* B.E. & N.H.S., 1988), and as these sites are approximately 3.5 miles apart, it is quite probable that this species will be found the full length of the Stiperstones, where there are large tracts of the foodplant. In Shropshire, *Vaccinium vitis-idaea* is restricted to only seven 10 kilometre squares, with the majority of them being in the Stiperstones National Nature Reserve, where it is locally abundant. Other Shropshire sites for *Vaccinium vitis-idaea* include Puleston Bog, near Chetwynd and as single small colonies on Fenn's Moss, near Whitchurch (Sinker *et al, Ecological Flora of the Shropshire Region* – Shropshire Wildlife Trust, 1991).

The distribution of *O. mygindiana* outside Shropshire is noted by Bradley *et al* (*British Tortricoid Moths – Olethreutinae,* the Ray Society, 1979) as confined mainly to the hills and mountains of Staffordshire, Derbyshire, and in Wales, from Merioneth and Caernarvonshire. In Scotland it is widely distributed from Perthshire to Sutherland, and in Cheshire it is said to be locally fairly common at Bosley Cloud, Goyt Valley and Staley Brushes. Surprisingly there are no Cheshire specimens in the collection of the Liverpool Museum. Of the twenty-nine specimens in the Museum collection, eight carry data – all from Scottish localities. G.H. Conquest recorded five specimens between 26.v.1911 and 6.vi.1911 at Rannoch, Tayside and more recently B. Goater recorded two at Aviemore, Highland on the 27 and 29.v.1973, and one at Rannoch, Tayside on 8.vi.1973.

Thanks are due to Bryan Formestone and Mike Hull for their help in determining these specimens, and to Tom Wall of English Nature for providing access to the Stiperstones National Nature Reserve. Details of the Liverpool Museum records were kindly provided by Steve Judd and Mike Bigmore.– DR DAVID J. POYNTON, 1A Castlegate, Prestbury, Cheshire.

A record of *Meganola albula* D.&S. (Lep.: Nolidae) from Oxfordshire

A single example of the Kent Black Arches, *Meganola albula* was attracted to a Heath Trap sited at Hartslock Nature Reserve, Goring, Oxfordshire on 29th June 1994. The habitat is unspoilt chalk downland on a south-facing slope.– C.M. RAPER, 22 Beech Road, Purley-on-Thames, Reading, Berkshire RG8 8DS.

NOTE ON THE AUTHORSHIP OF THE NORTH AFRICAN SATYRID BUTTERFLY *BERBERIA ABDELKADER* AB. *SERRATA* (LEPIDOPTERA: SATYRIDAE) AS AN EXAMPLE OF NOMENCLATORIC CONFUSION

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AN ABERRATIVE FORM is only of little taxonomic value and therefore does not officially rectify a formally accepted authorship. Nonetheless, the nomenclature (and the true authorship) of this particular aberration is of general interest, since it provides some information about what is true confusion in lepidopterology.

In his well-illustrated, comprehensive and extremely remarkable revision on North African subspecies and individual forms of the satyrid butterfly *Berberia abdelkader* (Pierret), Tennent (1994) points out, that *B. a.* ab. *serrata* was – by all late authors to that date – thought to be described and therewith authored by Austaut in 1895 – *ie* to be cited as "*B. a.* ab. *serrata* (Austaut)" – although Austaut did apparently not publish any article on satyrids that year but was concerned solely with Tibetan Parnassiinae (Tennent, 1994) and therefore can under no circumstances officially be considered the original author. The first reliable reference on ab. *serrata* that Tennent (1994) could find was a note by Rühl (1895), who himself confusingly regarded Austaut to be the original author. With that, Tennent consequently considered ab. *serrata* to be be due to Rühl rather than to Austaut – *ie*: "*B. a.* ab. *serrata* (Rühl)".

As mentioned by Tennent, the topic is considerably complicated by the fact that Rühl died without having finished his masterpiece of published work. Indeed, Rühl's note on *B. a.* ab. *serrata* occurs on page 822 of his work and in a section of the publication which was actually edited, written and therefore has formally regarded to be authored by Heyne (Hemming, 1931). With that, it is Heyne who has to be stated to be the original author. The particular butterfly therefore is: "*Berberia abdelkader* ab. *serrata* (Heyne)".

Whilst Heyne has formally to be regarded as the nominate author to date, it nevertheless was Rühl or Austaut who practically described the mentioned aberration. Since Rühl himself was convinced that Austaut had at that time already described the form, two possibilities of the virtually – but not formally – true authorship arise: either Rühl did not properly evaluate his literature and tentatively described a new butterfly he mistakenly placed among Austaut's previous descriptions, or Rühl referred to a butterfly that had in fact been previously described by Austaut, the basic reference being lost.

Fortunately, this particular problem only touches the authorship of an individual aberration that, according to the given nomenclature rules, may be

be cited without giving the name of the author and did not even suffer from changing its individual name at all. Unfortunately, such nomenclatoric inconsistencies may have happened on species-group levels and possibly may have generated new species names.

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* "Band 1" of the entire series covers the "Tagfalter" (butterflies), "Band 2" the "Nachfalter" (moths, not completed). Rühl himself seems to have authored and edited pages 1-384 and therefore the "Lieferungen" (parts) 1-7 of the first volume (1892-1893). A. Heyne edited the concluding parts 8-16 (pages 385-847) of the same volume (1893/94-1895). Volume 2 was authored and edited by M. Bartel (all together 7 "Lieferungen", the last having been published in 1902, comprising some 340 pages).

New species of lepidoptera to the Isle of Wight

On 12th July 1994 Peter Cramp took an example of *Mythimna pudorina* (D.&S.) at his mercury vapour light trap at his home at Godshill. This is the first time that species has been taken on the island.

On 5th August 1994 I took an example of *Scopula nigropunctata* (Hufn.) in my moth trap at Freshwater. There was considerable migrant activity at the time and I expect that this specimen was an immigrant. This species is both new to Hampshire and the Isle of Wight and is the furthest west that it has ever been taken in the British Isles.

I give below a list of micro-lepidoptera recorded in recent years which are new vice-county records:

Gymnancyla canella (D.&S.). St. Helens, 26.vii.94 in the presence of Peter Cramp and Brian Warne.
Dichomeris marginella (Fabr.). Freshwater, 8.vii.89.
Lathronympha strigana (Fabr.). Freshwater, 23.vi.92.
Blastesthia turionella (Linn.). Freshwater, 25.v.91.
Aphelia viburnana (D.&S.). Freshwater, 3. & 5.vii.93.
Aphelia paleana (Hb.) Freshwater, 9.vii.94.

I should also like to mention the capture of *Selenia lunularia* (Hb.) by Brian J. Warne in his light trap at Binstead. This is only the second record for the Isle of Wight with the first being taken at Shalfleet in 1911. It was also taken on 2nd August 1994 and so must be an example of a second brood. It was smaller in size than average with a wing expanse of only 30mm. I should like to thank my brother Dr R.P. Knill-Jones for identifying some of the micro-lepidoptera mentioned above.– S.A. Knill-Jones, Roundstone, 2 School Green Road, Freshwater, Isle of Wight.

LIST OF CHRYSOMELIDAE AND CURCULIONOIDEA (COLEOPTERA) FROM SAINT BEES HEAD, WEST CUMBRIA

R.W.J. READ

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SAINT BEES HEAD on the west Cumbrian coast lies approximately two miles to the south of Whitehaven and forms part of an extensive area of red sandstone cliffs which rise to a height of just over 300 feet at the highest point. The cliffs are home to many sea birds and a large part of the area is now managed as a nature reserve by the Royal Society for the Protection of Birds. The habitats on the cliffs are many and varied and include open grassland with a rich herbaceous flora, heath, scrub with extensive patches of hawthorn and blackthorn, sheer cliff faces and areas of shingle.

The cliffs are a designated SSSI site and have been relatively well recorded both historically and currently. To date, quite a large number of invertebrates (including Coleoptera) have been recorded and they include a few species which are at their northern limit in this area. The most notable being the Dark Bush Cricket *Pholidoptera griseoaptera* and the Isopod *Halophiloscia couchi.*

With the kind permission of the RSPB, I have carried out a small survey of the phytophagous coleoptera of the cliffs and the following list is the result of a number of trips made to the area during the past few years. Specimens were collected by traditional techniques of sweeping, beating and grubbing, and in some cases by careful examination of the recognised host-plants. Species were found in the following 1km grid squares NX94.12 (1), NX94.13 (2), NX94.14 (3), NX94.15 (4), NX95.11 (5), NX95.12 (6), NX95.15 (7) and they are referred to in the list by the bracketed number. Individual collecting dates have been summarised to months only and are indicated by roman numerals. Nomenclature follows Jermiin & Mahler (1993), Kloet & Hincks (1977) and Morris (1990, 1991, 1993).

Acknowledgements

I wish to thank the RSPB and English Nature for kindly allowing me to collect on the cliffs and Michael Morris and Mike Cox for their help with identification of some of the weevils and leaf beetles.

List of species

CHRYSOMELIDAE

Apteropeda orbiculata (Marsham) single specimens on *Plantago maritima, Calluna* bushes and in humus beneath Gorse (2, 6, 7) i,iv,v,ix.

Chaetocnema concinna (Marsham) one at base of low herbage (3) iv.

C. hortensis (Fourcroy) several at base of *Rumex acetosa* (4) ix.

Chrysolina staphylaea (Linnaeus) adults and larvae on *Plantago lanceolata* (6, 7) iv, ix.

Crepidodera ferruginea (Scopoli) in small numbers on *Cirsium arvense* (7) viii.

Derocrepis rufipes (Linnaeus) two tapped from *Vica cracca* by cliff top path (3) viii.

Gastrophysa viridula (Degeer) eggs, larvae and adults on *Rumex obtusifolius* (3) vi.

Hydrothassa glabra (Herbst) one crawling by cliff footpath (5) v.

Longitarsus pratensis (Panzer) one at base of *Plantago lanceolata* (4) ix.

L. suturellus (Duftschmid) one swept from low herbage (1) x.

Oulema melanopa (Linnaeus) one beaten from Gorse (4), one on the footpath (1), one in deep humus beneath Gorse bush (6) iv,vi,vii.

Phaedon cochleariae (Fabricius) one on *Cochlearia officinalis* (4) vi.

P. tumidulus (Germar) adults and larvae in numbers on *Aegopodium podagraria* and *Heracleum sphondylium* (3,5,6,) iv, vi, viii.

Sphaeroderma rubidum (Graells) several on leaves of *Centaurea nigra* on cliff top (7) x.

S. testaceum (Fabricius) one on *C. nigra* by the footpath (2) viii.

ATTELABIDAE

Rhynchites germanicus Herbst: several in deep humus beneath Blackthorn bushes (2,4) iv.

APIONIDAE

Ceratapion gibbirostre (Gyllenhal) several tapped from *Cirsium arvense* (7) viii.

Chlorapion virens (Herbst) several by grubbing at base of *Trifolium pratense* (7,3) viii,ix,x.

Cobosiotherum scutellare (Kirby) beaten from Gorse bushes on steep cliff (4) iv.

Diplapion confluens (Kirby) three under *Matricaria* (1) x.

Eutrichapion ervi (Kirby) two tapped from *Vicia cracca* by cliff path (2) viii.

Exapion ulicis (Forster) common on Gorse bushes (4,7) i,iv,viii.

Ischnopterapion loti (Kirby) two tapped from flower heads of *Lotus corniculatus* (7) viii.

Legaricapion aethiops (Herbst) in small numbers on *Vicia sylvatica* (1) x.

Perapion curtirostre (Germar) one by general grubbing amongst low herbage on cliff bank (7) i.

P. marchicum (Herbst) one by grubbing at base of *Rumex acetosella* by edge of field (3) iv.

P. violaceum (Kirby) one by general grubbing on low cliff bank (7) i.

Protapion assimile (Kirby) two tapped from *Trifolium pratense* (1, 7) viii,x.

P. apricans (Herbst) several on *T. pratense* (1) x.

P. fulvipes (Geoffroy) one beaten from Gorse bush (4) iv.

Protopirapion atratulum (Germar) in small numbers on Gorse bushes (4) iv.

CURCULIONIDAE

Acalles misellus Boheman: several in deep humus beneath Gorse bushes (7) xi.

A. ptinoides Marsham: small numbers in humus and leaf litter beneath Gorse (7) vii,xi.

Alophus triguttatus (Fabricius) several by grubbing at base of *Plantago lanceolata* on cliff tops (4,6,7) iv,vii,ix.

Anthonomus brunnipennis (Curtis) adults in small numbers on *Potentilla erecta*. Eggs and larvae found in the flower buds of this plant (3) v,vi,x.

Baryntous squamosus Germar: single individuals by grubbing at base of *Plantago lanceolata* and *Rumex acetosella* (4,6,7) iv,vii,ix.

Barypeithes pellucidus (Boheman) by grubbing on grassy cliff bank and several found in humus beneath Gorse bushes (7) i,iv.

Brachysomus echinatus (Bonsdorff) three beaten from stunted Blackthorn bushes on cliff top, one in plant roots (4,6) iv.

Caenopsis waltoni (Boheman) quite common along the cliff tops; specimens taken by grubbing at base of Plantains, mainly *P. maritima* (3,4,6,7) i,iv,vii,viii,ix,x.

Ceutorhynchus contractus (Marsham) three tapped from *Cochlearia officinalis* (4) iv.

Hypera nigrirostris (Fabricius) one in humus and litter beneath Gorse bushes (7) i.

H. venusta (Fabricius) several on *Anthyllis vulneraria*; very localised on the cliffs (4) iv.

Leiosoma deflexum (Panzer) one at base of *Rannuculus repens* by cliff top path (6) iv.

Liophloeus tessulatus (Muller, O.F.) one dead specimen in leaf litter and humus beneath Gorse bushes (6) i.

Mecinus pyraster (Herbst) in small numbers on *Plantago lanceolata* (7) i,v,ix.

Micrelus ericae (Gyllenhal) three beaten from *Calluna* bushes on cliff top (2) iv.

Microplontus triangulum (Boheman) one in leaf litter beneath Gorse bush (7) i.

Nedys quadrimaculatus (Linnaeus) in small numbers on *Urtica dioica* (7) viii.

Orobitis cyaneus (Linnaeus) one tapped from mixed herbage by footpath (1) x.

Orthochaetes setiger (Beck) one dead specimen in leaf litter beneath Gorse bushes (7) i.

Otiorhynchus desertus Rosenhauer: single individuals taken by grubbing at base of *Plantago lanceolata* and *P. maritima* (4,6) iv,v,vi,ix.

O. ligneus (Olivier) one at base of *Rumex acetosella* (4) iv

O. rugifrons (Gyllenhal) several specimens by grubbing at base of *Plantago maritima* (6,7) i,iv,v,ix.

O. singularis (Linnaeus) by grubbing at base of low herbage, mainly *Plantago lanceolata* and *Rumex* spp. (4,6,7) i,iv,v,vii,ix.

O. sulcatus (Fabricius) one tapped from mixed herbage on bank above the shore (1) vi.

Pelenomus quadrituberculatus (Fabricius) one crawling in open area on grassy bank (3) v.

Philopedon plagiatum (Schaller) one specimen by general grubbing on cliff top (6) vii.

Phyllobius roboretanus Gredler: several specimens tapped from *Cirsium arvense* and *Urtica dioica* around old mine workings (1) vi.

P. virdicollis (Fabricius) tapped in small numbers from *Vicia sepium* (1) vi.

Rhinoncus pericarpius (Linnaeus) in small numbers on Rumex and *Polygonum* spp. (3,7) iv,ix.

Sciaphilus asperatus (Bonsdorff) one in humus beneath Gorse bush and one by grubbing amongst low herbage on cliff bank (7) i,v.

Sitona ambiguus Gyllenhal: in small numbers on *Vicia cracca* and *V. sepium* (1,2) vi,viii,x.

S. hispidulus (Fabricius) on low herbage, mainly *Trifolium* spp. (1,3,4) iv,ix,x.

S. lineellus (Bonsdorff) tapped from *Lotus corniculatus* on cliff top bank (6,7) vii,viii.

S. regensteinensis (Herbst) quite common on Gorse bushes (3,4,6,7) i,iv,v,vii,xi.

S. striatellus Gyllenhal several beaten from Gorse (4) iv.

S. suturalis Stephens: several tapped from *Vicia sepium* (1) vi.

Strophosoma melanogrammum (Forster) single individuals found in a variety of situations; beaten from Gorse, at base of *Rumex acetosella,* on *Calluna vulgaris* and in humus beneath Blackthorn (1,4,7) i,iv,viii,ix. (A species not usually associated with exposed cliffs. Normally found in woods on trees and shrubs.)

Trachyphloeus angustisetulus Hansen: quite common along the cliffs on *Plantago maritima* and also found in association with Thyme and *Lotus corniculatus* (1,4,6,7) iii,iv,vi,vii,ix.

T. aristatus Boheman one at base of *Rumex acetosella* (4) iv.

T. laticollis Boheman in small numbers at base of Plantains, mainly *P. maritima.* Quite widespread on the cliffs (3,4,6,7) iv,vii,viii,xi.

Zacladus geranii (Paykull) several taken on flower petals of *Geranium sanguineum* (4) v,vi.

SCOLYTIDAE

Phloephthorus rhododactylus (Marsham) a few specimens in dead Gorse twigs (7) xi.

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Acontia lucida (Hufnagel) (Lep.: Noctuidae) in Kent and Dorset

A specimen of the Pale Shoulder, *Acontia lucida,* was taken by my brother, John Owen, in a mercury vapour trap at Eastbridge House, Dymchurch, Kent, on the night of 5th August 1994. Another was trapped on the same night by Roy Eden at West Bexington, Dorset. The species has been reported in southern England about 14 times (only eight records are considered reliable) in the nineteenth century. There are apparently no previous records for the twentieth century, and no other records for 1994, making the occurrence of two on the same night a remarkable coincidence. How many more of this presumed immigrant arrived in southern England in early August 1994 we shall probably never know. This species is illustrated in South, 1961, *Moths of the British Isles,* plate 126.

–Denis F. Owen, 42 Little Wittenham Road, Long Wittenham, Abingdon, Oxfordshire OX14 4QS.

Drunken Goats

Whilst breeding *Cossus cossus* (Linn.), the Goat Moth, I encountered two unexpected hazards unrecorded in the literature; one is to the larva itself, the other emperils one's sartorial elegance.

The larvae I bred were small second instar larvae found under the bark of birch. Obtaining them at this stage was considerably easier than attempting to extract fully grown ones which would have required some fairly drastic (and destructive) tree surgery. They live both under and in the bark and do not burrow into the wood itself until they are larger. The sap runs associated with this species have a smell not unlike a good ale and clearly the sugars in the sap undergo fermentation to produce alcohols, I was unable to convince myself of any resemblance to goat.

In captivity the larvae were offered raw beetroot which they devoured avidly. When changing one of the beets a very strong alcoholic smell was noticed and the larvae inside were motionless. Fearing the worst they were laid out (in both senses) on a piece of tissue paper and were almost on the way to the undertakers when one was observed to twitch. Over the next 24 hours they revived and seemed none the worse for the experience (although it is hard to tell if a caterpillar has a headache!). Sadly the experience was repeated a week later with one fatality. The beets ferment very rapidly, sometimes within 24 hours.

In man, alcohol is well known to have effects that relate both to its absolute blood level and the habituation of the individual. In small amounts it reduces inhibitions, even at low doses reduction in psychomotor abilities such as driving (and setting micros!) are apparent on testing, and as the dose of alcohol increases the level of alertness falls with eventual unconsciousness, inhibition of respiration and finally death. Other mammalian species are susceptible to the effects of alcohol and so it would seem are lepidoptera. The tradition of a tot of rum added to the sugaring mixture is designed to stupefy the moths when they imbibe and vanessids feeding from fermenting plums are unusually easy to approach and handle.

The other problem encountered with the larvae was that when they are disturbed they sometimes react by emitting a high velocity stream of digested beetroot from the mouthparts. With one particularly large larva performing the daily inspection (to prevent the problems referred to above) became a very hazardous operation. It seemed to have a remarkable knack of knowing when a clean shirt had been donned coupled with an aim of uncanny accuracy. Arriving at work to discover one is wearing a shirt splattered with semi-digested beetroot can be embarrassing, offering an explanation which is socially acceptable or appears remotely sane seems utterly impossible.– Dr Julian Clarke, Oaklea, Felcourt Road, Lingfield, Surrey RH7 6NF.

REPRODUCTIVE CYCLE OF *ACERENTOMON NEMORALE* WOMERSLEY (HEXAPODA: PROTURA) FROM SOIL IN DECIDUOUS WOODLAND

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Introduction

THE PROTURA, first described by Silvestri (1907) were, until relatively recently, classified as apterygote insects (Hennig, 1969) but are now considered to have class status (Manton, 1970). Their taxonomy has been worked upon by Gisin (1960), Tuxen (1964) and Nosek (1973). Worldwide there are 500 recorded species (Romoser & Stoffolana, 1994) divided into three families, Eosentomidae, Protentomidae and Acerentomidae. Protura occur in the soil where there is sufficient moisture present to permit plant growth and where decaying organic matter occurs (Berlese, 1909; Strenzke, 1942; Nosek, 1975). They are frequently present in considerable numbers in forest habitats, rich in humus (Nosek, 1975) but are less abundant in grassland and agricultural soils (Salt, Hollick, Raw & Brian, 1948; Raw, 1956; Lagerlöf & Andrén, 1991).

Little work has been done on the reproductive biology of proturans but Tuxen (1949) working in Denmark on *Acerentulus danicus* and *Eosentomon armatum* showed that both have five pre-adult stages; a prelarva, two larval forms, a maturus junior and a preimago. *A. danicus,* a surface dweller is markedly univoltine reaching maximum density during the summer, the juvenile stages succeeding each other in regular sequence from May to September and only adults present during the winter. The sex ratio during the summer is weighted heavily towards the females but is more even in the winter. In contrast Tuxen (1949) showed that all stages of *E. armatum* are present throughout the year and the sex ratios very even.

Although records of British proturans were published by Bagnall (1912, 1934, 1936), Brown (1917) and Womersley (1924, 1927, 1928), no work has been done on their life cycles. It was thus considered of use to examine the life cycle of *Acerentomon nemorale* Wom., a species present in woodland soils.

Materials and methods

Soil cores, measuring 5.2cm diameter and 13.5cm long were taken in mixed deciduous woodland at Clyne, Swansea, South Wales, SS 911612 throughout the year. Franz, Haybach and Nosek (1969) showed that the majority of proturans occur in the top 10cm of the soil. To extract the proturans the soil cores were placed in a Berlese/Tulgren funnel for eight days. Specimens were collected in tubes containing 70% alcohol and any proturans present, removed. These were then cleared in Essig's aphid solution (Nosek, 1973) to facilitate identification of species and developmental stages.

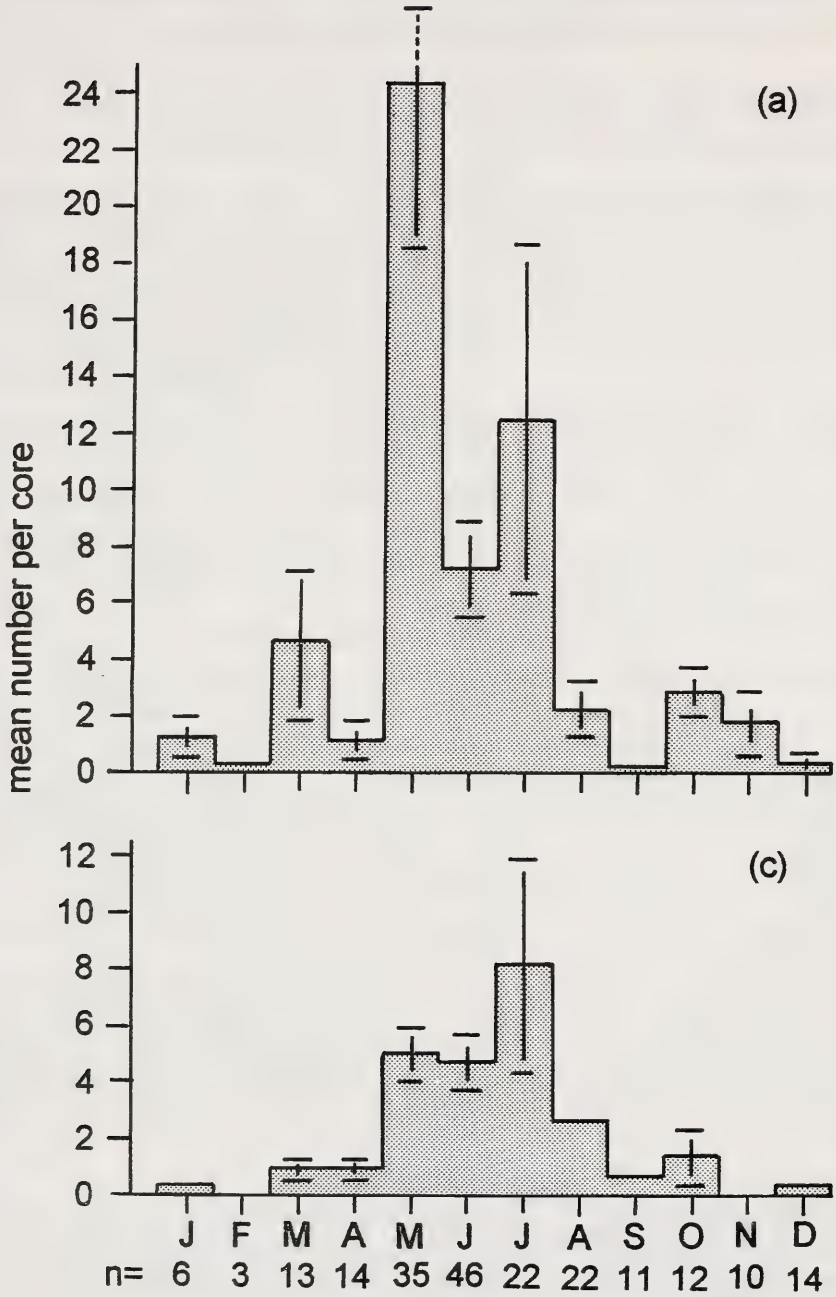
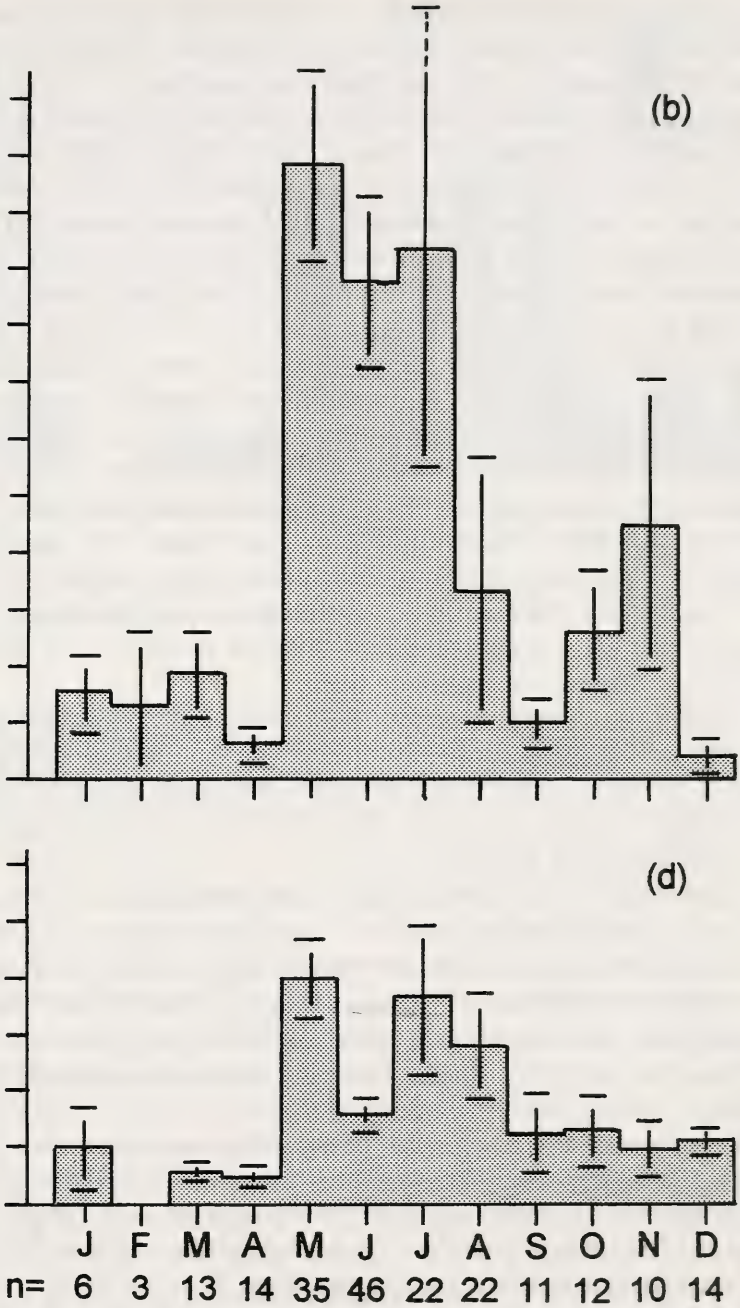


Figure 1.
Monthly means (±S.E.) of the development stages of *Acerentomon nemorale* from mixed woodland.
(a) Larvae 1; (b) larvae 2; (c) maturus juniors; (d) adults (including preimago males).
n = number of cores taken.



Results

Adult proturans are minute elongate, whitish, and have entognathous mouthparts, no eyes, ocelli or antennae, though "pseudoculi" may represent vestigial antennae. Legs have 1-segmented tarsi and a single claw. The abdomen has short, bilateral styli or abdominal appendages on the first three segments. Development is ametabolous and anamorphosis occurs. This is unique in hexopods but occurs in other arthopods.

The number of abdominal segments increases from nine in the early larvae to 12 in adults. The characters used to determine the species were, the structure of abdominal styli on abdominal segments I, II and III, the chaetotaxy of terga VII and sterna VIII and the size, shape and arrangement of the sensillae on the fore tarsi (Nosek, 1973; Tuxen, 1964). *Acerentulus confinis* Berl. and *Acerentoman affine* Bagn. adults were also recorded in the soil cores but in much lower numbers (King & Aazem, in prep.). The LI and LII of *Acerentulus* sp. are quite distinct from *Acerentomon* spp. larvae and have been described in some detail by Tuxen (1964) and Nosek (1973). The LI and LII of *A. affine* and *A. nemorale* are very similar but can be distinguished by the size, shape and arrangement of their fore tarsal sensillae. As *A. nemorale* was the predominant species it may be assumed that the larval stages of *Acerentomon* spp. belonged to *A. nemorale*.

Nosek (1973) described the five stages of development:

THE PRAELARVA, presumed to be the first stage although hatching from the egg has not yet been observed. It has nine abdominal segments, the mouthparts are not fully developed and do not reach beyond the anterior border of the head. The fore tarsi and abdominal appendages are less well developed. This stage was not observed in the present study presumably because of the difficulty in extracting them.

THE FIRST LARVA (L1) in which the mouthparts, legs and abdominal appendages are fully developed and there are nine abdominal segments. These were present during every month but showed a peak in May with slightly fewer in June and July. There was a second small increase in October and November (Fig. 1a).

THE SECOND LARVA (L2), which has ten abdominal segments and different sclerotization, chaetotaxy and sensillae. These were also present throughout the year in larger numbers than larva 1 which suggests that this stage may be of longer duration than that of larva 1. Numbers peak in May and remain high during June and July. After a fall in September they increase briefly in October and November, coinciding with the increase in numbers of larva 1 (Fig. 1b).

MATURUS JUNIOR has 12 segments like the later stages but lacks genitalia, has less sclerotization and different chaetotaxy. These peak during May, June and July but are missing during some months. This stage is not as abundant as larvae 1 and 2 which suggests either that it is a very short stage or there is considerable mortality when moulting from larva 2 (Fig. 1c).

THE PREIMAGO males differ from earlier stages in possessing genitalia, chaetotaxy and sclerotization. These are present from May to August in reasonable numbers with a few in October, November and December but were not present during the other months. This suggests that males only reach maturity during those months (Fig. 1d). Some adults are present during most months but there was a marked increase in favour of the females between May to September (Fig. 2) which coincides with the breeding season.

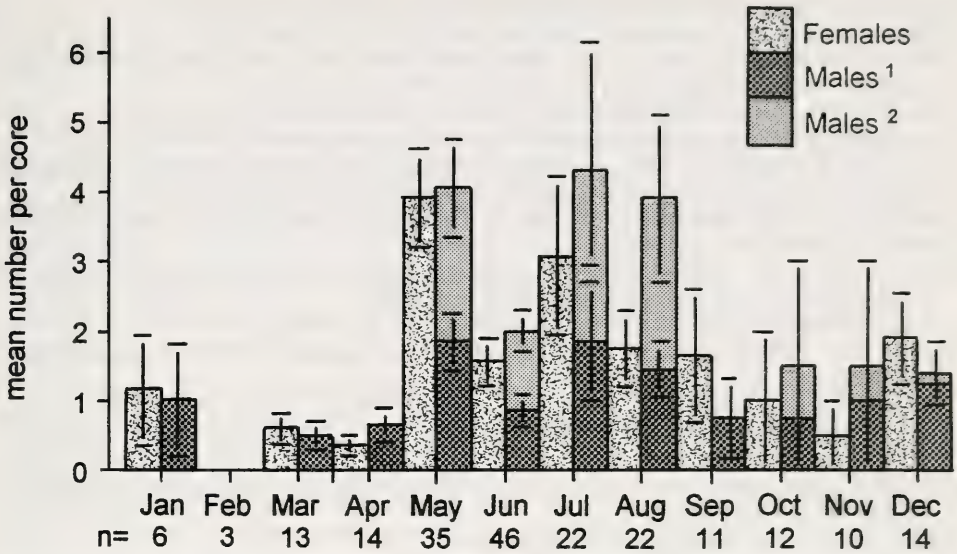


Figure 2. *acerentomon nemorale* monthly sex ratios (±S.E.).
Males[1] = excluding preimago males; Males[2] = including preimago males.
n = number of cores taken.

Discussion

Comparing the present findings with those of Tuxen (1949) *A. nemorale* shows evidence of a main summer breeding period in common with *A. danicus,* together with a summer sex ratio weighted in favour of the females and an overall reduction in adult numbers suggesting a high mortality. It also compares with *E. armatum* in having juveniles present throughout the year. Wallwork (1970) suggested that perhaps *E. armatum* migrates to a depth of 5cm in the soil profile. Thus, the juvenile stages are protected during the winter, whereas juveniles of *A. danicus* are not. In the present study, cores were taken to a depth of 13.5cm which included the entire humus layer, so that possible migrations could be allowed for. In contrast to Tuxen (1949) larva 2 was the most abundant stage during the winter months. Larva 1 and Maturus junior stages are probably of much shorter duration than the others and there is a marked post-reproductive mortality amongst the adults. The results can possibly be explained by less severe winters in the present habit.

Acknowledgements

We would like to thank Alison Smith for the collection of the original samples.

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Scarce Large Blue butterfly, *Maculinea telejus* Bergstr. (Lep.: Lycaenidae), in Slovenia

Slovenia seems to be on the edge of or possibly outside the range of *Maculinea telejus,* according to distribution maps in the European field guides. However, I was lucky enough to find a few specimens on 26th July at Ljubljansko Barje. This is a former peat bog, now extensively drained for agriculture, just outside the capital city, Ljubljana.

Since finding this species and *M. nausithous* Bergstr. in Austria in 1992 (*Ent. Rec.* **105**: 143-146), I have been looking out for grassland dominated by their foodplant *Sanguisorba officinalis.* Although *Sanguisorba* was present at Ljubljansko Barje, it was much more plentiful in a larger area of damp, unimproved grassland at Planinsko Polje, some 25km south-west of Ljubljana. Some 50 hectares of meadows were dominated by *Sanguisorba,* but I could not find any Large Blues when I visited on 4th August.

It may be worth checking this area and nearby poljes at Cernicka and Postojna in mid-July.– David Withrington, English Nature, Northminster House, Peterborough PE1 1UA.

ORTHOPTERA IN THE LONDON ARCHIPELAGO

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AT FIRST SIGHT, the urban sprawl of the metropolis may not appear to be a suitable place to study Orthoptera but on closer scrutiny one becomes aware of an archipelago of sites that allows analysis of the impact of urbanisation on this group of insects. Each locality has its own character, history, degree of isolation and orthopterous fauna. Some localities such as Richmond Park and Rainham Marshes preserve fragments of semi-natural vegetation, possibly little changed for centuries. The Orthoptera faunas surviving on them resemble those of comparable rural locations and give one an idea of what the original London fauna was like before the growth of the city. Comparison with the Orthoptera found at sites more degraded by urbanisation suggests which species may be best able to adapt and survive and which may be lost as man alters the landscape. Manicured urban parks, sportsgrounds, lawns, roadside verges and building plots have been completely stripped of their natural vegetation and original Orthoptera. Examination of such sites indicates which species are able to disperse through an urban environment and exploit these new man-made habitats. One can investigate such sites as biologists have studied the colonisation of volcanic islands and determine which species have been able to exploit these novel habitats.

Large-scale urbanisation is a very new phenomenon but is only the latest in a series of man-made changes to the natural environment and observations on the adaption by insects to city life may provide evidence regarding their responses to previous upheavals. Very little of the British landscape is truly primaeval and most, if not all, of our Orthoptera have needed to adapt to man-made landscapes. Some habitats such as lowland heaths and chalk downland are of such antiquity that we tend to see them as being completely natural. However, they were created and sustained by human activity. Urbanisation is prone to degrade such habitats either through neglect of traditional rural management systems allowing the natural climax vegetation to assert itself or through the recreational pursuits of city dwellers destroying fragile plant communities.

Historic London Orthoptera records are sparse. Stephens (1835) produced a pioneering account of British Orthoptera, including several London localities. The Dale Collection, in Oxford contains historic specimens from the same period. More recently, Payne (1958) wrote a comprehensive review of Orthoptera occurring within 20 miles of St. Paul's Cathedral and Farrow (1962) surveyed the Croydon district. Skelton (1985) performed a survey of the London area and Marshall and Haes (1988) provided distribution maps for all the British Orthoptera. Recent reports on London Orthoptera include those of Burton (1993), Herbert (1993), Murdoch (1993) and Widgery (1978).

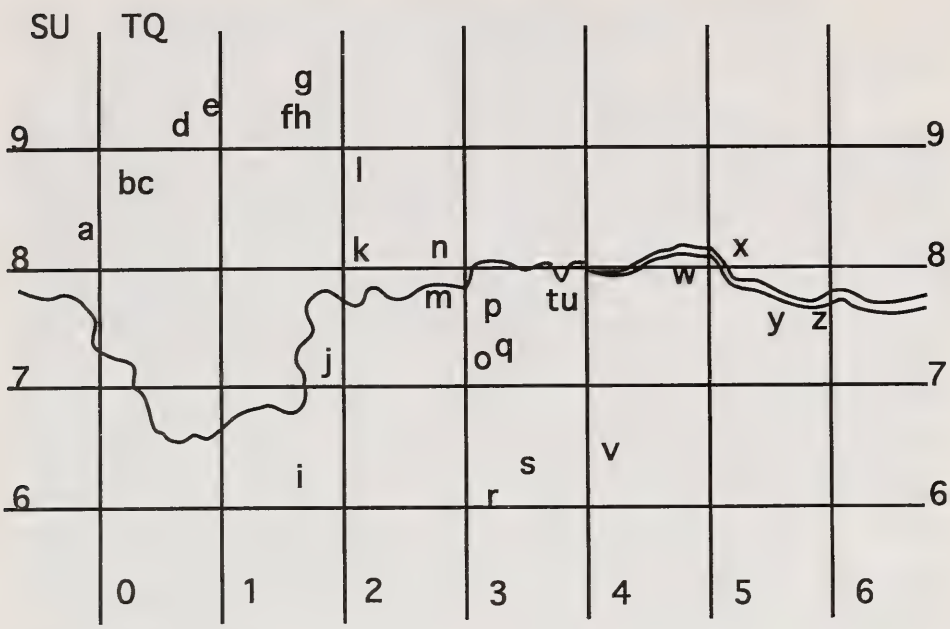

Figure 1. Sites examined in relation to the National Grid and the Thames.

Key:

a, Stoke Common
b, M25-M40 junction
c, Denham
d, Batchworth Common
e, Colne Valley
f, Caldecote Hill
g, M25-M1 junction
h, Watling Farm
i, Esher Common
j, Richmond Park
k, Wormwood Scrubs
l, Colindale
m, Lockington Road, Battersea
n, Regent's Park
o, Brockwell Park and Peabody Hill
p, Lilford Road, Ruskin Park, Denmark Hill and Champion Hill
q, Dulwich Hamlet, Dulwich Common and Dulwich Wood
r, Riddlesdown
s, Addington Hills
t, Greenwich Park
u, Blackheath
v, Hayes Common
w, Erith Marshes
x, Rainham and Wennington Marshes and Ingrebourne River
y, Dartford Marshes
z, Greenhithe.

Frequent visits to London in 1993 and a period of being based in the capital during 1994, provided an opportunity to sample the London Orthoptera and develop ideas on the effects of urbanisation on these insects. Sites were selected for investigation which included some sites mentioned by Payne (1958) and Farrow (1962) as being of special interest, plus a sample of parks, commons, sportsgrounds, wastelands and roadsides. Thus, it was possible to compare the present fauna with that described in the literature and to compare the spectra of species found in various types of habitat. A comparison was also made with a survey of urban Orthoptera in the West Midlands (Paul, 1991) in order to assess how London's geography, geology and climate might have affected the composition of its fauna. The

present account of London's Orthoptera is by no means exhaustive and aims to describe the effects of urbanisation by looking at selected sites. All records were made by the author and relate to summer 1994 unless otherwise stated.

Species found

Meconema thalassinum (De Geer)
Denmark Hill, Champion Hill, Ruskin Park, Greenwich Park, Richmond Park. Numerous specimens were found on paths under trees or attracted to light. Its existence on horse chestnut and lime trees planted in urban streets suggests it to be an effective colonist in the urban environment.

Tettigonia viridissima (L.)
Erith Marshes, Rainham. Hundreds were heard stridulating on wasteground at Erith Marshes. The former marshland is now occupied by two strips of dual carriageway and an industrial estate but enough scrub remains for this insect to flourish. At Rainham the species was found in small numbers along the River Ingrebourne. This insect can survive in habitat badly degraded by urbanisation but does not appear to spread to visually similar adjacent areas.

Pholidoptera griseoaptera (De Geer)
Greenhithe, Rainham. Abundant on wasteland at both sides. This insect does well in places disturbed by man, where there are nettle beds, brambles and rough grassland. However, being flightless, this species seems unable to reach new wasteland sites that develop in inner urban areas.

Metrioptera brachyptera (L.)
Farrow (1962) gave a gloomy account of how this species was just surviving on degraded heathland at Addington Hills, its only London locality. When the locality was visited in suboptimal conditions, this species was not found but there is a record from 1991 (*per*. E.C.M. Haes). Just outside Greater London, *M. brachyptera* was found at Esher Common, Surrey and at Stoke Common, Buckinghamshire. In Britain, this insect is strongly associated with heathland and is one of the first Orthoptera to disappear as heathland becomes degraded by trampling or development. However, the species has been found in very low numbers at a site devoid of heather on the edge of Birmingham (Paul, 1991).

Metrioptera roeselii (Hagenbach)
Dulwich Hamlet (derelict sportsground), Lockington Road SW8, Richmond Park, Riddlesdown, Hayes Common, Regent's Park, Watling Farm (1993), Caldecote Hill, M25/M40 junction, M25/M1 junction, Denham (1993), Wormwood Scrubs (1984), Dartford Marshes, Greenhithe, Rainham Marshes. Long known from the London area (Stephens, 1835), the species

had become a rarity by the time of Lucas (1920). Payne (1958) and Farrow (1962) referred to a few peripheral localities. *M. roeselii* has undergone an explosive increase in numbers and range in recent decades, exploiting road verges, wasteground and hot summers during which macropterous forms disperse to new sites. It is now the most common and widespread bush-cricket in Greater London. The isolated Regent's Park locality described by Widgery (1978) was still present in 1994. The verges of the M25 form a huge *M. roeselii* breeding ground and thousands were heard at the M40 junction in 1993 and 1994.

Conocephalus discolor (Thunberg)
Dulwich Hamlet (TQ331753), where a single hypermacropterous male was found on a derelict sportsground. This species has spread inland from the South Coast during the last decade, exploiting road verges and neglected fields. One may anticipate its establishment on London urban grassland sites.

Conocephalus dorsalis (Latreille)
Esher Common, Rainham Marshes. At Rainham, this species is abundant on the original marshland (Wennington Marshes) but not on the silt beds.

Leptophyes punctatissima (Bosc.)
Colne Valley south of Watford (1993). Not specially searched for and possibly overlooked during this survey.

Tetrix undulata (Sowerby)
Esher Common, Stoke Common. This species and its congener, *T. subulata,* were not specially sought and were possibly overlooked at other sites during the survey.

Stenobothrus lineatus (Panzer)
Richmond Park. A strong but very localised colony on turf along a broad ride.

Omocestus viridulus (L.)
Richmond Park, Addington Hills. Limited to well-established, humid grassland.

Myrmeleotettix maculatus (Thunberg)
Richmond Park, Addington Hills, Hayes Common. Surviving on relict heathland and grass-heath.

Gomphocerripus rufus (L.)
Riddlesdown; its only known locality in Greater London.

Chorthippus brunneus (Thunberg)
Colindale, Watling Farm (TQ171945), Lockington Road SW8, Greenhithe, Dartford Marshes, Erith Marshes, Hayes Common, Riddlesdown, Addington Hills, Esher Common, Richmond Park, Greenwich Park, Blackheath, Lilford Road SE5, Brockwell Park, Ruskin Park, Dulwich Hamlet, Dulwich Wood, Rainham Marshes. Thrives on hot well-drained grassland in urban areas.

Chorthippus parallelus (Zetterstedt)
Peabody Hill, Dartford Marshes, Greenhithe, Batchworth Common, Richmond Park, Esher Common, Hayes Common, Riddlesdown, Dulwich Common, Stoke Common. Cannot tolerate the arid areas where *C. brunneus* thrives.

Chorthippus albomarginatus (De Geer)
Dulwich Hamlet, Brockwell Park, Lockington Road SW8, Blackheath, Erith Marshes, Dartford Marshes, Greenhithe, Rainham Marshes. Abundant around the Thames estuary, but spreading into neglected grassland in urban areas. It can tolerate a combination of flooding in winter and hot dry conditions in summer.

Habitat types in the London area

Chalk Downland

Just south of London, the North Downs include many nationally important stretches of this Orthoptera-rich habitat. Riddlesdown, where there is a colony of *Gomphocerippus rufus,* is the most important example of chalk downland inside Greater London.

Heathland

Heathland is of special importance for *Metrioptera brachyptera* and *Myrmeleotettix maculatus* and is vulnerable to scrubbing over through neglect and trampling which destroys the heather. Patches of heath remain in Greater London at Hayes Common, at Addington Hills and just outside at Esher Common, Surrey and Stoke Common, Buckinghamshire.

Silaceous grassland (grass-heath)

Richmond Park contains a substantial and nationally important area of this habitat which harbours five species of grasshopper – *O. viridulus, C. parallelus, C. brunneus* and the local *M. maculatus* and *S. lineatus.*

Marsh

The largest area of marshland in Greater London is at Rainham where there is marshland of a sort over a wide area between the town and the Thames and along the River Ingrebourne. Wennington Marshes, where there is a thriving population of *C. dorsalis,* appear to be the least degraded.

Elsewhere in London and for some distance downstream of the Greater London boundary, the Thames marshes are badly damaged by drainage, road schemes and industrial and housing development but important sites for Orthoptera still exist at Erith Marshes, Dartford Marshes and near Greenhithe. *C. albomarginatus* and *M. roeselii* are typical of the Thames marshes with *C. brunneus, C. parallelus, T. viridissima* and *P. griseoaptera* locally abundant.

Urban Parks

The larger urban parks usually have patches of rough vegetation somewhere that may support *C. brunneus, C. albomarginatus,* or *M. roeselii. M. thalassinum* may be present on trees. At least one species was found in Regent's Park, Brockwell Park, Greenwich Park and Ruskin Park. No Orthoptera were found in Dulwich Park and St. James' Park which were both unusually well manicured.

Urban Waste Ground

Derelict urban plots quickly develop into dry grassland and become colonised with *C. brunneus, C. albomarginatus,* and *M. roeselii.* All three were found on a small plot of wasteground, isolated by urban development, at Lockington Road, Battersea. A sportsground at Dulwich Hamlet, derelict for about six years, had become colonised with these three species and a single *C. discolor* was also found there. *C. brunneus* and *C. albomarginatus* were still stridulating on 14.x.1994.

Roadside Verges

Roadside verges typically develop into dry grassland supporting *C. brunneus* and *M. roeselii.* The banks along the M25 motorway are of special importance for *M. roeselii* which can be heard from slow moving traffic.

Discussion

A total of 16 species of Orthoptera Saltatoria were seen at selected sites in the London area in 1993 and 1994. Most of the species were somewhat localised in their distribution, surviving on relict fragments of semi-natural terrain. In particular, *M. brachyptera, S. lineatus* and *G. rufus* seem vulnerable to habitat change and were probably more widespread before the growth of the city. The Dale Collections include a specimen of *G. rufus* from Battersea (a locality now totally unsuitable for this species), supporting Stephens' record (Stephens, 1835). *T. viridissima, C. dorsalis, O. viridulus* and *M. maculatus* are also associated with special semi-natural sites but appear to tolerate some degradation of habitat.

In contrast to these survivors, *M. thalassinum, M. roeselii, C. brunneus* and *C. albomarginatus* have been able to disperse through urban London and exploit the novel habitats provided by wasteland, urban parks and roadsides. *P. griseoaptera, L. punctatissima* and *C. parallelus* are well-adapted to

disturbed habitat but being flightless have limited capacity to disperse. The London Orthoptera fauna is richer than that of the comparable urban area of the West Midlands (Paul, 1991), due to London's proximity to the rich and diverse areas of the Thames estuary, the North Downs and the Surrey Heaths, because of the preservation of fragments of such habitat types within Greater London and because of its more favourable climate. In contrast to London, only one species, *C. brunneus,* is abundant and widespread in urban areas of the West Midlands. However, *M. maculatus* occurs on old mining waste sites in the West Midlands in a habitat not present in London. It is encouraging that several of our rarer Orthoptera have survived on fragments of semi-natural habitat in an area as densely populated as London. It is also encouraging that several species, including *M. roeselii,* which was once considered a rarity, have been able to exploit new urban sites. Urbanisation is an extreme example of human influence on the landscape and observations of its effects on groups such as the Orthoptera provides insight into the more subtle effects of human activity in the countryside.

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Hazards of Butterfly Collecting – A Biogeographical Anomaly, London 1994

Hazards of butterfly collecting are not limited to field work. They lurk in the literature and in museum collections as well. In 1956, my late friend Henri Stempffer (See *Ent. Rec. J. Var.,* 1992, **104**: 171-172) and Neville Bennett (who I unfortunately never met, though we corresponded, and he named one of my first butterflies new to science) described a new species of butterfly from Liberia as *Baliochila petersi,* accompanied by a good photograph and Stempffer's usual meticulous drawing of the male genitalia. Mild surprise at finding a *Baliochila* in Liberia was expressed.

Mild surprise! . . . I should think so! A Liberian *Baliochila* is as biogeographically anomalous as a penguin in Greenland. All other *Baliochila* and their relatives (more than 20 in all) are from eastern and southern Africa, and hardly any are found west of the Rift Valley system. Furthermore, this particular *Baliochila* was from one of the wettest rainforests in Liberia, collected in the company of numerous indicator-species of extreme rainforest conditions, none of which come within hundreds of kilometres of normal *Baliochila* habitats, which is woodland and the relict forests of the East African coast.

But there we were. There was no reason why the specimen on the photograph should not be a *Baliochila,* and the highly specialised genitalia made its assignment to *Baliochila* quite certain. Though biogeographical anomalies do occur, I was never comfortable with the West African *Baliochila,* but there was nothing I could do about it. Only the holotype existed. I somehow thought it was in Paris, and made a note eventually to have a look at it.

I came across it by chance recently in the type collection of the Natural History Museum in London while searching for the type specimen of another butterfly that gave me problems. My surprise was complete, for the holotype of *Baliochila petersi* was quite clearly the same as *Pseuderesia issia* described by Stempffer in 1969 after a single specimen from Côte d'Ivoire. The latter is a very scarce butterfly of the wettest West African rainforests, with genitalia that have nothing to do with *Baliochila.* Only about seven specimens of *Pseuderesia issia* are known, but that includes two which I recently caught in Ghana, so I rushed to compare. The two were definitely the same. So *Baliochila petersi* becomes *Pseuderesia petersi* – except that it is now placed in the genus *Eresiomera* – and *Pseuderesia issia* suffers that most ignoble of fates: relegated to synonymy.

So the genitalia associated with *Baliochila petersi* MUST have come from another butterfly altogether. Now, in 1953 Stempffer and Bennett had jointly published a major revision of *Baliochila* and were continuing work on the genus, while at the same time they were collaborating on a paper on the Liberian Lycaenidae. Lots of specimens and lots of genitalia slides were exchanged between them. Somewhere along the line, the genitalia of the real *Baliochila petersi* were confused with a microscopic slide of a *Baliochila* – such mistakes will happen.

I suspect that the sequence was along these lines. Since the species was obviously new to science, Bennett sent photographs, a description, and the (wrong) genitalia to Stempffer in Paris. On the basis of the genitalia, Stempffer described it as a *Baliochila.* Both were taxonomists with little or no personal knowledge of Africa and its butterflies in the field, therefore not fully appreciating the ecological and biogeographical improbability of a West African *Baliochila.*

Eresiomera petersi St. (= *E. issia*). Ghana, Ankasa, vii.1994.

That Stempffer should have redescribed the species as *Pseuderesia issia* thirteen years later is hardly surprising. It had the typical genitalia of that genus, the holotype of *Baliochila petersi* was in London, and Stempffer might never actually have seen it.

I am delighted that I solved a conundrum that has puzzled me for more than twenty years. I am somewhat less delighted that the discovery was essentially the result of chance. How much nicer it would have been if it had been the end-product of planned research: "You just cannot have a *Baliochila* in West Africa – I must get to the bottom of this!"

But there is a final twist to the story that has not yet been unwound. The "wrong" genitalia of the holotype of *Baliochila issia* do not match those of any described *Baliochila*. They belong to an undescribed species! Somewhere in the maws of the natural history museums in London or Paris sits the specimen from which the genitalia came – minus its abdomen. They may never be matched up – I'll have a go at playing detective when I have less pressing work on hand. It would be perfectly legitimate for me to name the new *Baliochila* solely on the basis of the genitalia, but I don't think I shall; the genus is quite difficult enough without a species known only from its genitalia. So, for the record, here it is – yet another scoop for the *Entomologist's Record*!:

Eresiomera petersi (Stempffer & Bennett, 1956); Larsen 1994
Baliochila petersi Stempffer & Bennett, 1956
Pseuderesia issia Stempffer, 1969

Of such tortured sequences stem those occasional changes of usage in scientific nomenclature that often enrage amateurs who do not have the full background to understand why they need to be made!– T.B. LARSEN, 358 Coldharbour Lane, London SE9 8PL.

First Kentish record of *Bankesia douglasii* Staint. (Lep.: Psychidae)

My good friend Lawrence Clemons casually remarked to me that during the first week of March he had often seen several "micros" in the early morning flying in the proximity of a sawn railway sleeper fence near Sittingbourne railway station, Kent.

I persuaded him to try to capture a specimen and on 6th March 1984 one was duly produced which proved to be *Bankesia douglasii,* a species only then previously recorded from Southampton Water many years ago and thought possibly to be extinct. This Kent record is the "dot" on the map in Heath & Emmet, 1985, *The moths and butterflies of Great Britain and Ireland* **2**.

I visited the fence on several occasions between 8th and 19th March that year when dozens were flying only in the early morning, even in light drizzle, but could found later in the day at rest on the adjacent fence. It seems likely that the male larvae fix themselves elsewhere, possibly low down amongst leaf litter, as from a sample of cases collected at random off the fence, only females subsequently emerged.

It is sad to report that the fence has since been removed by British Rail and replaced with open chain link, but the colony may still survive elsewhere in the railway yard.– N.F. HEAL, 44 Blenheim Avenue, Faversham, Kent ME13 8NW.

A second British record of *Peribatodes manuelaria* H.-S. (Lep.: Geometridae)

On the night of 4th August 1994 a female example of the geometrid moth, *Peribatodes manuelaria* (The Lydd Beauty) was taken by K. Redshaw in a mercury vapour trap running in his garden at New Romney, Kent. The first British specimen was taken close by at Lydd, Kent by Miss P. Carter on 27.viii.1990. (This specimen is illustrated in *Br.J.ent.Nat.Hist.*, 1992. **5**: plate III.)

In brief, this species can be distinguished from the two other British members of this genus by a combination of the lack of an obvious pale underside apical mark on the forewing; the shortly pectinate antennae (in the male) and the shape of the postmedian lines on the forewing (intermediate between *P. rhomboidaria* and *P. secundaria*) and on the hindwings which are curved markedly around the discal mark. In the two Kentish specimens, their small size and generally uniform greyish appearance were good initial indicators, although these are apparently not recognised on the continent as criteria that can be applied to all examples of this species. All three species *Peribatodes* are illustrated together in Skou, 1986, *The Geometrid moths of North Europe.*

The 1994 specimen produced a number of fertile ova, and the author forced through several of these to slightly undersized adulthood during November, feeding them mainly on Silver Birch (*Betula pendula*). The remainder are presently being overwintered naturally as small larvae. A

more full account of the occurrence, identification and rearing in captivity of *P. manuelaria* is planned for publication in the *Record* later this year.
– S.P. CLANCY, Dehli Cottage, Dungeness, Romney Marsh, Kent TN29 9NE.

A sighting of the Monarch butterfly, *Danaus plexippus* L. in West Sussex

On Sunday 11th September 1994, at 1225 I received a call from a friend in Keymer, West Sussex who was sure he had sighted a Monarch butterfly in his garden. Although chances of my seeing this butterfly were minimal, I immediately drove to Keymer with my camera, despite the previously sunny weather turning cooler and cloudier. Fortune does occasionally shine upon the entomologist, and the butterfly was still there, resting on Hemp Agrimony, not feeding as all the flowers had failed.
After a single photograph the insect took flight, but returned a few moments later settling high up in a bush. One more circuit of the garden and a brief rest, and this magnificent butterfly rose high into the sky and flew away over the rooftops.– D. DEY, 26 Manor Avenue, Hassocks, West Sussex BN6 8NG.

The Monarch butterfly (*Danaus plexippus* L.) in Somerset

After reading Paul Sokoloff's note with regard to a Monarch *Danaus plexippus* in Kent on 25th July 1994 (*Entomologists Record* **106**: 248), I am prompted to report the following.

On the 2nd September 1994, my wife and son saw and successfully photographed a fine specimen feeding on Red Valerian *Centranthus ruber,* in our garden at Berrow, Somerset (VC6). On 21st September B.J. Hill telephoned me to report a Monarch at Lilstock, Somerset (VC5) while he awaited the reappearance of a rare Melodious Warbler *Hippolais polglotta.* This species is of southern origin and perhaps an indicator of the butterflies origin.– BRIAN E. SLADE, 40 Church House Road, Berrow, Burnham-on-Sea, Somerset TA8 2NQ.

A record of *Luperina dumerilii* Dup. (Lep.: Noctuidae) from Cornwall

I belatedly put on record the capture of a male *Luperina dumerilii* Duponchel (Dumeril's Rustic) from the Lizard Point, Cornwall on 7th September 1983. For the statistically minded it is the second record for Cornwall and chronologically is the 27th of a total 28 published records for the British Isles.

It is a unicolorous form and lacks the pale stigmata and subterminal shading depicted in most illustrations. Because of this it had been misidentified as an aberrant *L. testacea* D.&S. (Flounced Rustic).

My diary records much migrant activity on this occasion and the species listed include *Agrius convolvuli* L. (Convolvulous Hawkmoth), *Mythimna loreyi* Dup. (The Cosmopolitan), *M. vitellina* Hb. (The Delicate) and *Rhodometra sacraria* L. (the Vestal). The expertise of Barry Goater and Martin Honey is gratefully acknowledged.– BERNARD SKINNER, 5 Rawlins Close, South Croydon, Surrey CR2 8JS.

An influx of the Silver Y, *Autographa gamma* L. (Lep.: Noctuidae) in South Devon

A most unusual immigration was observed at the north end of Slapton Sands, Devon, under the cliffs at Strete Gate. On 10th August 1994 an estimated 500 *gamma* suddenly arrived, and began feeding on many available flowers, including valerian, bedstraw and bramble. Similar numbers were observed on each of the next four days, with numbers dropping to around 200 on 15th, 17th, 19th and 20th August. Thereafter, only single figures could be seen.

Prior to the 10th August I had noted only two *gamma* at the site and my garden trap, some four miles away, never produced more than 12 *gamma* in a night during the period of abundance at Slapton Sands.

– H.L. O'HEFFERNAN, 24 Green Park Way, Chillington, Kingsbridge, South Devon TQ7 2HY.

A probable second brood of the Orange-tip butterfly, *Anthocharis cardamines* L. in the South of France

I was surprised to see, and to capture, a fine male Orange-tip on 31st August 1994 in the grounds of my house in Vidauban, VAR in France. The garden is at an altitude of around 300 metres and some 25km inland from the coast at Ste. Maxime. The summer of 1994 in Provence was extremely hot and we regularly experienced midday temperatures of 40°C in August. Most of the regular species were over by the time we arrived at the end of July, possibly encouraged by an equally unusual hot spell in March.

– M.S. HARVEY, 17 Highfields, Ashtead, Surrey KT21 2NL.

***Sitochroa palealis* (D.&S.) (Lep.: Pyralidae) in Oxfordshire**

On 3rd August 1994 a single specimen of *Sitochroa palealis* was found on the sticky surface of a pheromone trap in an apple orchard at Milton Hill near Didcot, Oxfordshire (GR:SU 487899).

The trap was being operated for *Epiphyas postvittana,* but as no other *S. palealis* were caught during the trapping period from June to October, it seems that the moth was caught by chance, rather than by any attraction of the tortricid's pheromone.– M.A. EASTERBROOK, Horticulture Research International, East Malling, Kent ME19 6BJ.

***Parascotia fuliginaria* L. (Lep.: Noctuidae) in September**

A distinctly small, fresh male came to my garden m.v. light on 11th September 1994, the last of eighteen for the year, the first appearing on 28th June, a very early date, and the penultimate specimen on 16th July, although the light was not operated from 20th July to 4th August. This late specimen is probably a representative of a partial second generation in view of its late date, spells of very warm weather in July and August and the considerable lapse of time between 5th August and 11th September. A total of 94 *fuliginaria* have been noted at this garden trap since 1969, but no others in September.

My trap records indicate that here the species is essentially a July/August moth, and this is corroborated by C. Plant (*Larger Moths of the London area*, 1993), whereas for England and Wales in general B. Skinner (*Moths of the British Isles,* 1984) gives June/July. Of the 94 specimens recorded, 66 were in July, 25 in August, 2 in June (29.vi.1982 and 29.vi.1984) and one in September.– B.K. West, 36 Briar Road, Dartford, Kent DA5 2HN.

Two highly notable beetles in West Kent in the 1960s

Mr Keith C. Lewis, of Welling, a coleopterist with whom I have lately corresponded, has informed me (*in litt.*) of certain remarkable captures made by himself in West Kent, of which two in particular call for publication and comment.

Panagaeus cruxmajor (L.): Shoreham, 16.viii.67, one example found in a stump "at the bottom of a deep slope; the field was very wet, with Marsh Orchids (*Dactylorhiza incarnata*)", pointing to a long-established swampy area, though "some years later the field was bone dry and the Orchids gone". This handsome Carabid, in contrast to its less rare congener *P. bipustulatus* (F.), is confined to marshy habitats. There is but one record listed in the Victoria County History of Kent (1908: 126), namely Shooters Hill, in the same vice-county but much farther north-west. The Shoreham record appears to be the last for Kent, though for earlier times Fowler (1887, *Col.Brit.Isl.* **1**: 28) gives Sandgate and Hythe in the eastern vice-county – accidentially omitted, it seems, from the VCH list. *P. cruxmajor* has become much scarcer as a British species since the mid-century.

Staphylinus caesareus Ced.: Joydens Wood, Bexley, one under a birch log, 18.vi.64, identified by Mr H.R. Last and confirmed by myself; never found again despite very many visits to the locality. This species comes very close to the far more frequent *S. dimidiaticornis* Gem. & Har., which was for long mistaken for it in this country, and there are so far very few published records of the true *S. caesareus* in Britain. The present one would seem to be the first not only for Kent but also for eastern England. It is true, of course, that the old Kent records under the name of *caesareus,* though probably all relating to *dimidiaticornis,* ought to be checked where possible. I have never found even the latter species in the county.

I am obliged to Mr Lewis for permission to publish these interesting captures.– A.A. Allen, 49 Montcalm Road, Charlton, London SE7 8QG.

First Kentish record of *Phyllonorycter insignitella* Zeller (Lep.: Gracillariidae)

On 15th September 1984, whilst searching amongst clover on north sloping ground adjacent to the sea near Herne Bay, Kent, for mines of *Parectopa ononidis* Zell. (which were plentiful) I examined a mined leaf only to discover the underside also contained a *Phyllonorycter* mine. Further inspection revealed the presence of mined leaves in relative abundance.

I decided to leave the mines to mature and adverse weather delayed a revisit until 6th October when I collected a good number of mines, which

were principally on *Trifolium pratense,* but a few also on *Trifolium repens.* Confirmation of their suspected identity was obtained when adults force-emerged between 29th January and 21st February the following year.

This appears to be the first confirmed record of *insignitella* in England for over 80 years when the moth was previously recorded only from Co. Durham and Yorkshire.– N.F. HEAL, 44 Blenheim Avenue, Faversham, Kent ME13 8NW.

Butterflies and climate change by **Roger L.H. Dennis.** 302pp. numerous figures and tables. 160 x 240mm. Manchester University Press. 1993. Hardback £50.00; paperback £19.99.

Butterflies are particularly sensitive to climate and are important "bio-indicators" of climatic change. This book, which develops some of the themes in the author's earlier work *The British butterflies – their origin and establishment* (1977), explores how butterflies adapt to climatic gradients and weather patterns and how their biogeography and evolution may have responded to climate change in the past, and how they are likely to respond in the future as the enhanced "greenhouse effect" increasingly alters the world's climate.

The author examines the atmospheric systems in which butterflies live, and which impose constraints upon their activity, development and function. He examines how butterflies thermoregulate, despite their having very little capacity for generating their own heat. Further coverage includes butterflies' life history strategies, their adaptations to seasonality, and their tolerance of extreme conditions. The discussion, often controversial, ranges over population dynamics and species diversity, to the adaptive responses to climate and their use in predicting the impact on butterfly populations of global warming.

The coverage and argument used to support the author's views is detailed and persuasive, and supported by a massive bibliography. A number of new models are proposed – for example to explain how gradients in adult morphology and colour patterns relate to gradients in climate, and the possible implications of global warming are very interesting. As is usually the case with books by Dr Dennis, the language and use of technical terms is uncompromising, and apt to put off all but the determined reader. Nevertheless, this book will be of interest to many professional and amateur students of ecology, biology, biogeography and climatology, and is a major contribution to our thinking in these areas. Iain Munroe

Provisional atlas of the lacewings and allied insects (Neuroptera, Megaloptera, Raphidioptera and Mecoptera) of Britain and Ireland. by **Colin W. Plant.** 203pp. 73 maps. A5. Limp. Biological Records Centre, 1994. £6.50

This is another in the BRC series of *Provisional Atlas of . . .* whose contents belie the somewhat uninteresting title. As is so often the case in books

produced by Colin Plant, the reader gets more than they bargained for. After introducing the Lacewing recording scheme, and covering problems of identification and validation of records there is a check-list of the 73 species covered, followed by the distribution maps and species accounts. For each species there is an easy to see distribution map (*ie* the dots are visible to anyone with adequate eyesight!) and a synopsis of the distribution and status, habitat, collecting and season. There is an assessment of status and Red Data List updating Kirby's original review, and it is pleasing to note that many species are recommended for upgrading to more common status on the basis of the availability of more comprehensive information. There is a bibliography, appendices and index.

At a very reasonable price this book is a mini-handbook on this group of insects and very valuable when combined with other identification guides.

PAS

A catalogue of the British Elateroidea (Coleoptera) in the National Museum of Wales. by **A.H. Kirk-Spriggs & H. Mendel.** 26pp. A4. Limp. National Museum of Wales Entomology Series No. 3. 1994. £3.50 including postage.

The catalogue lists in full the British holdings of the Elateridae, Throscidae and Eucnemidae in systematic sequence, using modern nomenclature. All specimens have been re-identified, and the material on the data label has been reproduced, and any literature references to the specimen cited.

There is a lot of material from the important J.R.le B. Tomlin collection, which incorporates specimens from many well-known coleopterists including Fowler, Joy and Sharp. More modern collections incorporate material from A.E. Gardner and F.D. Buck amongst others. The putative syntypes of the rare *Melanotus punctolineatus* are included. An important work of reference.

Danmarks Svirrefluer by **Ernst Torp.** 490pp. 21 pages of colour illustrations. 483 text figures. 180 x 250mm. Boards. *Danmarks Dyreliv* Bind 6. Apollo Books, 1994. Price 300 Danish Kroner. (available from Apollo Books, Kirkeby Sand 19, DK-5771 Stenstrup, Denmark).

This appears to be a revised and updated version of *De Danske svirrefluer (Diptera: Syrphidae)* by the same author, originally published in 1984. The work deals with the biology, ecology and systematics of the 270 species of Danish hover fly, with keys to the adult flies and early stages. Most species are illustrated in colour by photographs of specimens – not always useful for identification, especially for those species that are predominately unicolorous. Specimens are not in the "set" position as Stubbs & Falk's *British Hoverflies*. There are some excellent photographs of hoverflies taken in the wild, and a number of monochrome habitat pictures.

The text is in Danish and is well laid out, but it is difficult to judge how comprehensive the cover is without a significant command of the Danish

language. Helpfully, each figure has an English translation, and there is a brief English summary for each of the species described. The keys are manageable, with patience and a suitable dictionary although there are more accessible works for those interested only in the British fauna.

The Danes, and particularly Apollo Books have produced some excellent entomological texts – some in English and some in Danish. It is not clear what governs the choice of primary language, but the current series of *Danmarks Dyreliv* have all been published in Danish (recently including the Noctuids, Pyralidae and Oecophoridae – all reviewed in this journal) with the exception of the Geometridae (*Nordens Malere*) which had an English version published by E.J. Brill in 1986 (as *The Geometrid moths of North Europe*). It seems a shame that so much useful entomological information is rendered inaccessible to the average English reader, whose linguistic skills rarely reach even level 1 in the National Curriculum. Paul Sokoloff

Entomological bygones or historical entomological collecting equipment and associated memorabilia by **J.M. Chalmer-Hunt.** 22pp. 10 illustrations. *Archives of Natural History*. 1994. **21**(3): 357-378.

Although not our normal practice to review papers published in journals, this item has come to our attention. It describes a collection of some 200 "entomolgical bygones" collected by Michael Chalmers-Hunt and now donated to the Natural History Museum where it will be suitably housed and displayed. The paper briefly describes each of the items and their origin, with notes and references where appropriate.

The collection comprises a range of items from pins to pooters, nets, cages, light traps, boxes and all manner of other material, with selected items illustrated with photographs. Many of the items are fascinating, for example the various types of light sources and traps used in the past including a fine example of an American moth trap, and an example of Bunnett's wall trap (a device for collecting moths that have settled on walls). An interesting paper for those fascinated by the materials and apparatus used by yesterdays collectors. Paul Sokoloff

National Pyralid Recording Scheme

The first newsletter of this newly launched recording scheme was published in October 1994. It contains details of how to submit records, a list of the species of particular interest – taken from the JNCC *Review of scarce and threatened pyralid moths for Great Britain,* notes on identification and establishment of the accuracy of records and details of further newsletters, of which two per year are planned. Those submitting records receive the newsletter free, with others being charged £3.00. The scheme has no official financial backing so those wishing further information are asked to send a SAE to Tony Davis, The Rangers House, Cricket Hill Lane, Yateley, Camberley, Surrey GU17 7BB.

THE AMATEUR ENTOMOLOGISTS' SOCIETY

The Society was founded in 1935 and caters especially for the younger or less experienced Entomologist.

For details of publications and activities, please write (enclosing 30p towards costs) to AES Registrar, 5 Oakfield, Plaistow, Billinghurst, West Sussex RH14 0QD.

LEPIDOPTERA RECORDS FOR DEVON

Could any Lepidopterists who have spent time doing field work in the County of Devon please send a list of their records for compilation into the county list. Legible field notes, not necessarily in any order, with indications of numbers seen and at least a 4-figure map reference with any other relevant information would be appreciated. All records will be acknowledged, and material returned if requested.

With thanks, in anticipation, Roy McCormick, 36 Paradise Road, Teignmouth, Devon TQ14 8NR.

THE ENTOMOLOGIST'S RECORD

AND JOURNAL OF VARIATION

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

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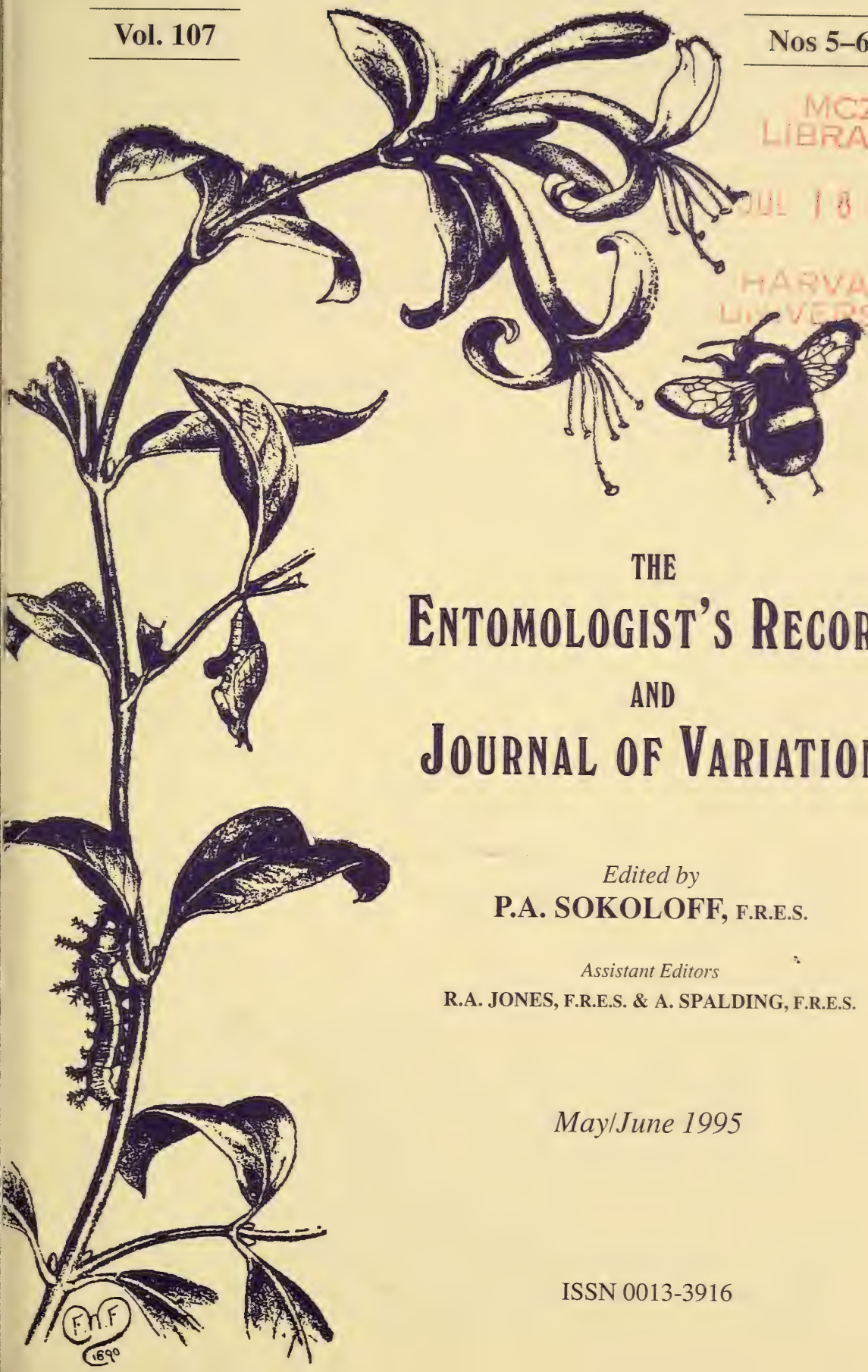

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It would greatly help the Editor if material submitted for publication were typed and double spaced. Two copies are preferred. Please DO NOT use block capitals and DO NOT underline anything except scientific names. Word-processed text should not use italic, bold or compressed typeface. References quoted within the text can be abbreviated (eg Ent. Rec.), but those collected at the end of a paper should follow the standard *World List* abbreviations (eg Entomologist's Rec. J. Var.). When in doubt try to follow the style and format of material found in a current issue of the *Record.*

Illustrations must be the original (not a photocopy) without legend which should be typed on a separate copy. Photographs should be glossy, positive prints. Authors of long papers, or submitting valuable originals are advised to contact the Editor first.

Contributors are requested not to send us notes or articles which they are sending to other magazines.

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ANDRICUS NUDUS (HYM.: CYNIPIDAE) AND *TAXOMYIA TAXI* (DIPT.: CECIDOMYIIDAE): INSECTS NEW TO IRELAND

[1]J.P. O'Connor, [2]P. Ashe, [1]M.A. O'Connor and [3]S. Wistow

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[2]*Department of Zoology, University College, Dublin 2.*
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***Andricus nudus* Adler (Hymenoptera: Cynipidae)**

Co. Dublin: Castleknock (00837), 15.x.1994, gall on a ten year old pedunculate oak (*Quercus robur* L.) planted in a suburban garden, JPOC.

The gall occurred on an oak tree which in the authors' experience has been remarkable in attracting cynipid species. Purchased as a three year old bonzai tree, it was planted in a wild area of the garden in 1987 and has since thrived, now standing at *circa* four metres. The first coloniser was the causer of the silk button spangle gall (*Neuroterus numismalis* (Geoffroy in Fourcroy)) in 1992. Only a small number occurred on the leaves but these represented the first Irish record of the species which was subsequently found to be widespread (O'Connor *et al.,* 1993). The following year, common spangles (*N. quercusbaccarum* (L.)) and cola-nut galls (*Andricus lignicola* (Hartig)) were noted. By 1994, the former were extremely numerous on nearly every leaf and due to crowding, some occurred on the upper side of leaves. Oyster galls (*Andricus anthracina* (Curtis)) are now also present. Two other small oak trees of a similar age in the garden are unaffected by galls.

The spindle-shaped gall of *A. nudus* is a very distinctive one, often greenish in colour with reddish streaks as in the present specimen. It is readily identifiable using Eady and Quinlan (1963), Darlington (1975), Docters van Leeuwan (1982) or Redfern & Askew (1992). Popularly known as "Malphighi's galls", they give rise to parthenogenetic females in the spring after falling to the ground in the autumn. New to Ireland, *A. nudus* is considered to be rare in Great Britain. However, this may only reflect the difficulty of finding the gall which can be very inconspicuous on a tree. The Irish specimen was discovered while inspecting the oak for other galls. After leaving it to obtain an identification work, a full half-hour was required to relocate the gall although its general location was known. No other specimen has been found on the tree. A week later, considerable time was spent searching for the galls of *A. nudus* in the Killarney National Park, Co. Kerry, but without success.

***Taxomyia taxi* (Inchbald) (Diptera: Cecidomyiidae)**

Co. Kerry: Killarney National Park (V9686), 22.x.1994, galls common on yews on the Muckross Peninsula, JPOC, PA & MAOC.

The galls of *T. taxi* were discovered while searching for *A. nudus* and other oak galls in the Park. The species is new to Ireland. The galls occurred in large numbers on yews (*Taxus baccata* L.) growing along Arthur Young's

walk on the Muckross Peninsula near the Colleen Bawn Rock. They varied in density from tree to tree, some of which were unaffected. The yew is a native tree to Ireland and Reenadinna Wood, adjacent to the present site, is the only surviving pure yew forest on the island (Nelson & Walsh, 1993). Immature and mature two-year artichoke galls predominated but mature one-year galls were also present. The latter provide a link between the two-year generations but are missing from some populations (Redfern & Askew, 1992). The life history and morphology of the early stages of *T. taxi* are described by Redfern (1975). The species is widely distributed, occurring in northern, western and central Europe (Skuhrava, 1986). In Britain, it probably occurs almost everywhere there are yew trees (Barnes, 1951). One of the parasitoids, *Mesopolobus diffinis* (Walker) which attacks *T. taxi* (Cameron & Redfern, 1978), has been recorded from Ireland (Graham, 1969) but it was not then known to parasitise *T. taxi*.

Voucher specimens of both species have been deposited in the National Museum of Ireland.

Acknowledgements

The authors are very grateful to D. Kelleher, J. Larner and P. O'Leary of the Killarney National Park for their kind assistance. The O'Connors are also indebted to Mrs Alice Norton for her gift of the Castleknock oak.

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BUTTERFLIES IN JORDAN, SYRIA AND LEBANON, 28.v.94 to 7.vi.94.

PETER B. HARDY

10 Dudley Road, Sale, Cheshire.

THE BUTTERFLIES of Lebanon and Jordan have been thoroughly documented by Larsen (1974) and Larsen and Nakamura (1983) respectively. I am unaware of any recent publication on the butterflies of Syria. The following notes are from a two-week tour of the three countries, and may be regarded as an amplification of some of Larsen's records plus some additional ones. They are all sight and/or photographic records; I do not collect "specimens".

The tour was primarily intended for steam railway enthusiasts, and thus was based on the main railway systems – the "Hedjaz" line from Amman to Damascus via Dera'a, and also southwards from Amman as far as Qatrana; the branch lines from Dera'a to Bosra and from Dera'a to Mzeireib; and the D.H.P. (Société Ottomane du Chemin de Fer Damas-Hama et Prolongements) line now truncated to the Damascus-Serghaya section but which formerly ran from Damascus through to Beirut. The tour also included a day excursion by coach from Damascus to Beirut primarily to investigate the remains of the western section of this line.

Vegetation types in Jordan and Lebanon are described by Larsen and Nakamura (1983) and Larsen (1974). In the present study, most of the sites visited in Jordan fall into Larsen's "Northern Mediterranean" and "Eastern Desert" zones, the flora of each of which is depauperate as a result of centuries of deforestation and overgrazing, and consists primarily of degraded *garrigue,* with virtually no tree cover and the open country heavily grazed especially by goats. Small scraps of grassland with some regeneration of natural vegetation occur in and around towns. The area around Petra, in Larsen's "Southern Mediterranean" zone, provides a greater variety of habitats, ranging from the xeric sandstone of the Roman city to Wadi Musa, the main approach from the east, a quite fertile valley but heavily grazed by horses which are used to transport tourists into the Roman city. At the west end of the site are dry valleys with rocky walls (Wadi es Siyagh and Wadi Kharrubet ibn Jubeimer) containing some established vegetation dominated by oleanders.

The Syrian localities are again mostly sun-baked, degraded *garrigue* with little vegetation, apart from those along the Serghaya line, which starts through a quite fertile and well-wooded, but narrow and steep-sided valley; then opens out between Tequieh and Zebdani; there is the hillside on the south side of the line, with a north-facing slope, referred to in the *Chazara persephone* and *Pseudochazara mamurra* species accounts; Zebdani is a small but "bustling" town but with scraps of greenery; the terminus at Serghaya (altitude 1372m) is in agricultural land below the Anti-Lebanon

foothills. A further habitat type is provided by an artificially planted "forest belt" around the city of Damascus; however, few butterflies apart from the vagile Pierids appear to have adapted to this region.

Of the sites in Lebanon, Rayak is an agricultural area which falls in Larsen's "Syrian Beqaa Zone" (500-1000m), Beirut is in his "Lower Mediterranean" zone and the roadside site when crossing the southern section of the Mt. Lebanon range would fall under his "Upper Mediterranean" zone. The much greater richness of the vegetation in Lebanon than in Syria or Jordan is very noticeable and is paralleled by the number of butterfly sightings and species recorded during the single day's excursion into that country compared with the whole of the remainder of the fortnight. The weather throughout the two weeks was hot and sunny, with only a few spots of rain one day in Damascus.

Understandably, most lepidopterists travelling abroad would normally plan to visit sites known for their species-richness. I have certainly often done so myself. There are, however, also advantages in the alternative method of study of taking a general cross-section of a country as a whole, without attempting to choose sites for their richness, and being constantly on the look-out for whatever butterflies are seen and where. Although the species seen on such a visit are unlikely to include many rarities, it is possible to gain a much truer impression of just what proportion of the whole environment butterflies are still able to utilise, and which species are best adapted to utilise it. Butterflies are generally accepted as good "indicator" species. Thus a rail tour, with frequent photographic stops along the route, chosen for their variety and representative of the "real" country and not restricted either to "tourist" sites or to selected nature reserves, can offer an ideal opportunity for such a study.

Species accounts are treated as follows: Scientific name; common name (following Larsen, 1974); localities with approximate numbers seen, or "N" when several specimens were seen but the exact number not recorded (for key to localities see Table 1. Where sets of initials separated by a dash are given, this denotes an unnamed location between the two, for example "R-BE" means an unspecified location between Rayak and Beirut).

Papilio machaon syriacus Verity 1905 (Swallowtail)
Jordan: M(1). Lebanon: BE(R)(1), J(1).
No obvious breeding habitat was noted anywhere. Larsen (1974) remarks that in Lebanon the species favours disturbed land. Of the three sightings, two were opportunist nectaring, one utilising the wild flowers which had almost wholly taken over the abandoned main railway yard in Beirut, and the other in totally unsuitable habitat outside a café in Jounieh, utilising ornamental flowers in pots. The third sighting was an individual on passage, overflying the station yard at Mafraq during a lunchtime stop on 29.v.94.

Iphiclides podalirius virgatus Butler 1865 (Pear-tree Swallowtail)
Syria: G(1).
A single sighting, at 12.52pm on 5.vi.94, overflying Ghazale station on the main Damascus-Dera'a railway line, during a half-hour stop there.

Pieris brassicae catoleuca Röber 1896 (Large White)
Jordan: P(G)(1), P(C)(c.6). Syria: C(1), DC(1), DU(1), T(?).
Lebanon: R(W)(1).
The only site where this species was seen in any numbers was Petra, on 31.v.94. At the entrance to the dry river-valley (Wadi es Siyagh) at the west end of the Roman city, several were noted patrolling, around mid-day, and were flying in and out of small caves on the shady north side of the valley. Elsewhere, sightings were limited to singles in the Damascus area and at Rayak.

Pieris rapae leucosoma Schawerda 1905 (Small White)
Jordan: A1-4(N), A(H)(N), JE(N), J(A)(1), M(2+1). Syria: B(C)(N), B(H)(N), B(S)(1), C(6), D(C)(1), D(S)(1-2), D'A-D(1), D-DU(1), S(N), T(?), Z(3), Z-S(N). Lebanon: BE(S)(5), BE(R)(16), R(B)(1), R(S)(N), R(W)(2).
This species was far more numerous than *P. brassicae* and able to exploit most biotopes apart from open desert. It was to be found in any area of cultivation or populated area with some open space. The highest concentration seen was in the abandoned railway yard at Beirut, on 3.vi.94. At the Jordanian and Syrian sites it frequently occurred with *Pontia daplidice* but was always out-numbered by that species.

Pieris napi dubiosa Röber 1907 (Green-veined White)
Syria: Z(1).
A single confirmed sighting, at Zebdani, nectaring on a white Crucifer growing in a small wet flush beside a road in the outskirts of the town, along with several *P. rapae*. This subspecies is difficult to distinguish from *P. rapae* so could be under-recorded; however, very little of the damper habitat normally favoured by *P. napi* was observed anywhere.

Pontia daplidice daplidice Linné 1758 (Bath White)
Jordan: A1-3(N), A(H)(N), DS(1), DV(2), JE(N), LF(N), M(4), P(AR)(N), P(G)(1), P(O)(1), P(VC)(N), P(C)(3), QH(1), ZE(1), Syria: B(C)(N), B(S)(1+2), C(14), D'A(N), D'A-D(N), D(C)(1), DER(2), G(2), S(N). Lebanon: BE(R)(1), R(S)(N), R(W)(1).
An extremely successful species; in Jordan and Syria it was the commonest butterfly and likely to be seen anywhere including open desert. A site where it was particularly numerous was the railway works at Cadem, near Damascus. There were a number of weedy as well as some cultivated Crucifers around this site; during approximately two hours, fourteen *P. daplidice,* six *Pieris rapae* and one *Pieris brassicae* were noted; no other butterflies were present here. It was noticeably less frequent, and either absent or outnumbered by *P. rapae,* at the lower-altitude Lebanese sites.

Colotis fausta fausta Olivier 1804 (Salmon Caper)
Jordan: DS(1), P(G)(6), P(VC)(N), P(C)(2).
This species is migrant, but a strong seasonal population was present at Petra, especially in the dry valley (Wadi Siyagh) leading westwards away from the Roman city at its western end; a female was seen ovipositing on a tiny plant of *Capparis,* half-hidden by other vegetation and in the shade of the rocks on the north edge of the valley. Males were patrolling this area; several males were also seen outside the main habitat, including the very deep, vertical-sided gorge (Es-Siq) which provides the main entrance to the Roman city, from the east. Some of these disorientated butterflies were pausing to nectar on the scant flowers at the side of the gorge.

Colias croceus croceus Geoffroy 1785 (Clouded Yellow)
Jordan: LF(1), P(VC)(1). Syria: B(H)(1), D'A-D(2-mating pair), T-Z(1), Z(1), Z-S(1 *helice*). Lebanon: R(S)(1).
Singles of this migratory butterfly were seen in a number of different sites, particularly where there was some cultivation. A mating pair, the female being a *helice,* was observed on a chance stop made for the purpose of photographing the steam train on the journey from Dera'a to Damascus 1.vi.94.

Gonepteryx rhamni meridionalis Röber 1970 (Brimstone)
Syria: S(1). Lebanon: BE(H)(1).
Two sightings only: one was seen from the coach on the descent into Beirut, in a suburban area; and another at Serghaya in agricultural land.

Polygonia egea egea Cramer 1775 (Southern Comma)
Jordan: J(1), P(VC)(1). Syria: B(C)(1), B(H)(1).
This is a thermophilic Mediterranean species and all the sightings were at xeric sites with much bare ground and stone walls or ruins, providing the surfaces on which it likes to bask.

Pandoriana pandora pandora Denis & Schiffermüller 1775 (Cardinal)
Syria: S(1).
One at Serghaya, just south of the station area, beside a lane with hedgerows in agricultural land. The butterfly settled briefly on top of a hedge, flew off when approached, made two circuits of the area, again once briefly settling, and was then lost.

Melitaea trivia syriaca Rebel 1905 (Mullein Fritillary)
Jordan: DS(1). Syria: H(1). Lebanon: BE(R)(2).
This species was seen in widely differing habitats. A small colony was found in the abandoned C.F.L. railway yard, near sea-level in Beirut. Larsen (pers. comm.) confirms that old railway yards are ideal for the larval hostplant. Another small population was found on the steep, north-facing, sparsely vegetated hillside south of the railway line from Damascus to Serghaya, in

the Nahr Berada valley; and a single *Meliatea,* which briefly paused to nectar on an isolated thistle flower by the lineside at a photographic stop in the desert south of Mafraq was presumably this species.

Melanargia titea titea Klug 1832 & *M. titea palaestinensis* Staudinger 1901 (Levantine Marbled White)
Jordan: (WM)(wing!). Syria: H(1), S(1), Z(1). Lebanon: R-BE(N), R(S)(1), R(B)(1).
This species gave the impression of being much more widely distributed and common in the more fertile Lebanon than in Jordan and Syria. In Lebanon it was found at an altitude of approximately 1500m. during a brief stop where the main Damascus-Beirut road crosses the range of hills (Jabel el Knisse) forming the southern foothills of Mt. Lebanon, as well as in grassland at Rayak, in the Beqaa Valley. In Syria it was seen in smaller numbers on the north-facing hillside above the railway line from Damascus to Serghaya, and also at Serghaya and Zebdani and gave the impression of being generally distributed, but not abundant, in that area. The butterfly was not seen alive in Jordan, but a single detached wing was found outside the "Petra Forum" hotel, Wadi Musa – this could either be an indicator of a local population, or else the wing might have inadvertently been carried there in a tourist vehicle – the latter explanation is perhaps more likely as Larsen & Nakamura (1993) do not give any records of the species in the Petra area.

Chazara persephone transiens Zerny 1932 (Great Steppe Grayling)
Syria: H(N), Z(2).
This species occurred on the north-facing hillside west of Damascus on the railway line to Serghaya, flying in company with *Pseudochazara mamurra.* It was also seen in less suitable habitats nearby, including the town of Zebdani, giving evidence of a strong local population with powers of dispersal. Larsen (1974 and 1983) remarks on it being "very scarce", however, he adds (pers. comm.) that when found it may be numerous. He has also confirmed my identification of this species from a photograph.

Pseudochazara telephassa telephassa Hübner 1819-26 (Telephassa Grayling)
Jordan: A(S)(1+1+1), A(CS)(2), A3(1), A4(2), DV(1), P(VC)(1?), QH(1).
It was worth looking for this species in rocky places in Jordan where the topography of the rocks would provide at least some shelter. The small engine shed just north-east of Amman station is at the base of a steep, rocky hillside, beneath houses and with much dumped rubbish, but even here in a scrap of land behind the shed building, which received the early morning sun, a single *P. telephassa* (the same individual?) was seen on three mornings. The butterfly appeared to have roosted overnight in a small cave and on one occasion was observed to fly back into the cave and settle inside. The species was also seen at several other sites along the railway line south of Amman and once at a stop in the desert on the way to Qatrana.

Pseudochazara mamurra larseni Kocak (Buff Asian Grayling)
Syria: B(C)(2), B(H)(1), H(N), Z(N).
A Satyrine flying on the steep north-facing hillside above the Serghaya line, west of Damascus, in company with *Chazara persephone,* was tentatively identified by me as *P. pelopea,* but Larsen (pers. comm.) has identified it from my photograph as *P. mamurra.* The butterfly occurred in numbers on that hillside, and, like *C. persephone,* was also seen in marginal habitats nearby including Zebdani town. Another locality was Bosra; the xeric surrounds of the Roman castle provided suitable habitat and it was also in the grounds of the "Cham Palace" hotel. These Bosra examples may have been *P. pelopea*; Larsen (pers. comm.) remarks that *P. mamurra* usually emerges later than *P. pelopea* and being lighter in colour is often passed over as a faded *P. pelopea.*

Maniola telmessia telmessia Zeller 1847 (Oriental Meadow Brown)
Lebanon: R(S)(1).
A single fresh specimen was seen at Rayak 3.vi.94. Very probably the emergence was only just beginning – I had expected this species to be a lot commoner.

Ypthima asterope asterope Klug 1832 (African Ringlet)
Lebanon: BE(S)(8).
A localised colony occurred around the old locomotive maintenance pits at the former D.H.P. engine-shed in Beirut (port area). None were found anywhere else. Larsen (1974) refers to this as an eremic species and mentions that it is consistently found in the monotonous "*garrigues*" even where there are no small valleys and gorges; he also refers to it as the only widespread species in those areas. This Beirut locality, however, was well vegetated and quite shady, with regenerating trees around the locomotive storage area.

Pararge aegeria aegeria Linné 1758 (Speckled Wood)
Syria: DU(1), V(N).
Seen in numbers in the well-wooded valley (Nahr Berada) followed by the Serghaya line north-westwards from Damascus, mainly around Dummar, the first station west of Damascus. No suitable habitat for this species was seen elsewhere.

Lasiommata maera orientalis Heyne 1984 (Large Wall Brown)
Lebanon: BE(C)(2).
The bomb damage in the centre of Beirut had provided a transient habitat for this butterfly and during a brief stop to view the appalling destruction two examples were noted, in a small area of grass and regenerating vegetation, thermoregulating on the rubble. Not seen elsewhere.

Lycaena phlaeas timeus Cramer 1777 (Small Copper)
Jordan: A(H)(1). Lebanon: R(W)(1).
Two sightings, one on a small area of vacant grassland in the residential district of Shmeisani, Amman, and one by a roadside at Rayak, Lebanon. The Amman site was burnt the following day and searches in similar sites in the vicinity failed to find any more. Clearly, however, the butterfly is able to find and locate small scraps of habitat in suburban areas amidst largely unsuitable environment. The subspecies *timeus* has the orange ground colour of the upperside forewing heavily overlaid with dark scales.

Lycaena thersamon omphale Klug 1834 (Lesser Fiery Copper)
Jordan: A1(1), A2(2), A(H)(2+2), DS(1), M(1), P(O)(2-3), QH(1). Syria: B(H)(1+N), B(S)(1), Z(1).
By far the most successful Lycaenid in the area, much more so than *L. phlaeas*. It was worth looking for in any scrap of green. Larsen (1974) refers the race to *kurdistanica* Riley 1921, mentioning that *omphale* was probably only a seasonal form; however, Larsen & Nakamura (1983) refer it to ssp. *omphale*. *Omphale* is frequently understood to refer to the form of the female with tails to the hind-wing; I saw both tailed and untailed females.

Lampides boeticus boeticus Linné 1767 (Long-tailed Blue)
Jordan: A(H)(2). Syria: B(H)(1).
A migrant species likely to turn up in any suitable habitat; noted at Amman (Shmeisani) and in the grounds of the "Cham Palace" Hotel, Bosra. A Lycaenid seen briefly in very xeric habitat at Jiza (the station near Queen Alia International Airport) was probably this species.

Tarucus balkanicus balkanicus Freyer 1845 (Little Tiger Blue)
Syria: Z(1).
One was seen in Zebdani, nectaring, on rubbish-strewn waste land by a stream in a small valley in the suburbs of this town.

Freyeria trochylus trochylus Freyer 1845 (Grass Jewel)
Jordan: A2(1?).
One unconfirmed sighting beside the railway east of Amman.

Aricia agestis agestis Denis & Schiffermüller 1775 (Brown Argus)
Jordan: A3(1), QH(1).
Larsen and Nakamura (1983) state that in Jordan this species "is restricted to the northern Mediterranean zone and can only be described as rare". Having found it by chance in two localities in the Amman area, on tiny patches of *Geranium* growing close to the railway, above the tunnel hill and at Qasir um al Heeran station, I incline to the belief that it may be commoner than Larsen and Nakamura suggest.

Polyommatus icarus zelleri Verity 1919 (Common Blue)
Jordan: A1(2-3), A2(1), A(H)(3-4+N), J(3), M(1), P(O)(c.3). Syria: T(c.3). Lebanon: JOU(1), R(W)(1).

Like *Lycaena thersamon,* this species seems well able to exploit small patches of habitat. In several localities the two species occurred together, including the scraps of wasteland in the Amman area, though *P. icarus* was less widely distributed. *P. icarus* also shared habitat with *L. phlaeas* in the two sites where that species was found.

Carcharodus alceae alceae Esper 1780 (Hollyhock Skipper)
Jordan: A2(1), P(AR)(1), P(O)(N), P(VC)(1), P(C)(3), QH(1).
Syria: D'A-D(1).
Petra was an evident stronghold. Others were seen on small areas of grassland beside the railway in the Amman area. The only sighting outside Jordan was one beside a bridge over the railway during a brief photographic stop on the journey between Dera'a and Damascus 1.vi.94. It is possible that some of the sightings, particularly at Petra, could have been *C. stauderi ambigua* Verity 1925 or *C. orientalis maccabeus* Hemming 1932.

Table 1. Localities.

(a) Jordan.

A(S) 31°58'N 35°58'E AMMAN ENGINE SHED.
Steep rocky cutting and very small patch of waste ground behind shed building, immediately north-east of Amman station.

A(CS) 31°58'N 35°58'E AMMAN (cutting south-west of station).
Steep-sided railway cutting through limestone.

A(1) to A(3) AMMAN – sites beside the railway line to Qasir um al Heeran, south-east of the city (distances from Amman station by railway in kms):
A(1) cemetery; adjacent grassland on hillside (0.8).
A(2) cemetery; adjacent grassland in valley (3.4).
A(3) west-facing hillside above mouth of short tunnel (6.2).

A(H) 31°58'N 35°54'E AMMAN – vicinity of Al-Qasr Hotel, Shmeisani, north-west of city; small areas of vacant grassland/wasteland amidst residential area; grass subject to burning.

DS (DESERT STOPS) – various stops during train journeys, Amman-Mafraq.

DV 31°23'N 36°07'E (DESERT VALLEY) – photographic stop on train journey from Amman southwards to Qatrana.

J(A) 31°42'N 35°58'E JIZA – station on railway south of Amman, intended to serve Queen Alia International airport; desert vegetation.

JE 32°17'N 35°53'E JERASH – Roman city and environs.

LF (LINESIDE FIELDS) – train journey, Amman-Mafraq.

M 32°20'N 36°12'E MAFRAQ – area around station; very arid; a few small trees.

P 30°19'N 35°27'E PETRA – Roman city and environs:
(AR) above ruins
(VC) Valley and caves
(C) the Roman city
(G) the gorge leading into Petra from Wadi Musa
(O) the open grassland and dry valley above the gorge.

QH 31°54'N 35°56'E QASIR UM AL HEERAN – suburban station south-east of Amman; 12.5km from Amman station by rail; adjacent grassland.

WM 30°19'N 35°29'E WADI MUSA – the "Petra Forum" hotel.

ZE 32°02'N 36°06'E ZERKA – area around station.

(b) Syria.

B 32°31'N 36°29'E BOSRA:
(C) Bosra castle – Roman citadel, and the grassland below
(H) the grounds of the "Cham Palace" hotel – several flower-beds
(S) the area around Bosra station.

C 33°28'N 36°18'E CADEM (also spelt QADAM) – decadent railway works near Damascus; still active but the locomotive storage yard very over

D 33°31'N 36°18'E DAMASCUS:
(C) city
(S) the main station (Kanawat).

D'A 32°38'N 36°06'E DERA'A – border station on the main "Hedjaz" Amman-Damascus line; active but with some weedy vegetation.

(D'A-D) various lineside stops between Damascus and Dera'a.

DER 33°17'N 36°18'E DERALI – station between Damascus and Dera'a; desert.

DU 33°30'N 36°14'E DUMMAR – first station west of Damascus on Serghaya line; in wooded valley.

G 32°44'N 36°12'E GHAZALE – station between Damascus and Dera'a; desert.

H 33°34'N 36°05'E (HILLSIDE) – north-east-facing sloping valley side south of Damascus-Serghaya railway line; rocks and sparse vegetation.

S 33°49'N 36°09'E SERGHAYA – current terminus of the former DHP (Damas-Hama et Prolongements) railway from Damascus to Beirut: agricultural area around station yard.

T 33°39'N 36°04'E TEQUIEH – station on Damascus-Serghaya line.

V 33°34'N 36°13'E (VALLEY) – north-west of Damascus the railway line to Serghaya initially follows the narrow, wooded valley of the Nahr Barada river.

Z 33°44'N 36°06'E ZEBDANI – small "bustling" town on Damascus-Serghaya railway; station yard; cultivation and wasteland in valley.

(c) Lebanon.

BE(C) 33°53'n 35°30'E BEIRUT CITY – Najmeh district, near post office headquarters; severely bomb-damaged streets with much pioneering vegetation overgrowing ruins.

BE(H) 33°51'N 35°32'E – suburban hill near Beirut.

BE(R) 33°52'N 35°32'E BEIRUT RAILWAY YARD – extensive area of sidings around the former C.F.L. (Chemin de Fer de l'Etat Libanais) station; disused; now well vegetated with abundant wild flowers.

BE(S) 33°54'N 35°32'E BEIRUT (SHED) – abandoned DHP locomotive depot with stored engines near Beirut port area.

JOU 33°59'N 35°38'E JOUNIEH – seaside resort north of Beirut.

R 33°51'N 36°00'E RAYAK – small town in southern Beqaa valley; formerly an important railway junction:
(B) bridge over railway, outside town
(S) disused station and surrounding area; overgrown sidings; agricultural land; grass verges
(W) works – DHP locomotive store; now controlled by the military; adjacent roadside verges.

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FURTHER OBSERVATIONS ON THE *EREBIA LIGEA* (LINNAEUS) AND OTHER CONTROVERSIES.

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THE EARLIEST PHOTOGRAPH, consisting of a permanent image of paintings on glass, was taken by Thomas Wedgwood in 1802, almost exactly one year before the redoubtable Adrian Hardy Haworth was to write, "I have recently heard that *Papilio Apollo* of Linnaeus has been found in Scotland, but I have not seen a British specimen." Haworth's image, unlike Wedgwood's, was strangely evanescent, but it was to signal the start of almost two hundred years during which a number of improbable sightings or captures of outstanding butterflies, in unlikely localities, were reported by lepidopterists, famous or otherwise. We were to read of Large Coppers in the West Country, Large Blues in Ireland and the Hebrides, Apollos in the Scottish Highlands and even an Arran Brown at Margate in Kent. These reports make fascinating reading and strongly promote the view that man's quest for the unicorn goes on and on.

"Inquisitor", writing in the *Entomological Magazine* in 1836, deplored the fact that butterflies in collections up and down the land, and purporting to be British, were often of Continental origin. There was a flourishing market in Continental specimens, with exotic but strangely plausible labels, and the equally plausible Victorian collectors nurtured a considerable number of fraudulent dealers. A group of these became infamous as the "Kentish Buccaneers" (Allan, 1943), and they successfully manipulated the market so as to undermine the confidence of serious collectors. "Inquisitor" demanded a complete revision of the British "List", and suggested that 34 species commonly found adorning British cabinets had no right to be labelled British. It is of interest to read his comments on two of these. "*Chryseis* (Purple-Edged Copper): In every collection of any importance, either in town or country; sometimes a whole series of males, females and undersides, being displayed; to be purchased abundantly of dealers at a price seldom exceeding one shilling for a specimen." And again, "*Virgauriae* (sic) (Scarce Copper): In every collection; I have seen nearly a thousand of this species, said to be British; fine recent specimens, said to be taken last year (1835), may be purchased abundantly, and at a very low price, of many dealers. I am not aware that a single syllable, even hinting at a capture of this insect in Britain, has ever been written." "Inquisitor" ended his diatribe with a list of "unquestionably" British species, but with the caution that the majority of specimens of *Pontia daplidice* (L.), *Argynnis lathonia* (L.) and *Nymphalis antiopa* (L.) in British collections were "decidedly and evidently exotic . . . and may be purchased for a mere song."

But to return to A.H. Haworth and his Apollo butterfly. Edward Newman (1870-71) also recalled this specimen when he quoted his correspondent J.C.

Dale, the squire of Glanvilles Wootton in Dorset. "The late Mr Haworth informed me that a lady, whom Mr Curtis believed to be the Marchioness of Bute, told him that she had received a specimen from some alpine place on the west coast in the north of Scotland." Dale had gone on to add – "Mr Curtis was convinced he saw a specimen of *Apollo* flying over the top of a house at the foot of Ben Lawers", while Henry Austin (1856), in a note to the *Zoologist,* begged to inform everyone that he had – "yesterday met a man who assured him that he saw *Parnassius Apollo* at Hanwell six years ago. At a time when Apollo's claim to be a British insect is under discussion every scrap of information is of value." It was not until G.B. Wollaston (1856) wrote to Edward Newman concerning the actual capture and identification of an Apollo butterfly in Kent that some sort of peace seemed likely, but Wollaston unfortunately failed to stop there. He went on to talk of other spectacular captures and Newman was soon on the warpath. Under the imposing heading – *Capture of Parnassius Apollo at Dover; also Argynnis Lathonia, Chrysophanus dispar and Catocala Fraxini, near Chiselhurst, in Kent.* – he informs us that – "Mr Dale having obligingly given me a clew to the history of these splendid captures, I immediately wrote to Mr G.B. Wollaston, of Chiselhurst, who was acquainted with the particulars, and forthwith received the following most courteous reply:-

"Chiselhurst, 1st February, 1856

My dear Sir,

As you wish for more particulars about the capture of *Parnassius,* I have been to-day to see the person who took it, and hear from his own lips all about it. He was lying on the cliffs at Dover, in the end of August or the beginning of September, 1847 or 1848 (he cannot remember which), when the butterfly settled close to him, and not having his nets with him, captured it by putting his hat over it; he then carried it to his lodgings and shut window and door, and let it go in the room and secured it. He had not the slightest idea what it was till he saw it figured in some work afterwards. The insect has all the appearance of having been taken as he describes; and as he has no object to deceive, and is a person in whom I can place implicit confidence, I have no doubt, in my own mind, that the specimen is a British one. It will probably be in my own collection before this letter reaches you, when I shall be most happy to show it to you at any time you are this way . . ."

Lepidopterists could not but have been reassured by this letter although the identity of the captor has never been revealed. Since then, the history of *Parnassius apollo* Linnaeus in Britain has been critically reviewed by A.M. Morley and J.M. Chalmers-Hunt (1959), who unearthed at least one more genuine British Apollo (also from Kent) in their review, as well as reinforcing the impression that the central theme running through most of the

early reports was one of vagueness and romantic imagery. If we return to Wollaston's letter and read on, we learn that other rarities were out and about. After writing about *P. apollo* he goes on to say –

> "with regard to *Argynnis lathonia,* I have perhaps, unintentionally, misinformed Mr Dale. It *was* captured in this neighbourhood, *not* by himself, but by an intimate friend and fellow entomologist, now dead. He has taken *Colias hyale,* female, on this common, *Chrysophanus dispar,* male, in this parish, – his friend the female . . ."

Large Coppers at Chislehurst? Such a claim could hardly inspire confidence, but other reports from the West Country were to follow.

There is limited but compelling evidence that the Large Copper may have flourished in the West Country some two hundred years ago. Five specimens of *Lycaena dispar,* together with a single Scarce Copper (*Lycaena virgaureae* Linn.), in the Somerset County Museum, Taunton, are accompanied by a pencilled label – "Possibly the specimens of the Large and Purple-edged Copper [wrong identification] caught by the Quekett brothers at Langport . . ." The Quekett brothers (E.J. and J.T.), of microscopy fame, were local collectors who allegedly gave their collection(s) to the museum in 1876-77. However, the curator at that time, William Bidgood (see Sutton 1993), wrote to A.E. Hudd (1906), "Early in the last century the late Professor [J.T.] Quekett and his brother (a banker at Langport), formed a museum in the 'Hanging Chapel' there. This was transferred to our society about 1867. The collection had been much neglected, so that when I went to take possession I found everything covered with mildew, moth playing havoc with the birds and mites with the insects. There were here also, three or four *dispar* which I was assured by the family were taken at Langport . . ."

R.G. Sutton (1993) has examined the evidence relating to the Quekett Large Coppers. He suggests that the specimens may no longer exist as their distressed condition, when William Bidgood took possession of them, may have precluded their addition to the collection. He goes on to say that the present museum specimens could be those caught by John Woodland, another local collector, who also presented his collection to the museum. The Curator's manuscript (still in existence at the Historical Library, Taunton Castle) states, "About the year 1864, Mr Woodland gave me a small collection of butterflies taken near Langport early in the century; among them were two or three *L. dispar* which he told me were taken by himself. In his early days he had taken care of them, but he got old and neglected them, so that when they came to me they were dilapidated . . ." Unfortunately these facts still do not prove beyond all doubt that the specimens were of Somerset origin, and with this in mind we should study the Bidgood list that is still in existence today. It includes *Parnassius apollo, Argynnis lathonia, Vanessa antiopa, Lycaena dispar, Lycaena virgaureae, Polyommatus acis,* and *Polyommatus alexis*. This list seems almost too good to be true and leads one to ask if the entomological dealers of the day had provided Woodland with Continental specimens to fill gaps in his collection.

The redoubtable J.W. Tutt (1906) voiced his opinion of the Langport Large Coppers – ". . . one would like more authentic information", a sentiment that all would surely agree with. If the Queckett brothers and John Woodland did take *L. dispar* in Somerset, they were not alone. Other reports followed. In 1857, W.D. Crotch, a prolific writer on matters entomological, contributed a startling note to the *Entomologist's Weekly Intelligencer*. Under the title "Doings in the West", he described a collecting trip to Weston-super-Mare in Somerset (20 miles from Langport). "*C. dispar* fell ignobly, slain by the hat of a friend, who kindly made the spoil over to me, in utter ignorance of its rarity, and I much regret that my absence from the locality prevents a search, which, if one may trust the aborigines, would have had a fair chance of success." This discovery, at a time when the Large Copper was nearing the end of its time in the fens of East Anglia should have merited a further expedition to Somerset. However, there is no record of such a trip – merely the comment, "We gave up hopes of *C. dispar, &.*, because the time for *T. betulae* (Brown Hairstreak) was drawing near, and we were in many instances pledged to our numerous correspondents of last year to send them, when possible, better specimens . . ."

W.S.M. D'Urban (1865) in reporting a meeting of the Exeter Naturalist's Club commented without further details that a specimen of *Chrysophanus dispar* was exhibited by Mr Wentworth Buller. Apparently it had been "picked up dead among sedges at Slapton Lea". As Slapton Lea is one of the few places in Devon where the larval foodplant, *Rumex hydrolapathum* Hudson, grows, it is just possible that the Large Copper may have flourished in that area, and Slapton Lea is only 60 miles from the Somerset marshes where the Quekett brothers were collecting. If the Large Copper had limited its resources to East Anglia and the West Country all would have been well, but Joseph Merrin cast his net wider. In 1899 he found it at Monmouth. His account of this event makes splendid reading. "In that year (1855), accompanied by the staff of the *Gloucester Journal*, of which I was sub-editor for 26 years, in celebrating their annual "waze-goose," or outing, we called upon Mr Robert Biddle, of Monmouth, a friend of one of the party. He had a large case of butterflies and moths hanging up, which he had taken, and I was much struck with four specimens of *C. dispar* occupying a central position among them. I had then only recently begun to collect. On my drawing his attention to them he said he took them some time previously on the slopes of the Doward Hill, bordering the river Wye, not far from Monmouth. He seemed to set no great value upon them. My great admiration of them appeared to interest him, and I was delighted the next day on opening a small packet brought to the *Gloucester Journal* office by the Monmouth coach (there was then no railway) to find two specimens of the *C. dispar* I had admired, which Mr Biddle said, in a short note, he was pleased to present to me. The appearance of these specimens, with their "poker" pins and slightly damaged antennae, and the circumstances under which they were given to me, leave no doubt of their British origin. . . .

Some year or two after *C. dispar* had pleasantly filled a blank in my cabinet, I made a three days' holiday tramp along the banks of the Wye from Ross to Chepstow, following its windings with the sketches of an amateur and the net of a young lepidopterist. In passing over the Doward Hill I reconnoitred the locality as far I was able, and I saw much marsh land bordering the Wye, but quite unsearchable unless shod with jack-boots. In the hopes of getting a better glimpse of the lower slopes of the hill, I rang the bell at the residential gate, but was politely told that as the family were away a stranger could not be allowed to examine the grounds, and I had to leave with regret, 'neath a broiling sun, what seemed classic ground, and sought refuge in the shady streets of old Monmouth . . ."

The past ninety years have seen further remarkable sightings and reports – many in the vernacular. P.B.M. Allan, the doyen of entomological gossips, related how S.G. Castle Russell had described to him a strange entomological event which had occurred some forty years previously. His wife, who "had been collecting with me for many years", and a friend, W.G. Mills (a biology master whose sons collected butterflies), were motoring in Devon and coming to a place somewhat off the beaten track, saw "numbers of Large Coppers flying. We tried to knock some down, but they flew too fast for us. Flying in the sunshine they looked most beautiful." Details of this wonderful event are described *in extenso* by Allan (1980) in *Leaves from a Moth-Hunter's Notebook*. In 1966, Allan increased the number of sightings when he quoted a friend ("whose word could be implicitly relied on"). "My wife was driving our car down a single track, a remote lane in the West Country, and I was sitting in the back with one of my sons. I had been watching the butterflies on the grass verge, feeding on the flowers, when all at once, and at closer range, I saw a butterfly which I was convinced was a Large Copper.

I shouted urgently for my wife to stop, but she replied that we were late already for lunch with friends, and drove on; and so, the occasion was lost." He went on to reminisce, – "I have seen the Large Copper – *batavus* – flying at Wicken fen. What a brilliant insect it is! And I've caught *virgaureae* in Switzerland." Allan was convinced that his friend had seen one of the larger Copper butterflies, but once again, there was no capture, and curiously no follow-up, to prove it.

On the 28th of July, 1938, Professor J.W. Heslop Harrison wrote to H.M. Edelsten from the Island of Rhum in the Hebrides. He ended his letter with an extraordinary postscript. "The most remarkable thing here is *Lyc. arion*. We have seen two but did not catch them" (Campbell, 1975). Later, however, in a letter to N.D. Riley (25.4.1939) he suggested that he had only meant to record "the possible occurrence of *M. arion* on Rhum . . . Attention was merely drawn to the possibility and to the observation of two people so that some future worker could verify or disprove our notions." With this apparent climbdown, rumour and speculation should have died, but, in 1948,

Heslop Harrison contributed a chapter to *The New Naturalist: A Journal of British Natural History*; and in this he mentioned once again "the presence on Rhum of such species as the Large Blue butterfly (*Maculinea arion*) . . ." And so, the Large Blue controversy once more came to life. In a masterly analysis of the situation, J.L. Campbell (1975) was forced to the conclusion that the Professor's ardent and competitive personality had laid him open to a student's practical joke. Be that as it may, no specimens of the Large Blue butterfly have ever been taken on Rhum or, indeed any of the Scottish islands, and no one now seriously believes that it has ever been found north of the border. Unfortunately the matter did not rest there and, in 1962, a young man called at the National Museum in Dublin and after examining the collection informed the Curator that he had discovered the Large Blue butterfly at Dunboy in West Cork. He had no specimens to prove this but in 1963, H.C. Huggins and E.S.A. Baynes explored the locality carefully, finding no Large Blues but a number of the very bright coloured Irish form of the Common Blue (*Polyommatus icarus* Rott.? ab. *mariscolore* (Kane)). Huggins (1973) described their search and concluded that the young man's sighting, like the Hebridean one, was "very Rhum". Since then, no more has been heard of the Irish Large Blue and the matter appears to have been laid to rest.

The Arran Brown (*Erebia ligea* (Linnaeus))

One of the more convoluted histories concerns the Arran Brown. This butterfly has proved singularly elusive. Its curious history in Britain has been discussed at length by E.C. Pelham Clinton (1964) and, as a result, much of the mystery has been resolved. There are, however, a number of unanswered questions. The first published account of *E. ligea* occurring in Britain is that of James Sowerby (1804-06) in his *British Miscellany*. Under the title *Papilio blandina* he wrote, "This newly discovered species of *Papilio*, as a native of Britain, was caught in the Isle of Arran, one of the Western Islands of Scotland." Unfortunately he used the wrong appellation, for *Papilio blandina* was the name used earlier by J.C. Fabricius for *Erebia aethiops* (Esper), and Sowerby's figure is certainly that of *E. ligea*. A few pages further on he figures *E. aethiops* under the title *Papilio ligea*; stating that "This is another new British insect, procured by A. MacLeay, Esq. Sec.L.S., from the same place as the one figured in tab. 3 [should be tab. 2] of this work." It remained for E. Donovan (1807) to correct these errors. *E. ligea* was originally discovered on the moors behind Brodick Castle (possibly the lower slopes of Goatfell) on the Island of Arran by Sir Patrick Walker, a noted collector of the time who apparently possessed "an elegant and select collection of Insects, a collection at the time, the second best in the country."

Sowerby's errors over the naming of *E. Ligea* and *E. aethiops* were compounded by the discovery of the latter, as that species had been found "*In insula Bota. Septembro.*" (In the Isle of Bute. September) by Dr John

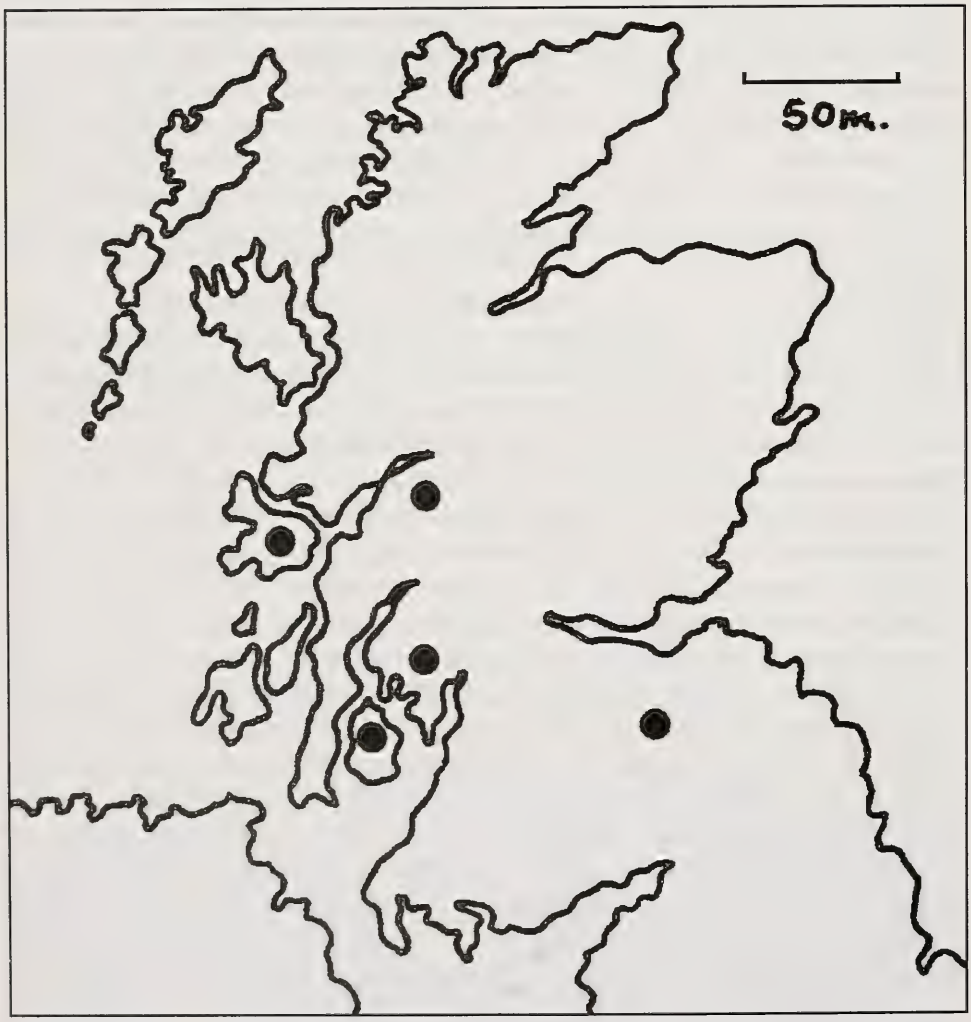
Walker, Professor of Natural History in the University of Edinburgh, who was not related to Sir Patrick Walker. Dr Walker's diaries are in the Edinburgh University Library and these suggest that the date of his discovery was sometime between 1760 and 1769, some thirty years earlier than Sir Patrick Walker's discovery of *E. ligea*. He showed his specimens to J.C. Fabricius, who had commented that they were "different from the *Ligea*, and a species not in Linnaeus."

Since the discovery of *E. ligea,* innumerable collectors have searched for it on the Island of Arran, but no further specimens have come to hand. Indeed, Richard South (1906) suggested that "the captor must have exterminated the species, for, although the island has often been closely explored, no one has yet been able to detect the 'Arran Brown' again." Sir Patrick Walker's collection eventually came up for sale at Stevens' Auction Rooms, but the whereabouts of his specimens of *E. ligea* is unknown. In 1928, James F. Stephens figured two specimens of the Arran Brown in his *Illustrations of British Entomology,* with the comment, "The only indigenous specimens which have come to my knowledge were captured in the Isle of Arran, I believe, by Sir Patrick Walker and A. McLeay Esq. The accompanying plate was executed from a fine pair in my collection." The two specimens in question are in the British Museum (Natural History), but without clues as to their origin. E.C. Pelham-Clinton (1964) suggests that they are not necessarily British, and from the tenor of Stephens' remarks, are probably not.

If the story of *E. ligea* had ended with James Stephens in 1828, it would probably now be confined to entomological history or even entomological folklore. But since then further facts have emerged. In 1929, H. Willoughby-Ellis reporting on a meeting of the Entomological Club at Tring, listed a number of exhibits arranged by Lord Rothschild. One such was a single *E. ligea* apparently taken at Galashiels in the Borders by A.E. Gibbs. There are no further details and the specimen in question is now in the British Museum (Natural History). A.L. Goodson, curator of the Tring Museum, suggested (Pelham-Clinton, 1964) that it might have been incorrectly labelled. However, there is no definite proof of this. In January 1963, A.C. Gillespie donated a small collection of Lepidoptera made by his two uncles, A.B. and J.W. Gillespie, to the Royal Scottish Museum in Edinburgh. The specimens were not labelled and many were in a distressed condition. However, the collection included a single female *E. ligea,* set underside uppermost. Lying loose in the collection was a single label which said quite simply "*Erebia blandina*/Taken on Bute (North End) July 1891." This finding and its possible significance have been discussed at length by Pelham-Clinton (1964). Whether or not this label had once been attached to the specimen of *E. ligea* or to *E. aethiops,* of which there were several in the collection, is not known. The writing on the label is in the hand of A.B. Gillespie and as he had never travelled abroad it is possible that this might be a genuine British specimen.

In 1977, three specimens of *E. ligea* were exhibited by T.J. Daley at the British Entomological and Natural History Society Exhibition. He had caught these in 1969 on the little-known western side of Rannoch Moor in north Argyll, and was apparently under the impression that they were *E. aethiops*. As he had never collected abroad, confusion as to their origin seems excluded.

In October 1994, the writer and Dr P.J. Edwards found three specimens of *E. ligea* in the G.H. Simpson-Hayward collection at Malvern College (Fig. 2, Plate B). One specimen was labelled "*Ligea* Isle of Mull 1860" while the other two specimens bore a single label "Taken on the Isle of Mull 1860 and 62. Wm. Edwards." The Isle of Mull is only about 60 miles from Arran, and the writer has no doubt as to the authenticity of the three specimens. When placed on the map of Scotland it is seen that, with the possible exception of the single record from Galashiels, all the reports of *E. ligea* are grouped in



Map. Reported distribution of *Erebia ligea* (excluding the Kentish records).

an area of south-western Scotland and no greater than 60 miles in width. If the Galashiels record is taken into account the territory is increased to 90 miles in width. This is still a very small area and given the nature of these new records it now seems reasonable to assume that *E. ligea* really does have a claim to British status.

Attempts to identify William Edwards have so far failed, but other butterflies in the collection that bore his name, were all caught in the Malvern or Worcester area. It seems likely that he and G.H. Simpson-Hayward both lived in Worcestershire. It is known that Simpson-Hayward represented Worcestershire at cricket, and that he was the last player to represent England who bowled underarm. The presence of *Erebia ligea* in the British List therefore rests on the cumulative evidence of ten reported captures, and from a scrutiny of all this it does seem reasonable to assume that the species has British status. One further capture was reported by W.J. Mercer in 1875; but it does no more than muddy the waters. Writing in the *Entomologist,* he claimed that, "a specimen of *Erebia ligea* was taken by me in the garden belonging to a house in Margate. I have been assured by competent authority that I am correct in the name of my specimen; so this will add another locality in which to find this rare insect." Edward Newman was quick to protest – "I should like to see the specimen, if Mr Mercer will kindly send or bring it." And that was that! Mercer would surely have fooled no-one when he reported this montane species from a popular seaside watering place, but, erring on the side of caution, Russell Bretherton (1989) suggested that, "If genuine, it might have been a wanderer from the Belgium Ardennes."

Acknowledgements

My grateful thanks to Dr David Carter of the British Museum (Natural History) for the photographs of the William Edwards specimens of *E. ligea* reproduced in Figure 2, Plate B.

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Dasychira mendosa (Hübner, 1934) (Lep: Lymantriidae); notes on larval foodplants in India

According to Nair (1986) this well-distributed Lymantrid is a pest of certain important crops in India. He cites millets (*Setaria*), cowpea (*Vigna sinensis*), *Ricinis communis,* banana (*Musa*), mango (*Mangifera indica*), apple (*Malus*), cacao and coffee.

I came across a single fully-grown larva on *Bridelia* underneath a mango tree. This plant is in the same family as *Ricinis,* Euphorbiaceae, so perhaps it was not so surprising that it was feeding on it. The insect "spun up" soon after, an imago, a female, emerging on my return to London in late June 1994. I was able to identify it by comparing it to a specimen in the BM (NH) collection from an example dating back to July 1894 from Karnataka in south-west India.

It was as well that I was able to verify the moth's identity from the imago as Nair gives two completely contradictory descriptions of the larva in his book. One, relating to its association with banana describing the larva thus, "light blueish-brown with reddish-brown spots . . .". Whilst his account of the insect on cacao says, "yellow spots and red stripes on thorax and paired lateral tufts on segments . . .". My find corresponded with neither, it resembled a very large *antiqua,* but that is only an approximate description.

I found the larva in Bombay. *Dasychira mendosa* according to Hampson (1892) ranges from India, through to Sri Lanka and Burma to Java and south-eastwards to Australia.

I would like to thank Mark Coode at Kew Gardens for his assistance in identifying the larval foodplant.

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A NEW SUBSPECIES OF *LUPERINA NICKERLII* FREYER, 1845 FROM SOUTH-EAST ENGLAND, WITH NOTES ON THE OTHER SUBSPECIES FOUND IN BRITAIN, IRELAND AND MAINLAND EUROPE.

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THE PRESENCE of a population of *Luperina nickerlii* on the salterns of south-east England has been known since the early 1980s, following the discovery of a series of six moths in the collection of the late R.P. Demuth, taken at Little Oakley, Essex, on 4th September 1973, amongst his *L. testacea* ([Denis & Schiffermüller] 1775). At the same time, it was learned that there were two specimens in the collection of A.J. Dewick, from Bradwell-on-Sea, Essex, taken 22nd August 1963 and 25th August 1964. Several entomologists, including the two authors, searched for the species in 1984-85 in a number of localities on the coasts of Essex and Kent (Skinner, 1985), and found it in large numbers, at light and resting by night on saltmarsh grasses, and the same form has subsequently been found to occur in south-east Suffolk, where it was taken in 1972 but not recognised at the time (J. Reid, pers. comm.).

This saltern form of *L. nickerlii* was clearly different from any other of the known British and Irish subspecies (Goater, 1976), and was referred to provisionally as the nominotypical form (Skinner, 1984). In late August 1994, one of the authors (BG) had the opportunity of seeing *L. nickerlii* near its type locality in Prague. The Prokop Valley lies on the southern outskirts of that city, surrounded by built-up areas, but remains fairly unspoilt. It is a dry calcareous valley, and the steep xerothermic, south-facing slope where the moth occurs extends for about 800 metres. On 26th August, BG and his wife were kindly conducted to the spot by Dr Ivo Novák, of the Research Institute of Crop Production, Ruzyne, Prague. Upwards of 30 individuals were seen: both sexes were found at rest on grasses after dark, some drying their wings, and males were fairly frequent at light. Nearly all were in fresh condition. It was evident at once that the English saltern race was quite different, both in appearance and in habitat, and it is described confidently as a new subspecies.

Luperina nickerlii demuthi subsp. nov. (Plate A, fig. 1)

Wingspan 34-42mm. Thorax greyish fuscous, frons and abdomen similarly coloured. Forewing warm buffish; basal area marbled fuscous brown with sparse irroration of black scales; area between antemedian and postmedian lines similarly marbled but with heavier black irroration, some of which forms a somewhat indistinct transverse bar linking the two crosslines in the pre-dorsal area. Buff area between postmedian and subterminal lines weakly

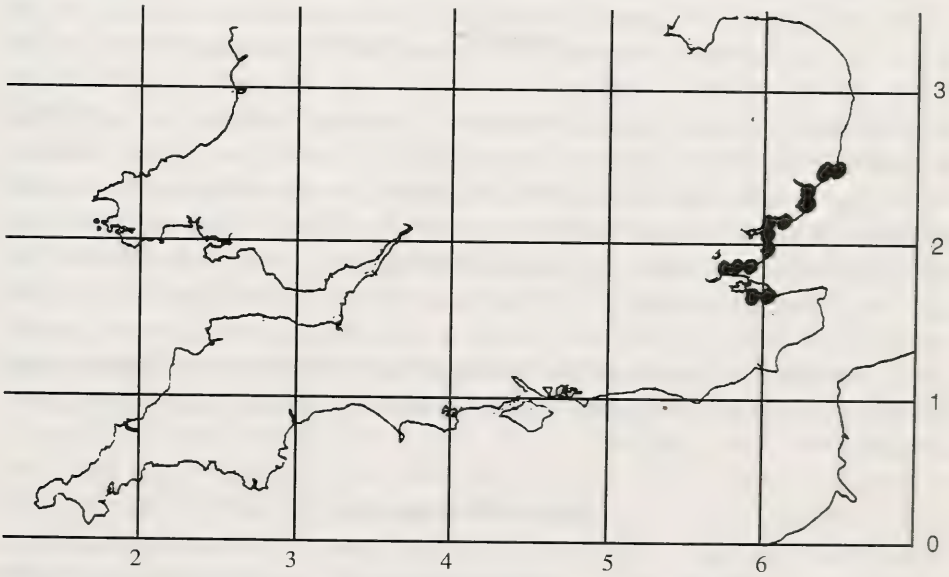
irrorate brown, and terminal region grey, irrorate brownish grey. Antemedian and postmedian lines buff, their facing margins edged with black. Subterminal line irregularly sinuate, conspicuously pale in contrast to adjacent areas. A conspicuous pale horizontal bar extends medially from base of wing to antemedian line, and there is a shorter black subdorsal bar between wing base and antemedian line. Orbicular stigma small, rounded, buff, narrowly edged black; reniform stigma conspicuously pale, whitish buff, the inner dorsal corner often with a distinct tail extending towards base of wing, the inner half of the stigma clouded buffish brown. Termen with a series of black interneural lunules. Fringe buff, with dark grey interneural chequers in outer half. Hindwing pure white with fine dark terminal line; fringe pure white. Underside of forewing pale buff, heavily shaded with grey, paler beyond narrow, buffish subterminal line. Reniform stigma a narrow vertical streak, surrounded by a pale zone. Termen with narrow brown interneural lunules. Fringe pale buff, with dark interneural chequers in outer half. Underside of hindwing off-white, with dusting of dark scales towards costa; discal dot formed by a concentration of dark scales. Fine dark terminal line which tends to break into separate dark lunules in anterior half. Fringe white.

Holotype male, Sheppey, Kent, 29.8.1984, B.F. Skinner in Natural History Museum, London (BMNH). **Allotype** female, Bradwell-on-Sea, Essex, 26.viii.1984, B. Goater, in BMNH. **Paratypes:** in BMNH, Little Oakley, Essex, 22.viii.1984, B. Goater x4 males; Little Oakley, 23.8.1984, B.F. Skinner x2 males, Canvey Island, Essex, 28.8.1984, B.F. Skinner x2 males, Bradwell, Essex, 26.viii.1984, B. Goater x2 males, x5 females, Sheppey, Kent, 29.8.1984, B.F. Skinner 1 female; in B. Goater collection, Little Oakley, Essex, 22.viii.84 x2 males and Bradwell-on-Sea, Essex, 26.viii.84 x2 females; in B. Skinner collection, Little Oakley, Essex, 22.viii.84 x2 males, x2 females, and Sheppey, Kent, 29.viii.84 x2 males, x3 females, Tillingham, Essex, 21.8.1987 x2 males, x2 females.

Unlike the nominotypical *L. nickerlii* and the other British subspecies, *L. nickerlii demuthi* is very variable. There is considerable variation in size, and some large females are unusually broad-winged. The palest specimens are nearly as pale as *L. nickerlii gueneei* Doubleday, but slightly more strongly patterned with the blackish subbasal bar remaining fairly distinct; the darkest ones are nearly uniform dark brownish fuscous, with slightly paler crosslines, and the most prominent feature is the pale reniform stigma and especially its whiter outer half. In some forms, the median area of the forewing is darker, recalling *L. nickerlii leechi* Goater, but we have seen no individual that remotely resembles fresh specimens of the Bohemian *L. nickerlii nickerlii* which is nearly black with a conspicuous whitish, dark-centred reniform stigma, but otherwise rather indistinctly patterned, with hindwings dusted with fuscous along the nervures and underside much darker. This race seems to be invariable.

The new subspecies occurs abundantly on the salterns around the Thames estuary between north Kent and south-east Suffolk, but has not been found anywhere else (Map 1). So far, the life history has not been worked out in full, but the larvae have been found in rootstocks of *Puccinellia maritima* (Hudson), common saltmarsh grass, and the pupae can be collected from tussocks of this grass (J. Platts, pers. comm.). The habitat is regularly inundated by the high tide, and all stages of the life cycle must be able to withstand this experience! At least one newly-emerged moth has been discovered, at night, on a grass stem the base of which was under water, indicating that eclosion must have been beneath the surface.

All the British and Irish subspecies of *L. nickerlii* are strictly coastal. *L. nickerlii gueneei* and *L. nickerlii leechi* occur on the sheltered sides of sand dunes amongst *Elytrigia juncea* (Linn.) (= *Elymus farctus* (Viv.) = *Agropyron junceforme* (A. & D. Löve)), and the Irish *L. nickerlii knilli* Boursin under grassy sea cliffs where it is probably associated with *Festuca rubra* Linn. On the Continent, *L. nickerlii* occurs mainly inland, not on coasts, but on dry, xerothermic and often calcareous hillsides; *Festuca ovina, Deschampsia caespitosa* and *Lolium perenne* are given as foodplants in the continental literature. The nominotypical *L. nickerlii nickerlii* Freyer was described from Prague and occurs also in Germany and Bulgaria (Ganev, 1982; Hacker 1989). There are several isolated populations in Germany, all differing slightly from one another, but all conforming to *L. n. nickerlii* (H. Hacker, pers. comm.). The figure in Culot (1912), Pl.25, fig. 5 is far too pale and evidently illustrated from a faded specimen, now in the Natural History Museum, London (BMNH), *ex* Oberthür coll. *L. nickerlii graslini* Oberthür is a widespread and variable race which extends from the Pyrenees across



Map 1. The known distribution of *Luperina nickerlii demuthi*.

southern France to the Alps. It was described from the Pyrénées Orientales (Oberthür, [1909]) and was later (Oberthür, 1929) referred to the specimen illustrated on Pl.25, fig. 9 in Culot (*loc. cit.*), now in BMNH *ex* Oberthür coll., which is atypically dark. The type series is in BMNH. This subspecies is very variable in size but often rather large; pale sandy or greyish brown with indistinct markings. All the specimens seen by BG from Spain, ranging from Provs. Huesca and Burgos in the north, through Teruel and Cuenca to Granada, appear to conform to subsp. *albarracina* Schwingenschuss (1962); they appear to be fairly constant in appearance with some local variation, small, brown and rather weakly marked except for the whitish, dark-centred reniform stigma; hindwings pure white. The type locality for *L. nickerlii tardenota* de Joannis (1925) is near Saclas, Seine-et-Oise (now Essonne), a calcareous hillside about 60km south of Paris. It is a small, neat, brightly coloured race, closest to our subsp. *gueneei* in appearance, but we are unable to discover how widespread it is. According to Heinicke & Naumann (1981), *L. nickerlii* also occurs in the southern Alps, central and southern Italy and Slovenia (Jugoslavia), but we have been unable to examine material from these regions.

It should be noted that all forms of *L. nickerlii* in collections gradually fade, and care should be exercised when making comparisons with museum material.

Draudt *in* Seitz (1934: 167) gives North Africa also for *L. nickerlii graslini,* but all those under that name in the BMNH, *ex* Rothschild collection, appear to be a different species, *L. dayensis* Oberthür, and certainly not *graslini*. It is not clear which species Draudt was referring to, but we have no evidence that *L. nickerlii* occurs anywhere in Africa.

The association of species on the edge of their range in Britain with coastal habitats, there sometimes developing distinctive races or subspecies, is seen in species other than *Luperina nickerlii*. For example, *Malacosoma castrensis* (Linnaeus) (Lasiocampidae), *Thetidia smaragdaria* (Fabricius) (Geometridae), *Eilema caniola* (Hübner) (Arctiidae) *Hadena caesia* ([Denis & Schiffermüller]), *H. confusa* (Hufnagel), *Leucochlaena odites* (Hübner) and *Cryphia muralis* (Forster) (Noctuidae) are all widespread in inland localities on the European mainland, yet chiefly or entirely coastal in Britain. It is clear that large areas of suitable habitat on the Continent permit free gene exchange throughout the population, whereas the isolation of coastal territories in Britain where the climate is tolerable to these species inhibits gene exchange and therefore favours subspeciation, especially when environmentally selective pressures operate on a fraction of the total species genome.

Acknowledgements

Colour plate A, fig. 1 depicting fresh specimens of *L. n. nickerlii* and a selection of specimens of *L. n. demuthi* subsp. nov. from the fine series in the Skinner collection was made by our colleague Mr David Wilson.

The authors are grateful to the authorities in Spain who permitted entomological studies in their areas, to Dr H. Hacker (Staffelstein, Germany) for much helpful advice on the continental distribution of *L. nickerlii,* to Messrs J. Platts and J. Reid for their comments on aspects of the distribution and biology of the new subspecies, and to the Trustees of the Natural History Museum (London) for permission to study the collections there, and especially to Messrs D.J. Carter and M.R. Honey for their willing assistance.

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Coleophora deviella Zell (Lep.: Coleophoridae) – a correction

In the short note on this species by Norman Heal (*Ent. Rec. J. Var.,* 1995, **107**: 43-44) the size of the fully grown case was quoted ambitiously as being between 9 and 19mm long. Whilst such a giant *deviella* might prove attractive to entomologists, the Editor regrets that the typical case size for this species is 9 – 10mm when fully grown. A further error crept into this note. The second sentence of the second paragraph should read ". . . as I had searched this same area for several consecutive seasons I can only surmise that at the time it was a recent arrival . . ." Our apologies to Mr Heal for these errors. Paul Sokoloff, Editor.

An unusual foodplant for *Hedya pruniana* Hb. (Lep.: Tortricidae)

Two tortricoid larvae were obtained when beating Yew (*Taxus baccata*) at Shoreham, Kent. One spun up without feeding and emerged as, unsurprisingly, *Ditula angustiorana* Haw. The second continued to feed on *Taxus*, eventually producing an adult *Hedya pruniana*. This appears to be a considerable departure from its normal pabulum of *Prunus* and other Rosaceaous trees.

– I. Ferguson, 31 Cathcart Drive, Orpington, Kent BR6 8BU.

Luperina nickerlii nickerlii

Prokop Valley
Prague
26.viii.94
B. Goater

Prokop Valley
Prague
26.viii.94
B. Goater

Luperina nickerlii demuthi

Paratype male
Tillingham
Essex
21.8.87
B. Skinner

Holotype male
Sheppey
Kent
29.8.84
B. Skinner

Paratype male
Sheppey
Kent
29.8.84
B. Skinner

Paratype male
Little Oakley
Essex
23.8.84
B. Skinner

Paratype male
Little Oakley
Essex
23.8.84
B. Skinner

Paratype male
Sheppey
Kent
29.8.84
B. Skinner

Paratype female
Sheppey
Kent
29.8.84
B. Skinner

Paratype female
Sheppey
Kent
29.8.84
B. Skinner

Paratype female
Tillingham
Essex
21.8.87
B. Skinner

Paratype female
Little Oakley
Essex
23.8.84
B. Skinner

Paratype female
Sheppey
Kent
29.8.84
B. Skinner

Paratype female
Little Oakley
Essex
23.8.84
B. Skinner

Plate A. Figure 1. *Luperina nickerlii* subspecies.

Fig. 1.
Luperina nickerlii nickerlii Freyer. (top two specimens) and *Luperina nickerlii demuthi* **subsp. nov.** (remaining 12 specimens)
Approximate magnification x 0.8 (Goater & Skinner, 1995).

PLATE A

Fig. 2. *Erebia ligea* (Linn.) The Arran Brown.
Specimens from the G.H. Simpson-Heywood Collection. Isle of Mull. (Salmon, 1995)

PLATE B

Fig. 3. *Aricia artaxerxes salmacis* Stephens, f. *pan-albisignata*. (Ellis, 1995)

Fig. 4. *Aricia artaxerxes salmacis* Stephens, f. *pan-albisignata* Underside. (Ellis, 1995)

Fig. 5. *Abantis bamptoni* Collins & Larsen. Zambia. (Dening, 1995)

Fig. 6. *Abantis* species from Zambia – *bamptoni, zambesiaca, paradisea* and *venosa*. (Dening, 1995)

Fig. 7. *Sciota adelphella* (left) and *Sciota hostilis* (right). Approximately x 2 (Skinner, 1995)

Fig. 9. *Sciota adelphella* Pupa. Approximately x 2.5 (Skinner, 1995)

Fig. 8. *Sciota adelphella* fully grown larva, approximately x 2.5 (Skinner, 1995)

AN EXAMPLE OF EXTREME F. *PAN-ALBISIGNATA*, KAABER & HØEGH-GULDBERG, IN THE DURHAM ARGUS BUTTERFLY, *ARICIA ARTAXERXES SALMACIS*, STEPHENS, AND RELATED OBSERVATIONS.

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THE DURHAM or Castle Eden Argus butterfly, *Aricia artaxerxes salmacis*, Stephens, is a subspecies of the Northern Brown Argus (Jarvis, 1958, 1968, 1969 & 1974; Høegh-Guldberg, 1966; Selman, Luff & Monck, 1973). Over the years many aberrations have been described (Harrison, 1905, 1906 & 1928; Tutt, 1914; Carter, 1922; Carter & Harrison, 1923 & 1929; Harrison & Carter, 1929; Howarth, 1973; Russwarm, 1978). The purpose of this paper is threefold:- (1) To describe a rare aberration in an individual Durham Argus butterfly recently observed (27th June 1994) and photographed in County Durham (VC66) inland at Pittington Hill in the Magnesium Limestone. (2) To report the finding of a single further example of the aberration in the Scottish Northern Brown Argus, *Aricia artaxerxes artaxerxes*, Fabricius, in a local museum, and (3) To give an account of some related observations on the white component of the submarginal lunular markings on the upper wing surfaces of *Aricia* sp.

Description of the aberration

The fresh-looking *A. artaxerxes salmacis* had very dark brown wings and a submarginal row of prominent white dashes on the upper surface (Fig. 3, Plate C) of each wing: five dashes and a trace of a sixth on each forewing in interneural spaces 1 to 6 and six dashes on each hindwing in spaces 1 to 6. These dashes contrasted markedly with the dark brown background and were distinct from the normal white fringes which were chequered where brown scales extended along the wing nervures. They were rendered more prominent by a reduction in size and number of the usual orange lunules which appeared as mere traces on the forewings in spaces 2 and 3, and as inconspicuous marks on the hindwings in spaces 1 to 3 plus a trace in space 4 (ab. *semi-allous*, Harrison, 1906). The orange traces were not obvious in the field and were more readily recognised later in the magnified image from the projected colour slides. In addition, on the upper surface, the black discal spots were surrounded by a white halo (ab. *albi-annulata*, Harrison, 1906, = *snellini*, ter Haar), and there was a corresponding faint white spot on each hindwing (ab. *sub-quadripunctata*, Harrison, 1906). These last two features occur not uncommonly throughout the Durham range and together were named ab. *garretti* nov. by Carter & Harrison (1929) after Dr F.C. Garrett who caught the original specimen at Hawthorn Dene in July 1928. On the underside (Fig. 4, Plate C) there was a minimal reduction in the usual black markings of the white spots, and in particular on the hindwing the black centre of the white spot in space 6 was obsolescent and that in the discal scar

was lacking (ab. *carteri,* Harrison, 1928). Initially the specimen was thought to be a male because of the appearance of the tip of the abdomen, but, as pointed out by Høegh-Guldberg (1966), this is an unreliable means of sexing freshly emerged individuals and later examination of the projected slides revealed the segmented tarsi of a female.

Nature of the aberration

In order to appreciate the derivation of the white dashes it is necessary to consider the anatomical location, colour and composition of the sub-marginal lunules in normal individuals and in other aberrations. Most popular texts do not describe the lunules in any detail and do not refer to any white component (Howarth, 1973). Some recent standard texts (Emmet & Heath, 1989) mention that lunules on the hindwings may comprise three components – an inner orange patch which partly encloses a dark brown spot which in turn distally is white edged. This white component on the hindwing was mentioned by Tutt (1914), who stated that occasionally a slight, but very distinct outer edging of white may be found beyond the black spots, and this was designated ab. *albsignata* n. He further commented that traces of it are very frequently to be seen with a lens.

Tutt also quotes Hodgson who had observed that the white edging may occur not uncommonly in both sexes, though more rarely in the male, occasionally though rarely on all the wings, but usually only on the hindwing and at the anal angle of the forewing. Harrison and Carter recognised the occurrence in Durham of certain specimens (ab. *vedrae,* Harrison) with these white dashes on the hindwing and Harrison designated this form as ab. *albimaculata* (Harrison, 1905). Høegh-Guldberg (1966), whilst studying the North European groups of *Aricia* species, noted that *albisignata* is not uncommon in either sex in *A. agestis* in Denmark and Sweden and in Denmark occurred in 25 to 50 percent of *A. allous* ssp. *vandalica,* Kaaber & Høegh-Guldberg (1961), in 30 percent of *A. allous* from Norway, and, depending upon the localities, in about 1 to 25 percent in *A. allous* from Sweden. Tutt also refers to the difference in frequency and degree of *albisignata* depending upon the *Aricia* species and its locality and remarks that specimens from Turkestan in the British Museum include some conspicuous examples, but that they have no white on the forewings and have a good deal of orange, especially on the hindwing. This is unlike the present Pittington Hill specimen.

Personal examination of an additional 1,319 specimens of *Aricia* species (see below) has revealed that all three components are not invariably present on the hindwings and may very occasionally occur also on the forewings. When present on the hindwings the distal (outer) component is frequently some shade of orange rather than pure white. When present on the hind or forewings the distal component is normally associated with an orange patch and dark spot so that the latter is enclosed by orange. The aberration in the

Pittington Hill specimen appears to have arisen as a result of a breakdown of this normal close relationship between the individual components of the lunules. There is a paradoxical undue development of the white distal elements forming dashes when the orange component is very reduced or absent altogether. The cause of the aberration is uncertain. Jarvis (1958) suggested that any reduction in orange lunules may be related to exposure of the mature larva or the pupa to low temperatures, but Høegh-Guldberg (1966) could not confirm this in his studies which indicated that heredity rather than environment determines the degree of lunulation. The paradoxical behaviour of the white and orange components of the lunules in the present aberration suggests that there are separate controlling genetic factors for each component. Jarvis (1974) also noticed a progressive loss of black pupillation on the underside spots with increasing duration of experimental exposure of pupae to low temperatures. Possibly some environmental factors, such as an unusual low temperature at a critical period, could have affected the relative dominance of the orange and white components of the upper surface lunules.

Frequency of aberration

It would appear that the aberration with marked white dashes is rare and is not described in the standard books on aberrations of British butterflies (Frohawk, 1938; Russwurm, 1978) or in the older literature concerning variations in County Durham (Harrison, 1906 & 1929; Carter, 1922; Carter & Harrison, 1929). Since 1979 I have observed several hundreds of these butterflies at inland and coastal locations in County Durham and this is the only one of its kind I have encountered. Sam Ellis (1991), who has a greater experience of this species in County Durham informs me that he does not know of a similar example.

In order to check further I have examined an additional 1,319 Brown Argus and Northern Brown Argus butterflies in collections at Sunderland Museum (1,083 specimens) and the Hancock Museum, Newcastle-upon-Tyne (199 specimens), together with 37 of my own collection (19 specimens plus photographs) Table 1. The museum collections include specimens dating back to the first part of this century (including those of Carter and Harrison) when the fashion to collect aberrations was probably at its height. Examination of 760 *A. artaxerxes salmacis* specimens, of which 675 were from County Durham (and the remainder from Cumbria, Westmorland and Yorkshire) failed to reveal another example of the aberration with white dashes and reduced orange lunules. Likewise none was present amongst 274 specimens of *A. agestis* from Southern England and Wales or 52 specimens from abroad (including examples of *A. agestis, A. artaxerxes allous* and *A. artaxerxes allous* ssp. *vandalica*. However, inspection of 92 specimens of *A. artaxerxes artaxerxes* from Scotland revealed a single additional example of the aberration.

Table 1.
Summary of sources of 1,319 additional specimens of *Aricia* species examined.

Place of origin	Species	Number	*Collection
County Durham		675	
Coastal	*A. artaxerxes artaxerxes*	92	SM 90, HE 2
Coastal	*A. artaxerxes salmacis*	345	SM 313, HE 32
Inland	*A. artaxerxes salmacis*	185	SM 184, HE 1
Mixed	*A. artaxerxes salmacis*	53	HM 53
Cumbria/Yorkshire	*A. artaxerxes salmacis*	85	SM 46, HM 39
S. England/ S. Wales	*A. agestis*	274	SM 213, HM 59, HE2
Scotland	*A. artaxerxes artaxerxes*	92	SM 67, HM 25
Overseas	*A. argestis & A. allous*	52	SM 52
Indeterminate	*A. a. salmacis* (mostly)	141	SM 118, HM 23

*Collections: SM and HM, Sunderland and Hancock Museums;
HE, personal specimens and photographs.

Description of the Scottish specimen

The specimen, preserved in the collection of T. Jefferson at the Sunderland Museum, carries a data label giving the location as Nigg Sutor (in north-east Scotland) and the date as 9th July 1910. Emmet & Heath (1989) indicate in the distribution map that records for this area were pre-1940. The specimen is typical of *A. artaxerxes artaxerxes,* with white discal spots on the upper surface of the forewings and reduced black spots on the underside ocelli, but there are prominent white submarginal dashes in spaces 1 to 6 on the hindwings accompanied by some orange component in spaces 1 to 4 and white blurred dashes in spaces 1 to 6 on the forewings with a mere trace of orange accompanying those in spaces 1 to 4. The blurring of the white dashes, particularly in space 4 to 6 where the white extends onto the adjacent wing surfaces near the apices, is not a feature of the Pittington Hill specimen but the basic underlying aberration would appear to be the same.

Nomenclature

A search of the literature has revealed the description of a similar aberration. Kaaber and Høegh-Guldberg (1961) reported a subspecies of *A. allous,* Hb., which they designated *A. allous* Hb. ssp. *vandalica* nov. One of their specimens (female) had white submarginal dashes on the upper surface of all four wings and they designated this f. *pan-albisignata* nov. Their colour plate shows white dashes in spaces 1 to 4 of the hindwings but those on the forewings are relatively inconspicuous and each dash is accompanied by an orange patch. Høegh-Guldberg (1966) subsequently reported a further two females of this subspecies with the same aberration (combined incidence, 3 in 377 (0.9 percent) specimens). The changes illustrated were not as striking as in the Pittington Hill or Scottish specimens. Nevertheless, the basic

aberration is the same and it seems appropriate to apply the term ab. *pan-albisignata,* Kaaber & Høegh-Guldberg, to describe it. The other features, particularly the obsolescence of the orange patches and the dark brown ground colour, contribute to the overall striking appearance, but, as pointed out by Carter (1922), a specimen is best named from the predominant aberration, otherwise nomenclature becomes too complicated. In the present case it would be ab. *pan-albisignata – semi allous – sub quadripunctata,* simply to account for the upper surface.

The present aberration should not be confused with colour changes in the usual inner orange patches on the hind and forewings which occurs in ab. *pallidior,* Oberthür (pale lunules, Fig. 17, Pl. 8, Russwurm) and ab. *graafii,* ver Huell (white lunules, Fig. 16, Pl. 8, Russwurm). There were eight examples of these colour changes amongst the Sunderland collection of *A. artaxerxes salmacis* from Cumbria, but in none of these were there any distal white dashes.

Furthermore, it should be stressed that the aberration under discussion affects the upper surface for there is sometimes a prominent white band on the undersurface between the orange lunules and the wing margin as described by Høegh-Guldberg (1966) and designated by him f. *pan-albolimbata* nov.

Further observations on submarginal dashes

Whilst examining the Sunderland Museum collection for possible examples of the Pittington Hill aberration I was impressed by some specimens which had pale orange or white outer components to the lunules on the hindwings and, less frequently, on the forewings, but with accompanying inner orange patches. Therefore I re-examined the Sunderland and my own material to determine the frequency of these phenomena in relation to locality and *Aricia* species. I have allocated each specimen to one of three main categories:- (1) orange or pale orange outer component to hindwing lunules; (2) pure white dashes forming outer hindwing component *ie*, ab. *albisignata*; and (3) pure white outer white dashes on hind and forewings *ie*., ab. *pan-albisignata*. There were some difficulties because of the presence of trace amounts of the outer components visible at higher magnifications and sometimes in deciding the colour of the outer component. For the present purpose it was decided to include only those specimens with features of each category visible to the naked eye, and the dashes had to be pure white to be designated ab. *albisignata* or ab. *pan-albisignata*. Since all the specimens were treated alike the data obtained should permit valid comparisons between the different species and localities.

The results based on the examination of 989 specimens are summarised in Table 2. The orange or pale orange outer component occurred on the hindwings of some individuals of all the *Aricia* species, but pure white dashes of ab. *albisignata* were less frequent and, with the exception of the County Durham inland specimens of *A. artaxerxes salmacis*, ab. *pan-albisignata* was uncommon. The Durham coastal colonies are hybrid groups

Table 2.
Incidence and type of outer lunular components according to place of origin and *Aricia* species in 989 specimens.

Place of origin (Species)	Number	Outer lunular component		
		hindwing orange/pale	*albisignata*	*pan-albi signata*
Durham County				
Coastal (*A. a. artaxerxes*)	92	13 (14.1%)	0	0
Coastal (*A. a. salmacis*)	385	46 (11.9%)	0	0
Coastal (combined)	477	59 (12.4%)	0	0
Inland (combined) (*A. a. salmacis*)	144	46 (31.9%)	5 (3.5%)	14 (9.7%)
Inland Sherburn/Shadworth	132	36 (27.3%)	5 (3.8%)	14 (10.6%)
Total Durham	621	105 (16.9%)	5 (0.8%)	14 (2.3%)
Cumbria & Yorkshire (*A. a. salmacis*)	46	11 (23.9%)	0	0
Southern England (*A. agestis*)	205	82 (40.0%)	1 (0.5%)	0
South Wales (*A. agestis*)	10	0	0	0
Scotland (*A. a. artaxerxes*)	67	9 (13.4%)	0	*1 (1.5%)
Overseas				
** *A. agestis*	18	8 (44.4%)	0	0
*** *A. allous*	22	8 (36.4%)	0	0

*Nigg Sutor specimen described in text.
**Pyrenees (8), Portugal (2), Asia Minor (8).
***Italy (4), Bulgaria (4), Austria (5), N.W. Jutland, ssp. *vandalica*, (9).

(Dunn & Parrack, 1986) of the two *artaxerxes* subspecies *A. a. salmacis* and *A. a. artaxerxes* but the incidence of hind and forewing outer markings was the same in both these and in the specimens of *A. a. artaxerxes* from Scotland. The one Scottish exception with extreme ab. *pan-albisignata* has been described above. *A. a. artaxerxes* constitutes about 5 percent of the population on the Durham coast and is due to the presence of a single recessive gene (Jarvis, 1974). The relatively large number of such specimens available for examination (Tables 1 and 2) reflects the interest of past local collectors.

The inland Durham colonies are all *A. a. salmacis* and are notably different from those at the coast with a greater incidence of outer lunular components on the hind and forewings together with the occurrence of ab. *albisignata* and especially of ab. *pan-albisignata*. The appearances of the latter were similar to those described by Kaaber & Høegh-Guldberg (1961) with accompanying orange patches and were not as striking as those of the Pittington Hill and the Scottish Nigg specimens. The specimens of *A. a. salmacis* from Cumbria and Yorkshire did not include any examples of ab. *albisignata* or ab. *pan-albisignata*. Specimens of *A. agestis* from South England had a higher incidence of the orange or pale orange outer component on the hindwings but ab. *albisignata* was rare and ab. *pan-albisignata* was not found. The incidence of the hindwing outer component

was remarkably similar throughout twelve counties (from 33.3 to 44.4 percent). Three specimens (one from Royston, Hertfordshire dated 1925 and two from Folkestone, Kent dated 1923) showed pale orange outer components on both the hind and forewings. The only ab. *albisignata* was from Chipstead, Surrey dated 1923.

The main interest centres on the County Durham inland specimens from Sherburn and nearby Shadworth with the highest incidence of ab. *albisignata* and ab. *pan-albisignata*. As with any retrospective study there are problems in knowing whether the collections are representative of wild populations. One suspects that the high incidence of the aberration in inland locations in comparison with coastal locations is genuine for collectors in the past would surely have been equally interested in collecting "variations" at the coast as inland. The presence of so many *A. a. artaxerxes* specimens in the coastal collections supports this view. It is perhaps significant too that the original specimen which stimulated my interest in these matters was observed at an inland site at Pittington Hill, which is only about 2.8km from Sherburn. All the inland populations are separated from those at the coast (for example, at Blackhall and Castle Eden Denemouth) by a distance of about 10.3km.

Possible effects of white dashes

It is unclear whether the presence of prominent white dashes has any beneficial or adverse affects for the individual. The normal wing markings play an important role in the well-being of a colony, for example, by facilitating recognition between individuals of the same species (and hence mating). Also *Aricia* species bask with open wings and in more northern latitudes there are fewer orange lunules (Smyllie, 1992) which facilitates heat absorption and presumably makes them less conspicuous to predators whilst basking. The amount of white contributed by the white dashes must be too small to significantly interfere with absorption, but could possibly render the individual more conspicuous to predators whilst basking.

Summary and conclusions

Ab. *pan-albisignata*, Kaaber & Høegh-Guldberg, occurs in several species of *Aricia*. Lesser degrees with obvious associated inner orange patches are not that uncommon in certain species and localities – notably in inland colonies of the Durham Argus, *A. artaxerxes salmacis*, Stephens. Rarely the submarginal white dashes are very marked and there is a paradoxical reduction in the inner orange patches as described in two specimens, one of *A. a. salmacis* from Pittington Hill in County Durham and the other of *A. a. artaxerxes* from Nigg in Scotland. Complete absence of the inner orange patches would serve to give maximum emphasis to the white dashes, but I have no knowledge of such a specimen.

In the past, attention has been given to the geographical variation in wing submarginal lunulation, including the presence of ab. *albisignata*, as a means of investigating the possible relationship between North European groups of

A. allous and *A. agestis* (Høegh-Guldberg, 1966). Most workers, however, have concentrated on the inner orange lunular component in similar studies (Jarvis, 1969; Smyllie, 1992). Further studies of the outer lunular component and its aberrations might prove to be useful in improving our understanding of the possible relationship between the different species and subspecies of *Aricia*. Caution is needed in interpreting the data, however, since opinions differ as to whether variation in wing lunulation occurring in different localities is the result of hybridisation between species (Smyllie, 1992) or is a response to geographic isolation of good species associated with differing environments (Shreeve, 1993).

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Notes on the illustrations

Fig. 3, Plate C. Northern Brown Argus, Pittingham Hill, Co. Durham, 27.6.94 – upper surface, white submarginal dashes on all wings (ab. *pan-albisignata*), white discal spot with black centre on forewing and faint white on hindwing (ab. *sub-quadripunctata*), reduced orange patches (ab. *semi-allous*).

Fig, 4, Plate C. Same – under surface, reduced black central mark of hindwing discal scar and of spot in space 6.

Drepana binaria Hufn. (Lep.: Drepanidae) a third generation

This moth is described as being bivoltine in England and Wales, with a first generation in May and June, and a second in July and August, except that Barrett (*The Lepidoptera of the British Islands,* 1893) gives August and early September for a partial second generation; L. and K. Evans (*A Survey of the Macro-lepidoptera of Croydon and north-east Surrey,* 1973) and Chalmers-Hunt (*The Butterflies and Moths of Kent,* 1968) state that the second generation is the more numerous, and the records of my garden m.v. trap support this. J. Heath (Ed) (*The Butterflies and Moths of Great Britain and Ireland, V*ol. 7(b), 1992) mentions that there is an occasional small emergence in late October, but offers no evidence for the statement.

What may be representatives of a small third generation of *D. binaria* have appeared at my garden trap in four of the last five years, and two singletons in earlier years. In 1990 I recorded an early first generation in May and a prolific second generation from 13th July to 4th August, if the seven specimens noted from 20th to 31st August be regarded as their progeny; the light was operated nightly after 4th August until 3rd September when it was discontinued until October. However, the curious gap in records between 4th and 20th August may have been coincidental, all the specimens being of the second generation. The following cases refer to September moths which appeared after a considerably longer hiatus.

In 1992 second generation specimens were noted from 5th July until 8th August, to be followed by fresh looking specimens on 9th, 15th and 17th(4) September. In 1993 the second generation was in evidence from 13th July to 8th August, and was followed by a singleton on 9th September. In 1994 the last August specimen on 10th August was followed by moths on 4th, 23rd (3), and 24th September.

In the two decades before 1990 the second generation usually appeared confined to July and August, and occasionally the first few days of September. However, perhaps not surprisingly in 1976, after the memorable long, hot summer, when the last second generation specimen appeared on 14th August, a further moth came on 29th September, while in 1982 specimens were seen on 5th and 6th September, having been previously last noted on 11th August.

Two isolated late records have appeared in this journal in the last half century; C. de Worms (*Ent. Rec.* **89**: 144) reported a *binaria* for Woking, Surrey, 20.ix.1976, and A. Riley and M. Townsend (*Ent. Rec.* **103**: 242) for Hertfordshire in mid-September, 1992, after a six week gap.– B.K. West, 36 Briar Road, Dartford, Kent DA5 2HN.

Changes in nomenclature of British Lepidoptera

Many readers of the *Entomologist's Record* may not have seen a recent article which may be of interest, and perhaps some annoyance. Kauri Mikkola and Martin Honey have made a very detailed examination of the Noctuidae in the Linnaean collection, including study of the pins on which specimens are mounted which determine the original specimens of Linnaeus, with a view to providing an authoritative statement on the identity of the Linnaean names. They say "we realise that the work we have undertaken should have been done at least 70 to 80 years ago."

The chief changes are listed, English names being given so that there is less doubt about which species are involved. Unfortunately two species pairs are involved where there has been previous confusion.

Hada plebeja (Linnaeus, 1761)	
= *nana* (Hufnagel, 1766)	The Shears
Pseudoips prasinana (Linnaeus, 1758)	
= *fagana* (Fabricius, 1781)	Green Silver-lines
Bena bicolorana (Fuessly, 1775)	
= *prasinana* sensu auctt.	Scarce Silver-lines
Abrostola tripartita (Hufnagel, 1766)	
= *triplasia* sensu auctt.	The Spectacle
Abrostola triplasia (Linnaeus, 1758)	
= *trigemina* (Werneburg, 1864)	Dark Spectacle

In the article the terminations *prasinanus* and *faganus* are used to make the specific name agree in gender with the genus; however the original spelling is given above, in accordance with recent British checklists where specific names are regarded as nouns in apposition.

Reference: Mikkola, K. & Honey, M.R., 1994. The Noctuoidea (Lepidoptera) described by Linnaeus. *Zool. J. Linn. Soc.* **108**: 103-169.

– David Agassiz, International Institute of Entomology, 56 Queen's Gate, SW7 5JR.

THE GENUS *ABANTIS* (LEPIDOPTERA: HESPERIIDAE): SOME ADDITIONAL CENTRAL AFRICAN RECORDS

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THE REVISION by Collins and Larsen (1994) of the *Abantis bismarcki* group of skipper butterflies prompts me to put on record the data from my own African collection and notes.

While *Abantis bamptoni* was undoubtedly rare during my time in Zambia (1947-71), *A. zambesiaca* and *A. venosa* were both locally common, with *A. paradisea* occurring only occasionally.

Abantis bamptoni

I have two specimens, both female. The first, relatively fresh, was taken on the 9th February 1954, in woods at Mwinilunga Government Station, in the far north-west of Zambia (then Northern Rhodesia). I have a note that it rests on the upperside of leaves with wings open, in shaded woodland. This specimen is illustrated in Fig. 5, Plate C.

The second specimen was taken on 27th May 1964, in riverine forest at Isombo, near Kalene Hill, in the extreme north-west of Mwinilunga District. This was well after the end of the wet season, and the specimen was very old and damaged.

Otherwise, I had never seen this species in my five years in Mwinilunga, nor anywhere else in Zambia, even though the foodplant, *Uapaca kirkiana,* is very widespread.

Other *Abantis* species

In those days, the late Mr C.M.N. White MBE, in collaboration with Dr C.B. Cottrell FRES (then a student), and myself, had compiled and periodically updated a draft *Check List of the Butterflies of Northern Rhodesia*, which included 122 species of skipper (at least 12 more have been recorded subsequently).

In this list, *A. bismarcki* was recorded from Mwinilunga, Kabompo (immediately to the south), and the Kalungwishi river (in Kawambwa District in the Luapula catchment).

All these specimens are likely to be referable to *A. bamptoni,* as also two mentioned by White as being in the BMNH, from Solwezi and Mpika, under *A. arctomarginata.*

Of the 14 other African species of *Abantis* described by Evans (1937), five were recorded from Zambia:

Abantis tettensis Hopffer, 1855. Collected by Cottrell at Lusaka.

Abantis zambesiaca Westwood, 1874 (Fig. 6, Plate C). My own specimens of this attractive bluish species are from Mwinilunga, dated March 1951. I

also recorded it from four other sites around the district, dated 7th April, mid-September, 17th November and 5th December.

Elsewhere, I found it at Mumbwa, west of Lusaka on 22nd December 1956, and on 15th March 1957, where it was common on a lantana hedge; on 17th April 1957, in the Chisamba Forest Reserve, north of Lusaka; and at Ngwerere Hill, near Lusaka on 8th September. It can probably be regarded as widespread and common on the plateau, over the northern part of the country (1200-1300 metres altitude).

Abantis paradisea Butler, 1870 (Fig. 6, Plate C). My own specimens are from Mumbwa, taken on a lantana hedge on 22nd December 1956, and from Sumbu, at the southern end of Lake Tanganyika, on 17th May 1969. White comments briefly, "widespread and common". While this may be true in the extreme south, in my experience it occurs only sparsely on the main Zambian plateau.

Abantis lucretia Druce 1909, ssp. *lofu* Neave, 1910. The type is in the Oxford Collection from Northern Rhodesia (Evans, 1937, p.54), and seems to be the only known specimen.

Neave collected it in a patch of dense forest on the plateau between the Lofu River and Lake Tanganyika, on 24th August 1908, latitude 9°S, in the extreme north-east of Zambia.

Later maps show the name of the river as Lufubu, a fairly common river name. This may have led to confusion, because this particular Lufubu River is nowhere near Lake Bangweulu (not Lake Benguela).

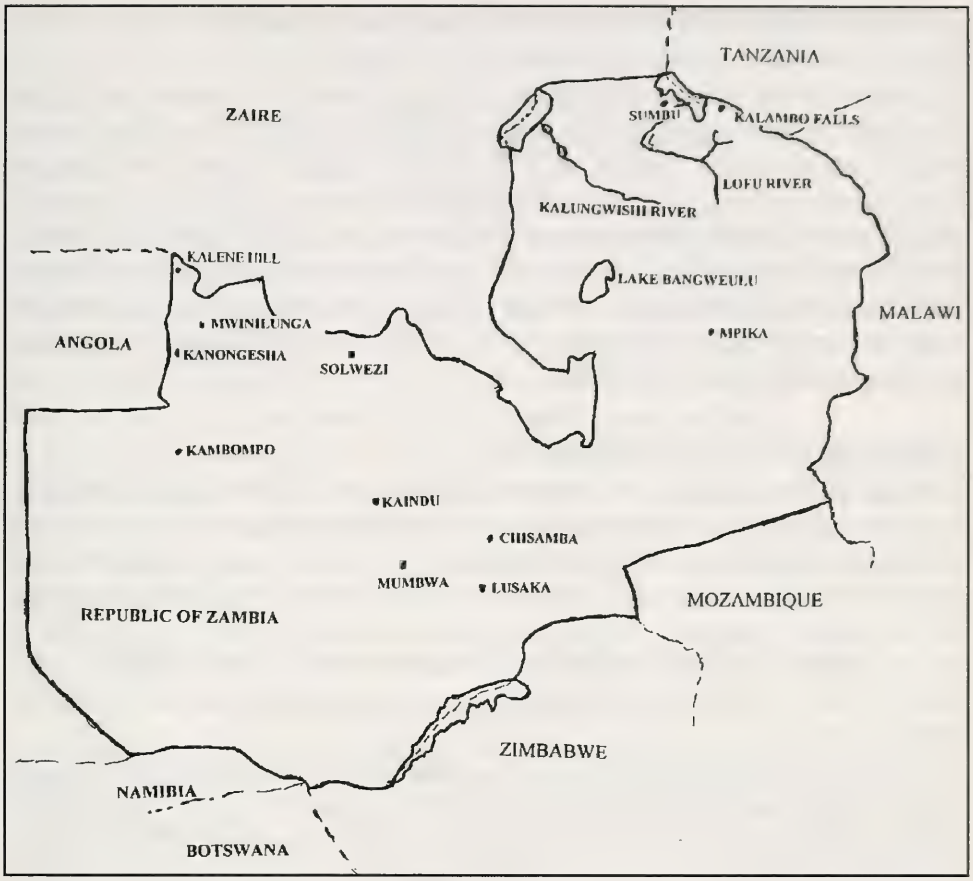
On the other hand, the putative female of this subspecies, now recognised as *A. bamptoni,* was collected by Neave to the east of the Lake.

Abantis venosa Trimen, 1889 (Fig. 6, Plate C). My specimens are from Ikelenge, north-west Mwinilunga, on 30th March 1952; Chombwa, near Mumbwa, on 15th March 1967; form *fulva* from Ngwerere Hill, near Lusaka, on 8th September 1968; form *vidua* from Kanongesha, in western Mwinilunga, on 7th December 1951.

It was common in December at other sites in Mwinilunga District. I also found it in the Chisamba Forest Reserve, north of Lusaka, on 15th April 1965; at Kalambo Falls, in the far north near Lake Tanganyika, on 14th April 1967; and at Kaindu, north Mumbwa, where it was numerous on patches of dung on 12th January 1957.

White classes it as widespread and common.

The latitude of all records lies between 8° and 16°S, and the altitude mainly between 1,200 and 1,300 metres. The attached map indicates the approximate position of the localities mentioned. All species except *A. lucretia* are illustrated in Pennington (1978) and Lewis (1973).



Notes on the illustrations

Fig. 5, Plate C. *A. bamptoni,* female from Mwinilunga, Zambia, ii.1954 (R.C. Dening coll.).

Fig. 6, Plate C. Top left: *A. bamptoni,* as Fig. 5. Top right: *A. zambesiaca,* male from Mwinilunga, Zambia, iii.1951. Bottom left: *A. paradisea,* female from Mumbwa, Zambia, xii.1956. Bottom right: *A. venosa,* male from Ikelenge, Mwinilunga, Zambia, iii.1951. (All R.C. Dening coll.)

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A second British record of *Mussidia nigrivenella* Ragonot (Lep.: Pyralidae)

A female of the pyralid moth *Mussidia nigrivenella* was taken at light at Dungeness Bird Observatory on 12th August 1994. This is only the second British record of this species, and the first "at large" for this pest species. The last record was in a London cocoa warehouse in 1930. The moth is illustrated in Goater, 1986, *British pyralid moths*. Other immigrant species were noted on the night of capture, including the Tawny Wave, *Scopula rubiginata* Hufn. My thanks to Mark Parsons and Bernard Skinner for their help in identifying this moth.– S.P. CLANCY, Delhi Cottage, Dungeness, Romney Marsh, Kent TN29 9NE.

The scarcity of Vanessid butterflies

I would like to accord to an extent with the views of Mr A.A. Allen (*Ent. Rec.* **106**: 228), in his observation that Vanessid butterflies seem to be rather more scarce than they were a few years ago, or at least in my youth, which is not more than a decade ago. Despite a general decline in butterfly numbers, the so called "garden" species have done relatively well, we are led to believe. However, though they may be thirsty visitors to the buddleia, they rarely breed in gardens, and I suspect that their breeding sites are where the problems lie.

Nettles are less common where I live than when I was a teenager. Then, I would collect larvae in June to allow them to mature, as the local cricket club declared war on nettles beyond the boundary line, where they grew in the classic sheltered corner, and where females of *Aglais urticae* and *Inachis io* would deposit their ova each year. This was done easily enough by chopping them down. Now totally unnecessary spraying has destroyed the nettle patch, and so many like it, and I have looked for the larvae in the immediate area for five years and not found them. One imagines this has been a familiar story in thousands of such settings, and thus many suburban environments have become hostile for these species.

The vanessidae do not seem to like the clumps found in fields, in the exposed middle, and in many agricultural settings pesticide residues are likely to be high. We have not yet seen results from set-aside, but farmers are allowed to limit the growth of plants they consider undesirable, and I suspect that nettles fall into this category. So even these most far-ranging and opportunistic of butterflies may, if my observations and those of Mr Allen are representative, have found themselves pushed out of their humble havens on waste ground and other marginal land.

We should, as a society, become alarmed when our scarce butterflies became rare: We did bolt the stable door, but only when some of the stalls were empty. How alarmed should we feel about the degradation and impoverishment of our environment now that today's common butterflies look like being tomorrow's rarities?– DR C.J. SMITH, 20 Gately Road, Sale Moor, Cheshire M33 2RQ.

PYRALID MOTHS IN PROFILE: PART 1 – *SCIOTA ADELPHELLA* (FISCHER VON RÖSLERSTAM)

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Introduction

THIS IS THE FIRST in a series of occasional articles on the British Pyralidae under the general heading *Pyralid moths in profile*. The series is intended to cover species where our knowledge of the status, distribution and immature stages in Britain appears to be inadequate. The series will also cover species where the true status has been distorted by erroneous recording either as a result of misidentification or muddled nomenclature.

Included in the early series will be *Crambus pratella* (L.) (England only); *Crambus verellus* (Zincken); *Udea fulvalis* (Hbn.); *Salebriopsis albicilla* (H.-S.); and *Acrobasis tumidana* (D.&S.). Details of unpublished records for any of these species will be gratefully received and acknowledged on publication.

Profile no. 1 – *Sciota adelphella* (Fischer von Röslerstam)

Past history and present status

This species was first recognised in Britain as distinct from *Sciota hostilis* (Stephens) in 1988 (Brotheridge, 1988) and single records were cited from Wiltshire and Essex. An initial response to the discovery brought to light eight further specimens, one from Suffolk and the rest from Kent (Jewess, 1989 and Chalmer-Hunt, 1990).

In 1990 I researched this species visiting or consulting many major museums and private collections, and further investigating all unusual records of *S. hostilis*. In all, fifteen specimens were found to have been taken before 1990. These comprised a single inland record from Wiltshire; the others being mainly from coastal sites in Suffolk, Kent and Essex. There is some supportive evidence that most, if not all, were the result of immigration.

After a two year absence of records a small influx occurred on the south-east coast of Kent in July 1992 and in August a larva, the first and so far the only one reported from Britain, was found feeding on white willow, *Salix alba* at Greatstone, Kent. In 1993 six more specimens were reported from the same general area.

More sightings in 1994 suggested that the species was possibly established in at least four localities, Greatstone, Littlestone, Dymchurch and New Romney.

Similar species

The adult of *adelphella* is similar to *S. hostilis* and *Pempelia formosa* (Haw.). However, *adelphella* has a distinctly brighter orange basal patch and

The British records of *S. adelphella* 1948-1993

6.1948	Hamstreet, Kent	J.M. Chalmers-Hunt	Chalmers-Hunt Coll.
28.6.1957	Lydd, Kent	S. Wakely	Univ. Mus. Cambs.
29.6.1959	Bradwell, Essex	A.J. Dewick	Dewick Coll.
3.8.1963	Dover, Kent	G.H. Youden	Brit. Mus. (Nat. Hist.)
16.7.1964	Thorpeness, Suffolk	J.M. Chalmers-Hunt	Chalmers-Hunt Coll.
7.7.1970	Dover, Kent	G.H. Youden	Brit. Mus. (Nat. Hist.)
c. 1975	Dymchurch, Kent	J. Owen	Chalmers-Hunt Coll.
6.7.1976	Newington, Kent	P. Jewess	Jewess Coll.
26.6.1984	Stodmarsh, Kent	J.M. Chalmers-Hunt	Chalmers-Hunt Coll.
21.7.1984	Stodmarsh, Kent	N.F. Heal	Heal Coll.
21.7.1984	Stonelees, Kent	J.M. Chalmers-Hunt	Chalmers-Hunt Coll.
4.7.1985	Murston, Kent	P. Jewess	Jewess Coll.
29.6.1986	Dover, Kent	G.H. Youden	Brit. Mus. (Nat. Hist.)
15.7.1987	Wroughton, Wilts.	D.J. Brotheridge	Brotheridge Coll.
7.7.1989	Thorpeness, Suffolk	J.L. Fenn	Fenn Coll.
8.7.1992	Greatstone, Kent	B. Banson	Clancy Coll.
8.7.1992	Dungeness, Kent	S. Clancy	Clancy Coll.
10.7.1992	Lydd, Kent	K. Redshaw	Clancy Coll.
15.7.1992	Greatstone, Kent	B. Banson	Clancy Coll.
18.7.1992 (2)	New Romney, Kent	K. Redshaw	Clancy Coll.
23.8.1992 (L)	Greatstone, Kent	B. Skinner	Skinner Coll.
24.5.1993	Dungeness, Kent	M. Parsons	Parsons Coll.
6.6.1993	New Romney, Kent	K. Redshaw	Clancy Coll.
6.1993	New Romney, Kent	K. Redshaw	Redshaw pers. comm.
8.6.1993	Densole, Kent	A. Rouse	Rouse Coll.
26.6.1993	Dymchurch, Kent	J. Owen	Owen Coll.
3.7.1993	Dymchurch, Kent	J. Owen	Owen Coll.

an inwardly concave antemedian line absent in *hostilis*. The two discal spots are not united as is the case in *P. formosa*. *Sciota hostilis* and *S. adelphella* are illustrated in Figure 7, Plate D.

Life history

Captive pairing of wild caught British specimens have been obtained, and the complete life history observed. In captivity the small, pale straw coloured eggs are laid singly or in small batches on the underside of the leaf either side of the midrib and hatch in six to seven days.

The full grown larva measures 19mm and is yellowish-green with reddish-brown dorsal and ventral stripes. The head is reddish-brown. It would appear to be quite distinct from the dull brownish larva of *hostilis* described by William Buckler (Buckler, 1901). A fully grown larva is illustrated in Figure 8, Plate D. The larva lives inside a transparent, silken tube within a flimsy tent comprised of two or more lightly spun leaves. Several larvae will share a "tent" in captivity and possibly do so in the wild.

After approximately 30 days the larva pupates within a soft papery and opaque cocoon. The typically chestnut-brown pupa is glossy and measures 11-12mm (Fig. 9, Plate D). The pupation site in nature is unknown, but in captivity the larva forms its cocoon on the side of the breeding container. The moth overwinters in the pupal stage.

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Eutheia linearis Muls. (Col.: Scydmaenidae) recaptured at Windsor

As long ago as 1935 (*Entomologist's mon. Mag.* **71**: 65) I recorded a single specimen of this rare insect from Windsor, the only one (apparently) known up to now from the locality in spite of all the collecting done there. To enlarge somewhat upon this capture: it was, incidentally, the first beetle taken on my first visit to the area, on 21st May 1934! It occurred under bark on a smallish oak stump, just inside the piece of forest to the south of the road at Highstanding Hill. The specimen is a female and was readily named from Joy (1932, *Pract. Handb. Brit. Beetles* **1**: 479-480) and Fowler (1889, *Col.Brit.Isl.* **3**: 89), but it must be noted that at that period the shorter, more strongly and abruptly clubbed antennae were mistakenly assigned to males in the genus – a point later corrected in the literature.

E. linearis has a different habitat from the closely similar *E. scydmaenoides* Steph., being subcortical instead of saprophilous, and has been accorded Grade 1 Old Forest Indicator status. Most of our specimens were collected under bark of oak logs in Sherwood Forest last century by W.G. Blatch, and it has occurred in the New Forest, but a remarkable recent record from the woods fringing Loch Lomond, Stirlingshire, is seemingly unconfirmed (Hyman & Parsons, 1994, *Rev. Scarce & Threatened Col. Gt. Br.* **2**: 91).

It is of interest, therefore, to report a second find of the species at Windsor, where I took another female under bark of an oak log or branch in a wood-pile in the Great Park, 4.vii.1984 – just half-a-century after the first. The *Eutheia* was almost buried in the outer layers of very fibrous "bast", from which it was extracted with some difficulty. Unaccountably, it appears to have passed at the time as *E. scydmaenoides,* despite the habitat which should have alerted me to its true identity, but a recent overhaul of my material revealed it as undoubted *linearis.* One of the clearest distinctions lies in the fact that while the pronotum is more strongly punctate than the elytra in *scydmaenoides,* the reverse is the case in *linearis,* as Joy (*l.c.supra*) indicates.– A.A. Allen, 49 Montcalm Road, Charlton, London SE7 8QG.

Hazards of butterfly collecting – from Rat Trap to Barbecue Bottom, Jamaica, February, 1994

When you have just toured Cambridge, Manchester, Falmouth, Mandeville, Wakefield, Maidstone, Northampton, Newcastle, Bristol, Bath, Hampton Court, Richmond, Hampstead – and, just a bit further on, Highgate – there can hardly be much doubt in which part of the world you are. And surely Galloway, Inverness, and Culloden are only just north of the border?

But then there are also Alexandria, Aboukir, Balaclava, Lititz, Schwallenburgh, and Montpellier. Not to mention Santa Cruz, Rio Grande, Rio Buena, and the Copocabana Beach, all of which confuse the issue a bit. The Bengal Bridge, Pondicherry, and the Hardwar Gap appear to add a slightly Indian flavour to the cocktail.

The local names are more of a giveaway: Rat Trap, Good Design, Maggotty, Gutters, Barbecue Bottom, Wait-a-Bit, Heartease, Burnt Savannah and Quick Step – the latter in the district of Look Behind in Cockpit Country! Anyone who does not now know where we are may choose to be exiled to either Lilliput or the Hellshire Hills.

It is, of course, Jamaica, to which I found myself transported with the sole, but pleasant, objective of being nice to my wife. She has visited Jamaica four times over the past year and a half setting up an action research project on peer-education on AIDS. She loved the place. She had made many friends. The project was going well. I just had to come and see for myself! There was also an element of guilt; Nancy had spent Christmas and the New Year with me in Ghana and I am afraid that butterflies took more pride of place than they ought to have done.

After ascertaining that the peer-educators were great (I have rarely seen so well-motivated, confident, and well-spoken youngsters anywhere), and after

meeting my wife's collaborators (who were running good programmes on shoestring budgets), we set off in a hired car to seek the elusive American concept of *quality time,* for which Jamaica certainly provides the setting, so the rest was up to us.

Butterflies were thus rather incidental to the exercise, but collecting was done while meandering all over the island, which is much smaller than it seems on the map – there are hardly any road signs, and we kept overshooting our plotted landmarks.

There are many lovely butterflies in Jamaica. As so often in the tropics one of the Swallowtails (*Papilio andraemon*) has gone onto citrus and flies everywhere. Beautiful Sulphurs (*Phoebis* spp.) in yellow and gold flock about flowers. And several Grass Yellows (*Eurema* spp.) with exactly the same habits as in Africa and Asia. The Heliconids are not many, but they are very prominent in the landscape. The orange *Dryas iulia* and *Agraulis vanillae* swoop to flowers while the large light green *Philaethria dido* seems more fond of fruit, just as the Red Admiral in Europe. Every forest edge and river valley has the widely distributed *Heliconius charitonia* patrolling ceaselessly.

The main Nymphalid is the ubiquitous *Antanartia jatrophae,* but there are also Buckeyes or Pansies (*Junonia evarete*) behaving just as they do in Africa and Asia. Lycaenids are very thin on the ground except for *Leptotes cassius,* in a genus shared between all the tropical continents. Among the Skippers are the little *Pyrgus oileus,* the only member of its genus at home in the tropics, and the large, long-tailed *Urbanus proteus.*

The total catch came to 36 species. Yes – only 36! How so? A similar tour in Ghana would have yielded at least 270 species – about a third of the total fauna – with the same expenditure of energy. We actually did proportionately better than that, since there are only 75 resident butterflies on Jamaica. This is the island effect, and it is much stronger than one should think. Each of the smaller Caribbean Islands has a fauna of but 20-30 species, Jamaica and Puerto Rico about 75, and even the much larger islands of Cuba and Hispaniola only just over 100. By contrast, tiny Costa Rica has more than 1500! The relationship between species numbers and the logarithm of the surface area of each island is linear.

What we did not come across was the endemic Jamacian Giant Swallowtail (*Papilio homerus*), one of the largest butterflies in the world. It is restricted to river valleys in relatively unspoilt forest of difficult access and is decreasing in numbers. It feeds on one single plant, the Water Mahoe (*Hernandia catalpaefolia* – Hernandiaceae) that is limited to these habitats. It has apparently decreased in numbers in recent times, at least in its more accessible haunts.

However, you do come across its image everywhere else – on tourist literature, posters, wayside billboards, and even on pre-paid telephone cards. For this butterfly has been made the flagship species for conservation of the remaining upland forests of Jamaica, especially the Blue Mountains/Jim

Crow National Park, though it also occurs in Cockpit Country. As explained to me by Janet Bedasse of the Jamaican Conservation and Development Trust, it is also the main theme in organising local support for the National Park and for involving youngsters in nature conservation. There is even a new dance called "the butterfly", a very sexy dance – watch those pheromones fly!

Papilio homerus is world famous – at least all over Jamaica. It richly deserves to be. And how nice to see a butterfly spearheading general conservation measures with such evident success.– TORBEN B. LARSEN, 358 Coldharbour Lane, London SW9 8PL.

Epirrita autumnata Borkh. (Lep.: Geometridae): a new variety

On the evening of 4.xi.94, an unusual variety of *Epirrita autumnata,* the Autumnal Moth, was found on a lighted window at my home address in Banffshire. The specimen was a male of normal size and wing pattern, but it was entirely of a sandy reddish colour instead of the usual tones of grey. This was very pale on the underside, hindwings, and the ground colour of the forewings, where there was a dusting of whitish scales in the median area. The crosslines, discal spot and veins were in deeper shades of the same sandy-red colour. There was no hint of grey or blackish anywhere on the moth.

As this is such a distinct variety, and apparently unrecorded, I propose to name it even at the risk of being thought unfashionable. It is an erythristic form, so the name ab. *erythrata* seems appropriate. Many moths which appear in autumn are orange or reddish, but the *Epirrita* species are an exception, perhaps because they rest on tree trunks rather than among leaves. This variety suggests that *autumnata* does have the genetic capacity to adopt a reddish colouration likewise, if at some future time natural selection were to favour it.

I thank Bernard Skinner for consulting the world list of named aberrations on my behalf, and Lt. Colonel A.M. Emmet for vetting the suggested name.
– ROY LEVERTON, Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS.

The occurrence of the Clouded Yellow (*Colias croceus* Geoffroy) (Lep.: Pieridae) in Devon during 1994

Whilst 1994 was not generally regarded as an exceptional year for Clouded Yellows, they were seen in fair numbers from late June to early October in Devon, and it was probably their fifth best year since 1955 (see Bristow, Mitchell and Bolton, 1993, p.38). However, the number of recorders in 1994 was down on previous years, and a comparison of total numbers of Clouded Yellows seen will almost certainly be misleading. One recorder alone (Mr Maurice Edmonds) is responsible for 55 (25%) of the sightings. In summary, I have 103 records of some 232 individuals from 69 localities by 32 recorders.

The first Clouded Yellows were seen at two localities (Morchard Bishop, SS7760 and Chittlehampton SS6226) in mid-Devon on 25th June, followed

by two sightings at Lydford (SX4882) on the following day and one at Torrington Common (SS 4819) on 29th June. There were a few scattered records from all over the County in July (2nd at Aylesbeare Common SY0689, 10th at Copplestone SS7703, 11th at West Down SX4870 and 16th at Higher Metcombe SY0692).

A second, and much bigger, immigration occurred in August, with sightings almost daily from 5th August until 7th September. There were several sightings during the rest of September until the 27th, and then singletons, all on or close to the coast, on 1st, 5th 8th and 15th October. A singleton seen on 15th December at Dawlish Warren by J. Fortey remains an enigma.

Several var. *helice* were recorded; it was one out of four of my own observations, and four out of 55 of Maurice Edmond's. Maurice also witnessed ovipositing on young clover at Paignton on 7th September.

Reference: Bristow, C.R., Mitchell, S.H. and Bolton, D.E., 1993. *Devon Butterflies*. Tiverton: Devon Books.

– ROGER BRISTOW, Davidsland, Copplestone, Devon EX17 5NX.

Electrophaes corylata Thunb. (Lep.: Geometridae), ratio of forms in north-west Kent

I had for many years the general impression that in south-east England the banded form of this moth was the overwhelmingly prevalent one. However, this impression was not relevant to north-west Kent where it seems the moth has been exceedingly scarce during this century, until very recently. The species did not appear in my garden m.v. trap until 1983, its fifteenth year of operation. Another solitary specimen arrived in 1984, and numbers have increased, slowly at first, until in 1994 as many as ten would be noted in a single night. Chalmers-Hunt (*The Butterflies and Moths of Kent,* **3**: 1981) corroborates this scarcity, but for Kent generally gives the proportions of the banded form and ab. *ruptata* Hbn. as equal, and more recently C. Plant (*The Larger Moths of the London Area,* 1993) suggests this is true of this region also, and which includes Dartford.

I have noted the numbers of these two forms for the past three years. In 1992 25% of 52 specimens were ab. *ruptata,* in 1993 23% of 35, and in 1994 26% of 84 individuals. An explanation of this discrepancy may be the situation of this part of Dartford in relation to incidence of atmospheric pollution. The banded form appears slightly darker, melanistic compared with ab. *ruptata*; the situation will be monitored in future years; the ratio may change.

A limited count made in late May 1988 on Granish Moor, near Aviemore, Inverness, showed the proportions roughly reversed, yet this would seem to be contrary to Barret's comment (*The Lepidoptera of the British Islands,* 1902) ". . . in hill districts from Cannock Chase northwards the ordinary form is almost entirely replaced by one in which . . . the central band is usually complete." However, to the north of Cannock Chase lie the industrial

areas of Lancashire and Yorkshire noted for their production of melanic forms of many species. What has been the relative incidence of the two forms of *corylata* there? Has the complete banded form reached 75% in some of these industrial areas of the Midlands or North? Finally, in parts of the Highlands of Scotland a third form, I believe usually infrequently, appears; this is ab. *albocrenata* Curtis, paler still, having the central band virtually absent; does it ever occur more commonly than 1% or 2% of the total population?

– B.K. West, 36 Briar Road, Dartford, Kent DA5 2HN.

***Eucosma metzneriana* Treitsche (Lep.: Tortricidae) in north Essex**

It seems worth placing on record the capture of a male *Eucosma metzneriana* Tr., which came to a Robinson pattern m.v. light-trap at the Essex Wildlife Trust's Rushey Mead Nature Reserve, North Essex, at around 22.30 hours on 28th June 1994. This appears to be only the fourth British example of this attractive grey moth, and the first record of a male.

The species was added to the British list at the Gog Magog Hills, Cambridgeshire (a chalkland site some 34 kilometres north of Rushey Mead) on 22nd July 1977 by R.J. Revell, when a single female in good condition came to light (*Ent. Rec.* **89**: 329-330, Plate 1). A second (worn) female was recorded at Southsea, South Hampshire by John Langmaid on 21st June 1982 (*Ent. Rec.* **94**: 202) and a third (condition not recorded) at Rye Harbour, East Sussex, by Mark Parsons on 14th July 1989 (*Ent. Rec.* **101**: 254). The Rushey Mead example was in good condition, apart from the symmetrical absence of the tornal region of both forewings, suggesting that the insect had perhaps been pecked at by a bird or other predator.

The exact status of this species in Britain is unclear, and evidence may suggest that it occurs solely as an immigrant. The two south coast records perhaps fit this pattern quite well, though neither Gog Magog Hills nor the Rushey Mead Nature Reserve are areas noted for their immigration of Lepidoptera and there was certainly no migrant activity at all in the latter area around 28th June 1994 (three Robinson traps which run nightly at different nearby gardens within two kilometres failed to detect a single immigrant moth a fortnight either side of the capture date).

In continental Europe, the larva feeds from August to May in the tip of a shoot of an *Artemisia* plant, causing the shoot to abort and resulting in a swelling which is distinctive. The larva then leaves the swelling and pupates, spun-up in the lower part of the stem (Bradley *et al,* 1979 *British Tortricoid Moths* **2**: 185-186. London: Ray Society) or in the larval habitation (Emmet, 1991 in *Moths and Butterflies of Great Britain and Ireland* **7**(2): 158-159. Colchester: Harley Books). Both *Artemisia absinthium* and *A. vulgare* are recorded. Because of a variety of circumstances, (the most notable being the presence on the trip of my own two larvae and *au pair*!), the trap at Rushey Mead was set during the particular night in question adjacent to the entrance

gate in an area where the car may be safely parked. This area is blessed with a reasonable quantity of thinly scattered plants of *A. vulgare*. Though the site has been well worked by myself and colleagues in the last two years, careful examination of my diaries indicates that we have never before operated in the "mugwort zone", even though we have trapped on nine occasions during 1993 and 1994 between 21st June and 22nd July – the first and last recorded dates for the species in Britain. The possibility that the species is an extremely local resident should not be overlooked though subsequent searching for swollen tips of foodplant has proved fruitless to date.

I should like to thank the Essex Wildlife Trust for permission to record invertebrates at their Rushey Mead Nature Reserve and the reserve's Warden, Colin Taylor, for his enthusiastic help and assistance on site. It should be added that a permit is required to collect insects at all Essex Wildlife Trust nature reserves.– COLIN W. PLANT, 14 West Road, Bishops Stortford, Hertfordshire CM23 3QP.

Amphipoea fucosa paludis Tutt (Lep.: Noctuidae) in Oxfordshire

Three specimens of the Saltern Ear, *Amphipoea fucosa paludis,* were collected from mercury vapour traps in a garden at Long Wittenham, Oxfordshire, the first on 31st July 1990, another on 20th August 1992 and the third on 30th July 1994. Their identity was confirmed by examination of the genitalia. Evidently these are the first records of this species for Oxfordshire. The moth is normally associated with coastal areas, especially salt marshes, where it can be common, and its occurrence so far inland is remarkable unless, of course, it has been overlooked and mistaken for *A. oculea* (L.) which, in the event, is rare at the Long Wittenham site, with only one record since trapping began in July 1989. Possibly the moth has extended its range up the River Thames (which passes within 500 metres of the garden), as has the Brown-tail, *Euproctis chrysorrhoea* (L.) (Lymantriidae), another mainly coastal species regularly recorded at the same site.– DENIS F. OWEN AND MARTIN TOWNSEND, 42 Little Wittenham Road, Long Wittingham, Abingdon, Oxfordshire OX14 4QS.

The first light trap, 1st century AD

I was interested to read Brian Gardiner's account of a 16th century description of a light trap to catch wax moths (*Ent. Rec. J. Var.* **107**: 45-46). The passage he quotes is in fact a fairly faithful translation from the Roman author Columella's treatise on agriculture written in AD60-65 (*De Re Rustica* IX.14.9). Columella does not claim to be the inventor of the technique in question, although he is the earliest surviving author to mention it, closely followed by his contemporary Pliny (*Natural History* XXI.81). Wax moths were well known to the bee-keepers of the ancient world and are described by a number of Greek and Latin authors, as discussed in my *Insects and other invertebrates in classical antiquity,* Exeter, 1988.
– IAN C. BEAVIS, 104 St. James' Road, Tunbridge Wells, Kent.

Psychoides filicivora (Meyr.) (Lep.: Tineidae) and *Caloptilia azaleella* (Brants.) (Lep.: Gracillariidae) in West Kent

Both of these introduced species have occurred fairly regularly since 1989 at my garden m.v. trap here in Tunbridge Wells. *P. filicivora* has appeared in late April, May, August and November, while *C. azaleella* has appeared in every month from May to September and in November. On 27th November 1994, both species appeared in the trap together, the latest date for each. I understand from A.M. Emmet that this is likely to be the first record of *filicivora* from VC16 (West Kent). Records of *azaeella* were always problematic, as the species does occur indoors on imported plants. As far as I am aware these and others from Petts Wood in the west of the county (taken by D. O'Keeffe) are the only specimens caught in the open from VC16.
– IAN C. BEAVIS, 104 St. James' Road, Tunbridge Wells, Kent.

A possible sighting of the Large Tortoiseshell, *Nymphalis polychloros* L. in West Sussex

During a sunny spell in my garden, on 14th March 1995, I saw a butterfly in flight that I took to be a Painted Lady. Shortly afterwards, it settled on a windowsill, and closer examination showed that it was neither Painted Lady nor Small Tortoiseshell. My hesitation is because despite an interest in butterflies that has spanned some 60 years, I have never before seen *polychloros* and thought that the species is probably extinct in this country. March is also a typical post-hibernation date for the species. This specimen was distinctly larger than *urticae,* lacked the blue lunules on the hind wings and had no white colour on the underside.– DAVID SHELDON, 9 Greyfriars Close, Worthing, West Sussex BN13 2DR.

Acherontia atropos (Lep.: Sphingidae) breeding in Oxfordshire in 1994

On 24th August 1994, John Hill obtained two fully-fed larvae of the Death's-head Hawk, *Acherontia atropos,* at East Hendred, Oxfordshire. They had been feeding on jasmine, *Jasminum officinale* (Oleaceae), an alien ornamental from southern Asia and an unusual foodplant for a species which, at least in northern Europe, is especially associated with the Solanaceae. In the tropics, many different foodplants are utilised. Thus, in Sierra Leone I found larvae on *Lantana camera, Cleorodendrum fallax* (both Verbenaceae) and *Heliotropium indica* (Boraginaceae); on the Seychelles I found them on *Zinnia* (Compositae).– DENIS F. OWEN, 42 Little Wittenham Road, Long Wittenham, Abingdon, Oxfordshire OX14 4QS.

Taphropeltus contractus (Herrich-Schaeffer) (Het.: Lygaeidae) in west Cumbria

On 22nd of January 1994 while searching for weevils on South Head, Saint Bees in west Cumbria (NGR NX956.117), I found one adult specimen of the small ground bug *Taphropeltus contractus.* The insect was found in a deep accumulation of leaf litter and humus beneath stunted gorse bush growing on

a low, south-facing cliff bank. This appears to be a new record for Cumbria and the first for VC70 Cumberland. There is no record for Cumbria of this bug in F.H. Day's list of the Heteroptera of Cumberland (1928, *Trans. Carlisle nat. Hist. Soc.* **4**: 108-130) and there are no specimens from the county in the collections of F.H. Day, James Murray and G.B. Routledge in the Tullie House Museum at Carlisle.

According to Southwood and Leston (1959, *Land and water bugs of the British Isles,* Warne, p.114) *T. contractus* is widely distributed throughout Britain and is associated mainly with dry habitats.

I wish to thank Mr Stephen Hewitt (Keeper of Natural Sciences at the Carlisle Museum) for kindly identifying the bug for me and for information regarding its status and distribution.– R.W.J. READ, 43 Holly Terrace, Hensingham, Whitehaven, Cumbria CA28 8RF.

***Acalles roboris* Curtis (Col.: Curculionidae) in Cumbria and vice-county 70**

On 9th December 1994 I found two specimens of this notable (Nb) weevil in Talkin Head Wood (SSSI), Cumbria (NGR NY544.561). The beetles were sieved from a sample of leaf litter and general humus collected from the base of a few sessile oak trees growing on the side of a steep bank above the River Gelt. This would appear to be a new record of the weevil from vice-county 70, Cumberland. There are no specimens of *A. roboris* in the collections of local Coleoptera in the Tullie House Museum at Carlisle, and this species is not recorded in F.H. Day's list of Cumberland Coleoptera, (1923, *Trans. Carlisle nat. Hist. Soc.,* **3**: 99-105). The weevil has been recorded from VC69, Westmorland and is known from two sites in the county: Roudsea Wood Nature Reserve (SD38) and Cunswick Scar (SD39).

I wish to thank Mr Stephen Hewitt (Keeper of Natural Sciences) Carlisle Museum for kindly allowing me access to the museum collections, and I would also like to thank Mr John Miles for introducing me to the Talkin Head site.– R.W.J. READ, 43 Holly Terrace, Hensingham, Whitehaven, Cumbria CA28 8RF.

***Furcula bifida* Brahm (Lep.: Notodontidae) in Pembrokeshire**

The recent record of this species from Cardiganshire (Miles, *Ent. Rec. J. Var.* **106**: 202) prompts me to report the occurrence of this locally distributed moth in the neighbouring county of Pembrokeshire, also during 1994, when a single example was attracted to m.v. light on 13th June at Blackpool Farm, Blackpool Mill (grid ref. SN061144). The distribution map provided in Heath & Emmet (1979, *The Moths and Butterflies of Great Britain & Ireland,* volume 9, Curwen) does not illustrate any records for *F. bifida* in Pembrokeshire, and neither have I been able to trace any recently published records for the county. I am indebted to Philip Miles and Dr M.R. Wilson (National Museum of Wales) who also checked for previous Pembrokeshire records on my behalf.– A.P. FOSTER, 61 Pittsfield, Cricklade, Swindon, Wiltshire SN6 6AW.

Some winter insects

In mild conditions at 1pm on 25th November 1994 a male *Gonepteryx rhamni* was flying above an ivy hedge in Gracious Street, Selborne. An unexpected arrival at light here on 12th December was a single specimen of *Orthosia gothica,* a species not previously seen by me earlier than 29th January. Another surprise was the re-appearance in January (after three weeks' absence) of *Poecilocampa populi,* with males on 9th and 13th. *Agriopis leucophaearia* on 14th January beat my previous earliest date of 29th January, whilst *Agriopis marginaria* on 1st February pre-dated my previous first on 10th February 1994.– ALASDAIR ASTON, Wake's Cottage, Selborne, Hampshire GU34 3JH.

GERTRUDE KATE HAGGETT

There will not be many lepidopterists today who may recall the work done by my mother during the 1940s, '50s and into the '60s. Her interest in moths grew from catches at a vertical sheet hung on our Arundel, Sussex, clothes-line to accurate and ready identification of m.v. trap contents that succeeded it: the site was rich with *polychloros* regularly in March and the odd *iris* at the waterbutt in July, *w-album* sat in numbers on the water-lily leaves and *alpium* and *quadra* and even one *l-nigrum* came to the lights. It was in the early days of *arceuthata* larvae on the Cypress and the heyday of Ham Street. She stood in for me while I was on military service, and following a week with me combing Ham Street woods for *nigropunctata* and only finding males, she returned after I had rejoined my unit to catch the much-sought female – one could flush only the odd moth then in contrast to the present Folkestone abundance. She would venture alone into the Arundel woods at night, armed only with a paraffin lantern, for larvae and especially for spring moths. On one occasion she was examining moths shaken from sallow blossom when her lantern light picked out the boots of a tramp who fortunately went peacefully on his way, an encounter that could not be risked today.

She was a frequent attender at the annual exhibition of the South London and was well-known to the fraternity of those days, which included Eric Classey, Michael Chalmers-Hunt, Norman Riley, Bernard Kettlewell, George Hyde, Charles de Worms, Robert Saundby and Robin Mere, and it was Sir Robert who remarked that he had never seen or heard of any collector go into bushes at night and come out with so many larvae. She was one of few to find the wild larva of *Nola albula.* A.J. Wightman lived but a few miles distant at Pulborough and there was a constant, almost uninterrupted quest of larvae, part of a happy system of mutual benefit of a small group who embarked on forming collections of larvae from all parts of the British Isles. During my many absences my mother would go on collecting trips with AJW, who was never the most particular of motorists

and whose reversing success depended upon contact: thus it was how she found *musculosa* sitting in cold dew on wheat stooks while nothing flew to light.

It was larvae that she liked so much and which she was to share in our attempt to rear all the British macros; we soon found the literature sadly wanting and we eagerly absorbed both figures and text of Buckler's volumes, then to realise how much work was required to bring that most wonderful of masterpieces up to date. There was an explosion of activity and adventure then, rather similar to the present-time chain of discoveries, so illustration and description of species was possible of so many of those not depicted by Buckler. My mother shared much of the rearing with AJW and she kept detailed notes on their habits and instars: she handled from the egg many of the species new to Britain at that time as well as the Kent specialities *fraxini, lunaris* and *salicalis,* the first breeding of *luctuata* and finding the first wild larva of *hucherardi.*

Large-scale rearing came naturally to her as she was fastidious with hygiene and fresh food: she reared all the broods of *vitellina* that we used in temperature experiments. Later she took the *lacteata* strain of *alternata* through ten generations, and she made large-scale rearings of *pyramidea* while AJW looked after *berbera,* so enabling us confidently to state their larval distinctions: *otregiata* was another big-brood success while still scarcely-known. For all subjects she used old-fashioned techniques of rearing in closed containers that necessitated daily cleaning and feeding, but which gave her the opportunity of making daily counts which she painstakingly always did. Her skill in rearing the most difficult and delicate subjects became well recognised and widely appreciated: further successes included *viciae argyllensis* and the two-year larva of *loti scotica,* the overwintering of *puppillaria* and *fimbrialis*, with *ravida, venustula, musculosa, nickerlii* and *C. tridens,* all from the egg. And there was the continuous handling of the fruits of each season's work that occupied long hours of dedication.

Removal to Lincolnshire in 1971 saw an abrupt end to field work and rearing, which was accentuated a few years later when damage to both hips resulted in immobility and decline, but her resilience and tenacity for life kept her going following the move to Norfolk until the need for further surgery on hip and a broken femur put her into hospital again. She died from a stroke at the age of 94 at the Norfolk and Norwich hospital on 18th February 1995.

The *Record* has in its long history paid tribute to spouses and associates who, while not themselves primarily entomologists, did sterling work to illuminate their interests. I am especially privileged to add this testimony for an intrepid lady who loved her caterpillars as she did her flowers, and some of whose joy with water-colours has been passed on.– G.M. HAGGETT, Meadows End, Caston, Norfolk.

Changes in editorial staff

With this issue, Professor John Owen retires as Assistant Editor after three years in the post. During this period, the *Record* has enjoyed the benefits of his many years experience in editing scientific papers, and his extensive knowledge of the British Coleoptera. The editor is most grateful for his help and support over the years, and looks forward to seeing the fruits of retirement in the form of many notes and papers on British beetles gracing these pages.

Fortune does indeed smile upon the *Record* as we are pleased to welcome Richard Jones as Assistant Editor replacing Professor Owen. Richard needs little introduction as a well-known writer, editor, photographer, broadcaster and entomologist with a strong leaning towards the Coleoptera. He currently edits the *British Journal of Entomology and Natural History*.

Forthcoming Events

The following three entomological "events" have come to our notice:

The West of England Creepy Crawly Show
Billed as "A major herpetological and entomological show for captive breeders and conservationists". To be held at Newton Abbot racecourse, Devon, on Saturday 24th June 1995. 10.00 – 17.00.
Further details from Richard Rogers on 01626 332775

The 8th International Exhibition of Insects at Paris
A weekend event that anticipates over 50,000 visitors this year. To be held on 7th and 8th October 1995 at the Parc Floral of Paris in Vincennes.
Further details from Pierre-Emmanuel Roubaud, BEPP, 59 Rue de Faubourg Poissonniere, 75009 Paris.

The Amateur Entomologist's Society Annual Exhibition
To be held this year on 7th October at Kempton Park Racecourse, Sunbury, Middlesex, from 11.00 to 17.00.
Further details from Roy McCormick, 36 Paradise Road, Teignmouth, Devon TQ14 8NR.

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THE ENTOMOLOGIST'S RECORD

AND JOURNAL OF VARIATION

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

Contents

Notes and observations

(Continued on inside back cover)

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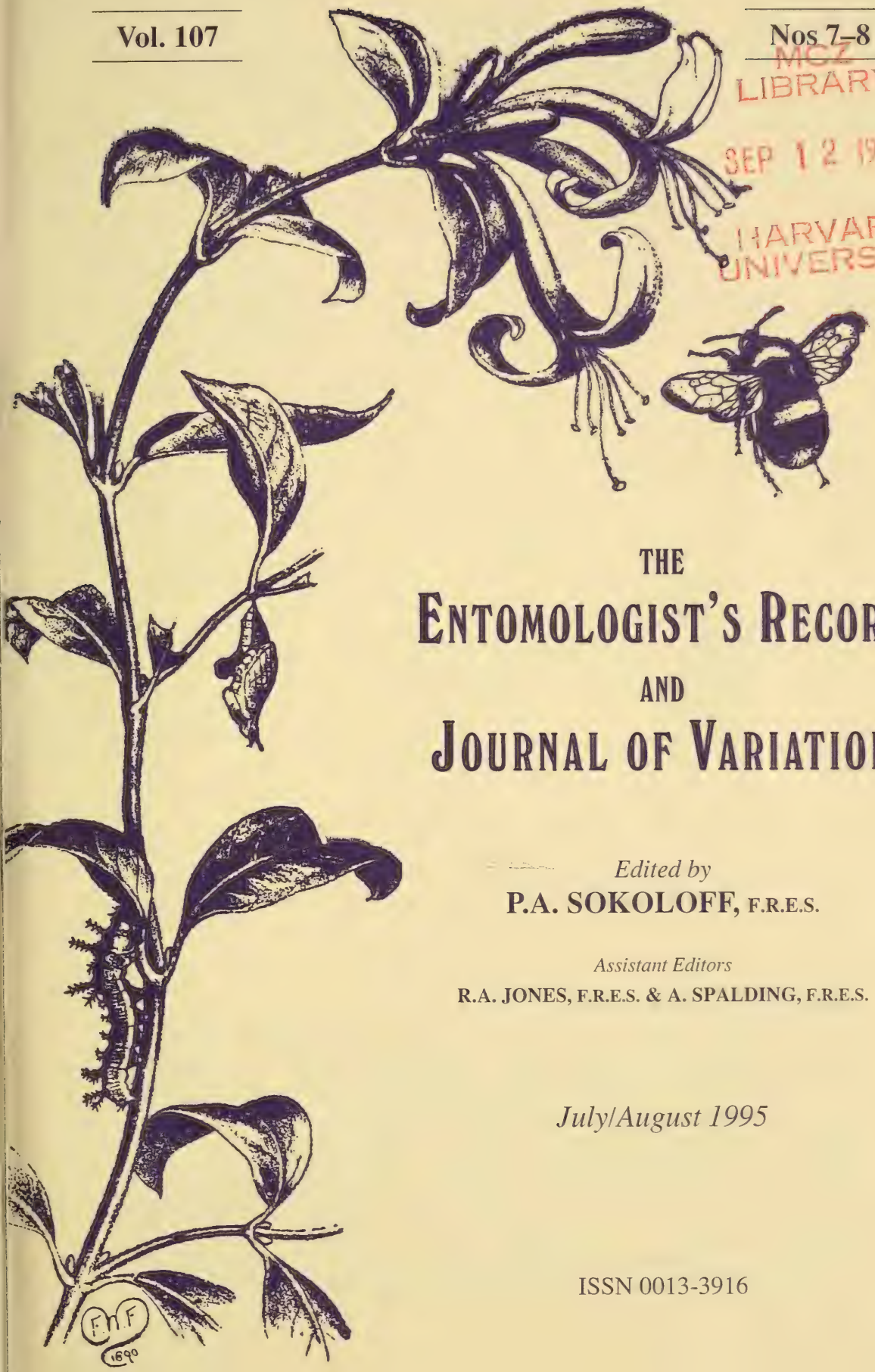

THE ENTOMOLOGIST'S RECORD AND JOURNAL OF VARIATION

Edited by

P.A. SOKOLOFF, F.R.E.S.

Assistant Editors

R.A. JONES, F.R.E.S. & A. SPALDING, F.R.E.S.

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THE ENTOMOLOGIST'S RECORD AND JOURNAL OF VARIATION

WHERE TO WRITE

EDITOR: All material for publication and books for review.
REGISTRAR: Subscription changes of address and non-arrival of the Journal.
HON. TREASURER: Advertisements and subscribers' notices.

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It would greatly help the Editor if material submitted for publication were typed and double spaced. Two copies are preferred. Please DO NOT use block capitals and DO NOT underline anything except scientific names. Word-processed text should not use italic, bold or compressed typeface. References quoted within the text can be abbreviated (eg Ent. Rec.), but those collected at the end of a paper should follow the standard *World List* abbreviations (eg Entomologist's Rec. J. Var.). When in doubt try to follow the style and format of material found in a current issue of the *Record*.

Illustrations must be the original (not a photocopy) without legend which should be typed on a separate copy. Photographs should be glossy, positive prints. Authors of long papers, or submitting valuable originals are advised to contact the Editor first.

Contributors are requested not to send us notes or articles which they are sending to other magazines.

Whilst all reasonable care is taken of manuscripts, illustrations etc, the Editor and his staff cannot hold themselves responsible for any loss or damage.

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MORE OBSERVATIONS ON *EUBLEMMA OSTRINA* (HÜBNER) – THE PURPLE MARBLED (LEP.: NOCTUIDAE)

[1]BRIAN ELLIOTT AND [2]BERNARD SKINNER

[1]*24 Deerlands Road, Ashgate, Chesterfield, Derbyshire S40 4DF.*
[2]*5 Rawlins Close, South Croydon, Surrey CR2 8JS.*

MENTION WAS MADE in a previous paper of the discovery of a temporary colony of *Eublemma ostrina* Hübner in the Burren District of Western Ireland (Elliott & Skinner, 1993) and the purpose of these notes is to expand our knowledge of this species in the field and give a more detailed description of the larva and pupa. All the larvae found were in the flower heads of *Carlina vulgaris* L.; *Cirsium vulgare* Ten. was also present, but not tenanted. Only fully grown larvae or pupae were located.

The initial search for larvae was instigated by the capture of a fresh specimen to paraffin light on the 15th August combined with the knowledge of a small immigration of adults to the English mainland which had occurred earlier in mid-May. The locality supported scattered stands of *Carlina vulgaris* and almost the first mature flower head opened contained a small noctuid pupa of the correct size to be our quarry. Continued search over the next few days yielded over twenty more larvae or pupae. It soon became obvious that those seeding flower heads that were distorted with raised florets with darkly discoloured bases were those most worthy of dissection. A closer inspection occasionally revealed the presence of a small amount of frass issuing from between the base of the flower and stem.

No more than one larva was ever found per flower head although several heads of a multi-headed plant could be tenanted. All the larvae pupated within the heads with one exception and this constructed a papery boat-shaped cocoon, reminiscent of the Chloephorinae, on the side of a plastic container.

The full-grown larva measures 15mm, is sparsely setose and greyish-green with a broad pale green dorsal stripe.The narrower sub-dorsal and sub-spiracular lines are of the same colour. The head is dark brown and the thoracic plate freckled dark-green and brown. The pupa measures 10.5mm long and is glossy light-brown with distinctly darker wing cases.

Apart from the original capture at light our only other encounter with an adult was coming across a specimen at rest on the top of a large rock in the full glare of the sun. Despite a very cautious approach it took off backwards and upwards and it was impossible to follow the rapid flight.

The resulting adults displayed the full range of colour variation known in this species from the dark purplish-pink type to the yellow ab. *carthami* Herrich-Schäffer which included the extreme aberration shown on plate III, figure 10, *Br. J. ent. nat. Hist.* **6**: 1993.

Reference

Elliott, B. & Skinner, B., 1993. Migrant Lepidoptera in the west of Ireland in 1992. *Entomologist's Rec. J. Var.* **105**: 179-181.

Exceptional dates for British Orthoptera

Exceptionally late dates for British Orthoptera were reviewed by Haes (1974; 1980) who recorded many of our native species as late as November and some as late as early December. All of these extremely late records relate to the survival of small numbers of insects in unusually mild areas in the south and west. In inland areas, Orthoptera seldom survive far into November. In 1993, for example, autumn in Oxfordshire was typical with a significant number of frosty nights in October. *Pholidoptera griseoaptera* (De Geer) was heard in good numbers at Headington on 19.x.1993 but searches at the same site in early November were fruitless. In cool autumn weather, Orthoptera are barely active and difficult to find. On 2.xi.1993, in the company of Mr E.C.M. Haes, careful searching revealed two female *Gomphocerippus rufus* (L.) on downland near Goring, Oxfordshire and three female *Omocestus rufipes* Zetterstadt and two male *Chorthippus brunneus* (Thunberg) among leaf litter in Bagley Wood near Oxford. These are late dates for an inland county. The very mild, humid autumn of 1994 was not particularly suitable for the prolonged survival of grasshoppers but was ideal for the bush-cricket *Pholidoptera griseoaptera*. About six males were heard on a sheltered bank in Headington on 19.xi and a single male was heard on 21.xi.1994, which is exceptionally late for Oxfordshire. A single male was heard in a nettle-bed in Glamorgan on 23.xi.1994 and this insect probably survived even later in coastal counties in 1994.

Apart from species that overwinter as adults or nymphs it is unusual to find mature Orthoptera before the middle of June. *Omocestus viridulus* (L.) is the first species to mature and the most likely grasshopper to be heard in early June. After a very mild winter and warm spring, adult male and female *O. viridulus* were found in the New Forest on 26.v.1990. However, a visit to the Somerset Levels on 28.v.1990 was truly exceptional. Both *O. viridulus* and *Chorthippus parallelus* (Zetterstadt) were adult and calling in large numbers at Street Heath. A few male *C. brunneus* were adult and stridulating also. The scene was somewhat unreal for an English May; a heat-haze rising off the peat moors, the loud chorus of scores of grasshoppers, one Marsh Fritillary, *Eurodryas aurinia* (Rottemburg) already well-worn and pairs of Meadow Browns, *Maniola jurtina* (L.) performing courtship rituals in woodland shade.

Insects and in particular the relatively long-lived Orthoptera are sensitive indicators of climatic variation. There may be more than just curiosity value in the recording of exceptional dates for Orthoptera. More systematic monitoring of their dates of maturation and survival may provide valuable data for studying the effects of climate on insect populations and such data collected long-term may provide evidence of climatic change.

References: Haes, E.C.M., 1974. Late records of native Orthoptera. *Entomologist's Gazette*. **25**: 200-203; Haes, E.C.M., 1980. Late Orthoptera records in West Sussex 1979. *Entomologist's Rec. J. Var.* **92**: 191.

– JOHN PAUL, 25 Newport Mews, Brighton Road, Worthing BN11 2HN.

ECTOEDEMIA AMANI SVENSSON, 1966 (LEP.: NEPTICULIDAE) NEW TO BRITAIN

BARRY DICKERSON

27 Andrew Road, Eynesbury, St. Neots, Huntingdon, Cambridgeshire PE19 2QE.

ON 12th JULY 1994, a warm evening with a minimum temperature of 17°C, I decided to run a moth-trap in Waresley Wood. Waresley Wood lies in the south-eastern corner of the vice-county of Huntingdonshire, VC31, and is owned by the local Wildlife Trust.

Some work had been done on the moth fauna of this wood during the years 1983 to 1989 when 293 species had been recorded. I was sure that this total could be increased considerably, so I considered carrying out a full recording programme in1995. As the 12th July 1994 was an ideal night for moth trapping and my other sites had all been trapped recently, I decided to sample the moths in Waresley Wood to see if it would be worthwhile running the proposed year's recording programme during 1995.

In recent years the local Trust has started to manage the wood, rides have been widened and areas coppiced. The increased light levels have led to an increase in the number and diversity of both flowering and non-flowering plants. Insects have become more abundant and the rides are being used by an increasing number of butterflies and other insects.

I arrived at the wood with a friend at 22.00hrs. We set up the equipment, a 125 watt mercury vapour lamp on a pole standing two feet six inches above a white sheet, on the main ride close to an area that had been coppiced about three years previously. We switched on the light at 22.15hrs and made a note of each species as it flew to the light. Those not readily identified were caught for inspection the following morning. The light was switched off at 00.45hrs and we returned home.

After a few hours sleep I checked those brought home and identified all but six. These were put aside for dissection at a later date while the others were released that evening. One of those dissected could not be identified and was placed to one side until the New Year.

I then recognised it as a member of the Nepticulidae, a group of moths that rarely comes to light. I looked through my copy of Johansson *et al.* (1989) and found an illustration which matched the dissection before me. Looking at the name *Ectoedemia amani* and finding it not to be on the British list I at first discounted it, but several further checks through the book failed to find any other genitalia that matched the one I had here and besides it states in the text that the genitalia of the male, which mine is, is very characteristic.

I photographed the genitalia and showed the print to David Manning, the Bedfordshire Microlepidoptera recorder, and he agreed with my identification, so I contacted A. Maitland Emmet. Copies of the photograph were then sent to Maitland and on his advice to Dr Erik J. van Nieukerken in the Netherlands; both agreed with my identification.

Ectoedemia amani feeds under the bark of *Ulmus* spp. making a relatively straight gallery in smooth thin branches, probably with a two-year cycle. A search for mines at Waresley Wood on 11th February 1995 proved fruitless apart from the finding of a thin branch of English Elm with two possible old mines. The bark had split with growth, preventing positive identification, but there appeared to be grains of old frass here and there under flakes of bark in the supposed galleries. The larva also mines Wych Elm which has smoother bark and might offer a better chance of success. The moth is found during July and August. It has now been recorded very sparingly in all northern European countries and Austria, the Czech Republic, Slovakia, Macedonia, eastern Siberia and France (Dr E.J. van Nieukerken pers. comm.).

The species belongs to the subgenus *Zimmermannia* Hering, 1940, which comprises the nepticulids which mine the bark of trees. The following description of the adult is based on Johansson *et al.* (*loc. cit.*).

> Wingspan 7.5–10mm, the largest European nepticulid. Head and collar orange to ochreous, therein differing from the other members of the subgenus, which have the head dark brown or black. Forewing uniform brown irrorate white, lacking the white markings present in other *Zimmermannia* species. Hindwing pale grey; male with a snow-white hair pencil at the base of the costa.

The species should follow *Ectoedemia atrifrontella* (Stainton) with the Log Book number 41a, though these numbers are now of limited value because of the systematic revision of the family (see Bradley & Fletcher, 1986).

Acknowledgements

My thanks are due to David Manning for checking my dissection, to Dr E.J. van Nieukerken for confirming my identification and supplying me with additional information and to A. Maitland Emmet for his help and advice and for reading through the draft of this report.

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A first Kent record for the Spanish Carpet, *Scotopteryx peribolata* Hbn. (Lep.: Geometridae)

On 6th September 1994, a specimen of *S. peribolata* was taken by Mr B. Banson in his garden trap at Greatstone, Kent. This is the first Kent record for this immigrant species which is resident in the Channel Isles.

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THE COMMON BLUE DAMSELFLY *ENALLAGMA CYATHIGERUM* AND OTHER ODONATA RECORDS IN SHETLAND

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THE ONLY member of the order Odonata resident in Shetland is one of the damselflies, Zygoptera, the Common Blue Damselfly *Enallagma cyathigerum* (Charpentier). This is one of the most commonest and most widespread of the damselflies, especially in Scotland, where it is often the only species present at some sites (Hammond, 1983). The first published reference to its occurrence in Shetland is by Godfrey (1899) who said the species was "observed in some abundance at the lochs of North Delting and the peat-holes of Gluss Isle" in 1896 and 1897. Unfortunately, the exact sites involved were not recorded. Since then nothing further has been published about the occurrence of the Common Blue Damselfly in Shetland. Shetland records are usually lacking in published distribution maps (*e.g.* those in Hammond, 1983), although some recent records are held by the Biological Records Centre, who are responsible for the compilation of dot distribution maps.

Three species of dragonfly have also been recorded in Shetland and their occurrence illustrates the vagrancy potential of certain species of Odonata. The stronger-flying and more highly migratory dragonflies are more likely to occur as vagrants than the damselflies, and they are unlikely to be confused with Shetland's resident damselfly. However, it is important that observers are aware of the potential for other species to be recorded in Shetland.

Damselfly sites

The following sites are all those which are currently known for the Common Blue Damselfly in Shetland. Records from areas within 1km of each other have been included as one site and any proof of breeding and indication of numbers involved are also included. Many of the sites are also breeding sites for Red-throated Divers *Gavia stellata* (L.) which are particularly susceptible to human disturbance.

Loch of Houlland, Eshaness (10-km square HU 27)

Most records come from one or more of the small un-named lochans to the south-east of the Loch of Houlland, although it is not always clear exactly which body of water is referred to. Six, including a mating pair, were recorded here on 24.vii.1983 (C. Gomersall). In 1986 there were "dozens" recorded on 13.vii (M. Henry), and seven, including a mating pair, recorded on 21.vii. (D. Carstairs). Dave Carstairs also recorded three blue individuals at the Loch of Houlland itself on the last date.

Hamnavoe Hills, Eshaness (10-km square HU 28)

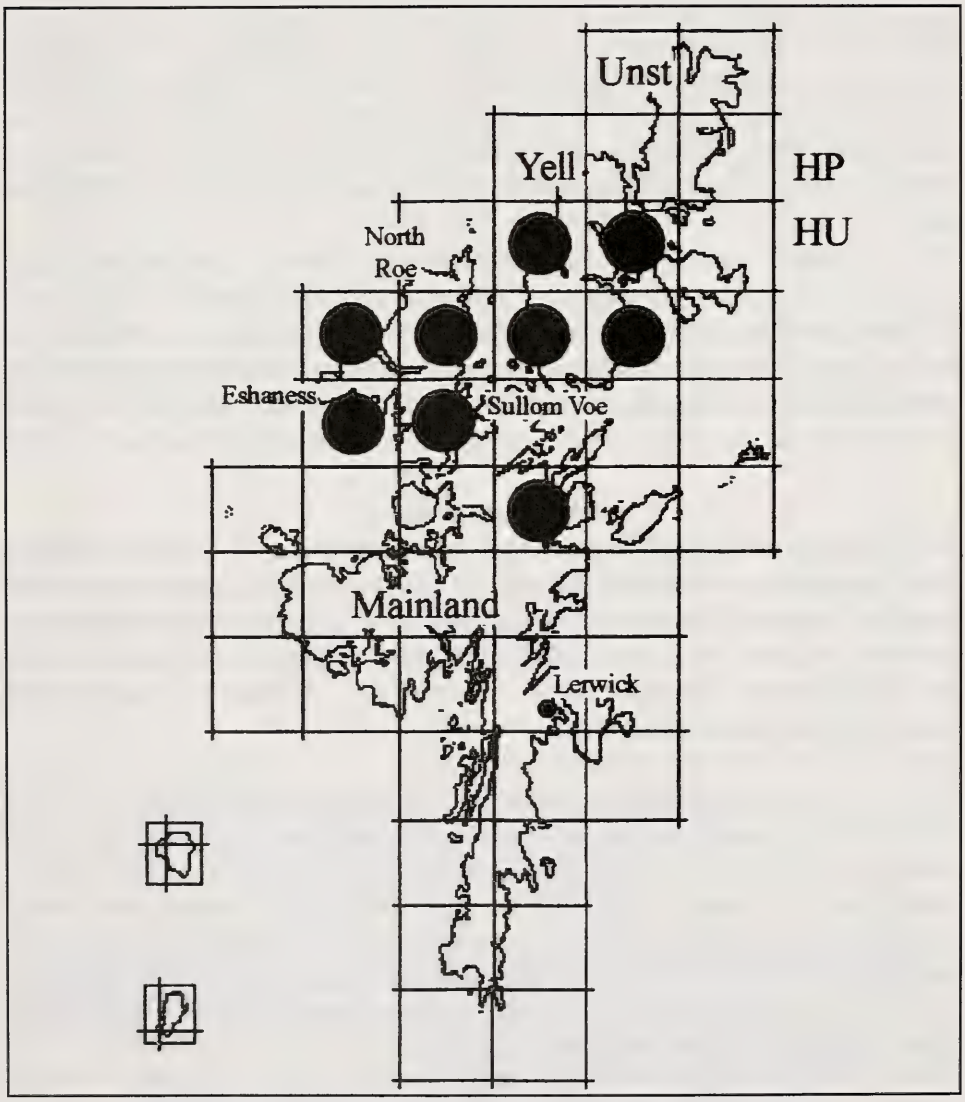
A blue individual was recorded at a lochan here on 23.vii.1983 (R. Wynde).

Tingon (10-km square HU 28)

There are several sightings at one regularly visited site with records dating back to at least the 1970s and the most recent record in 1994 (P.M. Ellis, J.D. Okill). In July 1992 damselflies were also recorded at three adjacent sites about 1km to the north-east (H. Harrop).

Gluss Isle (10-km square HU 37)

This is one of the original sites mentioned by Godfrey (1899). Local residents have also reported more recent sightings from within the last 30 years (per J. Swale). Most recently, several damselflies were seen here on one day in the warm weather of June 1992 (W. Scott).



Distribution of Common Blue Damselfly *Enallagma cyathigerum* in Shetland by 10km squares.

Scatsta (10-km square HU 37)

There are occasional sightings, most recently in 1988 (J.D. Okill). It was presumably this site that was referred to by a correspondent of Bobby Tulloch's in the 1960s, and it is also presumably one of the sites referred to by Godfrey (1899).

Many Crooks, North Roe (10-km square HU 38)

In early June 1992 damselflies were seen at four small lochans all within 0.5km of each other (J. Swale). At one lochan there were over 100 individuals, including many copulating pairs and newly emerged (teneral) adults. At the two sites nearest to this one there were also copulating pairs and teneral individuals, but only seven and ten individuals respectively were present. At the most remote site of the four there were only two blue individuals.

Beorgs of Skelberry, North Roe (10-km square HU 38)

There are occasional sightings, most recently in 1989 (J.D. Okill).

Mill Burn, Laxo (10-km square HU 46)

One blue individual was seen flying along the burn in June 1992 (F. Spence). The sighting is unusual in that it is about 10 km from any other site, whereas all other sites of sightings are in small clusters.

Hill of Garth (10-km square HU 47)

There are occasional sightings at this site, which is now on the edge of the Sullom Voe Terminal (P.M. Ellis, J.D. Okill). In July 1986 there were only about four individuals present, but this did not include a copulating pair. The most recent sighting was in 1987. This is presumably one of the sites referred to by Godfrey (1899) last century. In addition, the Scottish Natural Heritage office in Lerwick holds a file note which states that locals could recall seeing large numbers of damselflies around peat pools "near the American coastguard station" (now demolished) in the 1960s and 1970s. This presumably refers to the same site.

Cro Water and Lunga Skolla, Yell (10-km square HU 48)

Damselflies have been recorded at some of the small lochans to the south of Cro Water but not in recent years (R. Tulloch). There are also records from two adjacent sites about 1km away, in the vicinity of the burn of Lunga Skolla (J. Ballantyne). This burn flows out of Cro Water and damselflies have been seen here on 29.vi.1978, 10.viii.1984 (four individuals), 17.vi.1985 and 14.viii.1993 (two).

Burn of Arisdale, Yell and Burn of the Kame, Yell (10-km square HU 48)

Singles seen along the mid-reaches of the Arisdale valley in 1988 (P.M. Ellis) and along the Burn of the Kame in June 1992 (S. Smith) were most likely wanderers from other Yell sites.

Kame of Sandwick, Yell (10-km square HU 48)

Damselflies were recorded at a small lochan at the south end of this ridge on 5.vii.1982 (C. Gomersall) and in July 1994 (RSPB).

Una Stacka Houlla, Yell (10-km square HU 48)

There are two records from this area, on 4.vii.1977 (J. Ballantyne) and further sightings of single damselflies at two lochans about 0.5 km apart on 3.vii.1983 (C. Gomersall). The grid references imply three different pools were involved in the sightings.

Upper reaches of Burn of Setter and Shinniwersdale, Yell (both 10-km square HU 48)

Singles seen flying along the appropriate burns in June 1992 (S. Smith) were probably wanderers from other sites.

Graveland, Yell (10-km square HU 49)

Two blue individuals were recorded at a small lochan near Birka Lees on 8.vii.1989 (G. Bundy). There are other sightings by the Leicester Polytechnic expeditions to the south of this area at Raga, but without any details.

Laxa Burn at Mid Yell (10-km square HU 59)

One seen flying along the stream at the small dam in June 1992 (S. Smith).

The known sites so far fall into three main areas. There are a series of records from the north-west coastal areas of Northmavine (the sites at Eshaness, Tingon and North Roe), a few sites around the inlet of Sullom Voe (the sites at Gluss Isle, Scatsta and Hill of Garth) and a number of sites in the southern half of the island of Yell. One site, at Laxo, does not fall into any of these broad categories. What is perhaps most surprising is the relatively restricted area the sightings fall in. Although limited research and increased awareness over the last few years have increased the number of known sites, they still fall in a small area of north Mainland and south Yell. There is no obvious reason why the damselflies are restricted to this area of Shetland. Indeed, the richer more eutrophic waters of south Mainland, or the more heavily vegetated lochs of west Mainland would appear to be more likely for Odonata. The discovery of populations of damselflies outside the known areas is not impossible, but is highly unlikely that they will be discovered in relatively populous south Mainland.

Proof of Breeding

Proof of breeding can be obtained in a number of ways. Most obviously the aquatic, immature stages can be located. However, locating nymphs would require netting and would probably cause an unwarranted degree of disturbance to the breeding site. One way of proving the presence of nymphs without netting is by locating exuviae, the final shed skin of a nymph which is usually left on vegetation close to the water's edge. However, although searching for exuviae has an advantage over searching for adults as it need not be restricted to fine weather, finding exuviae in Shetland before they are blown away may be difficult! Adult sightings may also provide proof of breeding in two ways: sightings of newly emerged, teneral adults or of copulating pairs can be taken as proof of breeding as neither are likely to travel any distance from the true breeding site.

Of the approximately 20 sites where damselflies have been recorded in Shetland, the documented evidence available only proves breeding at three: Loch of Houlland, Many Crooks and the Hill of Garth. However, regular sightings at Tingon, Scatsta, Beorgs of Skelberry and the various areas on Yell suggest that these sites may be safely considered as breeding sites. The situation on Yell is particularly uncertain as there is no actual confirmation of breeding on the island, and sightings are extremely erratic in both their location and their timing.

Habitat

Habitat requirements have not been examined in any detail, but most of the sites are very similar in appearance. Typically, sites consist of small, deep, permanent lochans, less than 0.2 ha in extent and set amongst deep peat moorland. The edges of the loch are well vegetated with a growth of emergent vegetation such as rushes Juncaceae and sedges Cyperaceae, and they are not grazed to the water's edge. There is usually an extensive growth of floating vegetation such as pondweeds *Potamogeton,* bur-reeds *Sparganium* or Bogbean *Menyanthes trifoliata* (L.). The presence of floating vegetation is probably one of the most important factors as it is used by the female as a platform for egg-laying. Occasional sighting over larger areas of water may just refer to wanderers from adjacent, smaller pools. Sites such as those described above are not unusual in Shetland. Indeed, every island and parish in Shetland has habitat such as that described. This makes one wonder why damselflies are found in such a restricted area of Shetland.

Flight Period

Little information is available on the flight period in Shetland. In southern Britain the Common Blue damselfly flies from May to October (Hammond, 1983), but it is likely that they have a shorter flight period in Shetland. Indeed, the erratic nature of sightings even at frequently visited sites suggests that the relatively poor Shetland summer severely restricts the activity of the imagines.

Most sightings in Shetland are in June to August during the course of other fieldwork. The large numbers seen at Many Crooks in North Roe in early June 1992 suggest that this may be the main emergence period in Shetland. There were a number of other sightings elsewhere in the same month, which was unusually warm and sunny. Very few visits will ever have been made to damselfly sites before June or after August. Adult activity probably ceases early in the autumn, most likely following the first autumn gale.

Dragonfly Records

Three species of dragonfly (sub-order Ansioptera) have occurred as vagrants in Shetland on single occasions.

A Common Hawker *Aeshna juncea* (L.) was collected from Fair Isle on 24.vii.1955 and sent for identification to Cynthia Longfield. Although not a renowned migrant, other members of this genus are, and the Common Hawker does occur as close as Orkney (Berry, 1985).

Another dragonfly was obtained on Fair Isle just three years later when a Four-spotted Chaser *Libellula quadrimaculata* (L.) was recorded in July 1958. This species is a well known migrant from the continent into southern Britain in many years (Hammond, 1983), so its occasional appearance as a vagrant elsewhere is expected.

Finally, a specimen of the African and Asian dragonfly, the Migrant Emperor *Hemianax ephippiger* (Burmeister), another member of the family Aeshnidae, was obtained on Fetlar in about 1970. The specimen is now in The Natural History Museum. Although it is an essentially tropical and sub-tropical species, this dragonfly is a famous migrant and vagrants occur in variable numbers in Europe every year, although it remains a great rarity anywhere in Britain. It is, in fact, the only species of dragonfly to have occurred in Iceland (Wolff, 1971).

Acknowledgements

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LATE AND PARTIAL THIRD BROODS OF BUTTERFLIES AND MOTHS IN THE ISLE OF WIGHT DURING 1994

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THE YEAR 1994 will be remembered for having a prolonged summer comparable to those in 1983, 1989 and 1990 and for having nearly the sunniest October on record and the warmest November since records began in 1918. As in 1983 the fruit trees flowered again in October and the first frost did not occur at Freshwater until the night of 14th December, although a local frost was recorded much earlier at Binstead on 4th and 5th October. This warm autumn and early winter caused many late appearances of butterflies and some out of season records of moths. Eighteen species of butterflies were recorded after 1st October and I shall now describe the more interesting sightings.

Just over an hour denied October from being the sunniest on record with 170 hours of sunshine at Ryde. This did not quite beat the record year of 1921 which had 171.1 hours of sunshine. However during the latter part of the month there was 4.05 inches of rain which was nearly a third more than the average rainfall of 3.19 inches for the whole month. The warmest day was 12th October with a maximum of 64.9°F and the coldest was 4th October with 52.3°F.

There were three species of butterfly out during October which I had not observed before in that month. On 4th October I saw a freshly emerged Brown Argus (*Aricia agestis* D.&S.) on Compton Down which could have been an example of a partial third brood and on the same day I observed a female Adonis Blue (*Lysandra bellargus* Rott.), which must have been a late second brood example. The third butterfly was the Small Heath which had an excellent year with abundant numbers of both broods. I saw this butterfly as late as 18th October on Compton Down. The Chalk Hill Blue (*Lysandra coridon* Poda) was seen as late as 15th October although this species is known to occur into the third week of this month in favourable years. The last third brood Small Copper (*Lycaena phlaeas* L.) was seen on 28th October on Knighton and Compton Downs and this may be compared with the very late date of one recorded at Freshwater on 6th November 1983.

November was by far the warmest month since records began on the island and it was also the dullest with only 41.4 hours of sunshine compared with the average of 71.9 hours. The mean maximum temperature was 56.8°F which was 5.8°F above the 51°F average, and the mean minimum temperature of 51°F was 9°F above the long-term average and 2.4°F above the previous highest in 1938. The highest maximum temperature of 62.2°F occurred on 2nd November just below the record 63°F recorded on 1st November 1960 and 2nd November 1969. The total rainfall of 3.06 inches was less than the long-term average of 3.67 inches.

The Clouded Yellow (*Colias croceus* Geoff.) had a very good year with the first being seen at Rockenend, Chale on 6th June. Brian Warne witnessed over one hundred of the first brood between 26th July and 2nd September near his home at Binstead, and I saw thirty-four of the second brood including two *helice* between 4th October and 1st November on Compton Down. This was the best year on the island for this butterfly since the record year of 1983 when there was also a second brood during October. The last one was seen at the Cliff Tops Hotel at Shanklin on 10th November.

The Comma (*Polygonia c-album* L.) had a good year and the last was seen as late as 15th November at Freshwater and Firestone Copse. This compares to 6th November in 1983.

The Speckled Wood (*Pararge aegeria* L.) had an excellent year with the first being seen as early as 26th March and the last on 17th November in the garden at Freshwater. This last date is the latest that this butterfly has been observed in mainland Britain although it was seen on 3rd December in Northern Ireland during 1983.

December was warmer, wetter and sunnier than average. Like November, it had well above average temperatures and both the mean maximum for the month of 52.1°F and the mean minimum of 43.1°F were 5°F warmer than average. The mean maximum was close to the 75-year old high of 52.7°F in December 1934, with the highest day temperature of 57.4°F on 11th December. The air temperature fell below freezing on two nights, with a low of 29.8 °F on Christmas night. With 5.3 inches of rain falling in 20 days at Ryde the month's rainfall was one-third more than the long-term average of 3.48 inches. The total sunshine of 66.1 hours was above the average of 54.6 hours for December.

There were sightings of only two butterflies during this month. The Peacock (*Inachis io* L.) was seen in early December at Ryde (actual date not known) and the last butterfly to be recorded was the Red Admiral (*Vanessa atalanta* L.) at Puckpool, Ryde on 16th December.

Table 1 shows a list of the latest dates of the eighteen species of butterflies observed from 1st October 1994 in chronological order.

There were several instances of out-of-season appearances of moths during this period, and on 19th October an example of *Pleuroptya ruralis* (Scop.) and the Mouse Moth (*Amphipyra tragopoginis* Cl.) were taken at my light trap at Freshwater. An example of a third brood Garden Carpet (*Xanthorhoe fluctuata* L.) was seen on the kitchen window on 25th October at Freshwater. I also took the first ever recorded specimen of the Swallow-tailed Moth (*Ourapteryx sambucaria* L.) in November on the 2nd at my light trap. This was an example of a second brood which occurs occasionally in favourable years, and was much smaller than normal with a wing expanse of 33mm, nearly half the average size. Lt Cdr J.M. Cheverton noticed a second brood specimen of the Bright-line Brown-eye (*Laconobia oleracea* L.) in his house at Shanklin on 27th November. I recorded the Double-striped Pug

Table 1. Latest butterfly sightings on the Isle of Wight in 1994.

Date	Species	Locality
October		
4th	Brimstone (*Gonepteryx rhamni* L.)	Locks Green, Porchfield
	Adonis Blue (*Lysandra bellargus* Rott.)	Compton Down
	Brown Argus (*Aricia agestis* D.&S.)	Compton Down
12th	Common Blue (*Polyommatus icarus* Rott.)	West High Down
15th	Chalkhill Blue (*Lysandra coridon* Poda)	Compton Down
	Meadow Brown (*Maniola jurtina* L.)	Compton Down
16th	Large White (*Pieris brassicae* L.)	Totland Bay
18th	Small Heath (*Coenonympha pamphilus* L.)	Compton Down
23rd	Small White (*Pieris rapae* L.)	Binstead
24th	Wall (*Lasiommata megera* L.)	Binstead
28th	Small Copper (*Lycaena phlaeas* L.)	Knighton & Compton Down
	Painted Lady (*Cynthia cardui* L.)	Knighton Down
November		
10th	Clouded Yellow (*Colias croceus* Geoff.)	Shanklin
15th	Comma (*Polygonia c-album* L.)	Freshwater & Firestone Copse
17th	Small Tortoiseshell (*Aglais urticae* L.)	Knighton Down
	Speckled Wood (*Pararge aegeria* L.)	Freshwater
December		
Early Dec.	Peacock (*Inachis io* L.)	Ryde
16th	Red Admiral (*Vanessa atalanta* L.)	Puckpool, Ryde

(*Gymnoscelis rufifasciata* Haw.) in my trap on 28th November which must have been an example of either a partial third or fourth brood. The first one of the year was taken on 18th March but in 1993 I took it as early as 6th February. An extremely out-of-season White Ermine (*Spilosoma lubricipeda* L.) came to Brian Warne's moth trap at Binstead on 29th November. Finally there were some December records of three of our commoner migrants taken at light at Freshwater with the Silver Y (*Autographa gamma* L.) on 2nd December; the Dark Sword Grass (*Agrotis ipsilon* Hufn.) on 12th December and a very late *Udea ferrugalis* (Hübn.) on 16th December.

So ends an extraordinary year for late appearances of butterflies and moths made even more unusual when Gladioli flowered in November, and wall-flowers and Celandines were out at Christmas in the garden at Freshwater.

Acknowledgements

I should like to thank my mother for reading and commenting on the manuscript and Mr B. Angell, Dr D.T. Biggs, Mr D.A. Britton, Lt Cdr J.M. Cheverton, Mr Fred Joiner, Mr I. Rippey, Dr J. Waring and Mr B.J. Warne for their useful records and information which has helped me in writing this paper.

The Large Cabbage White, *Pieris brassicae,* extends its range to South Africa

Only recently, in an article in this volume (*antea* **107**: 67-68) I remarked that our Large Cabbage White, *Pieris brassicae,* has been steadily extending its range. How true this statement has turned out to be, for, since I wrote the article, there appeared in the September last issue of the South African Journal *Metamorphosis* (Vol. **5** p.93) an item by Graham Henning recording that he and others have seen eggs, larvae, pupae and adults of this butterfly in the Western Cape region of South Africa. Seen in August the adults were of our spring form. In view of the fact that it has now invaded two continents, it seems to be following in the footsteps (wingbeats?) of the Small White, *Pieris rapae* which now has a pretty well world-wide distribution. Australia and New Zealand should start to keep a watchful eye out for it.

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Further observations on *Epermenia insecurella* Stainton (Lep.: Epermeniidae) in Wiltshire

Back in 1982 I had my first introduction to this species when I netted a small moth (whose identification eluded me) near Therfield in Hertfordshire. As I lived in north-east Scotland at that time, I took it to Dr Mark Young who prepared a genitalia slide. He passed it on to the late E.C. Pelham-Clinton who kindly identified the species for me.

In 1983 I moved to Wiltshire and it was not until 1990 that, following a prompt from Dr John Langmaid, I came across *insecurella* again, this time on Salisbury Plain (*Ent. Rec.* **102**: 290-291). Due to fencing erected to exclude cattle from the tumuli, the area became very overgrown. Grazing was resumed in 1994 following representations made to the MOD by Phil Sterling and myself and some careful vegetation clearance was carried out by members of the Larkhill and Westdown Conservation Group. The foodplant of *insecurella, Thesium humifusum,* is still present, but it remains to be seen if *insecurella* is still there.

A seven-year survey of Wiltshire's flora (Gillam, 1993) found *Thesium* to be locally widespread on unimproved chalk downland, particularly in the south of the county. To date, however, the moth has only been noted from three locations: near Greenlands Camp on Salisbury Plain (1990); Great Cheverill Hill (1991) (Godfrey and Michael Smith) and, most recently, Porton Down in 1994 (all VC8). (There was an old record from near Marlborough in 1889). Due to its retiring nature the moth is almost certainly under-recorded but this is also the case for *Thesium* as the plant had not been noted from that portion of Porton Down where the moth was attracted to m.v. light.

Reference: Gillam, B., 1993. *The Wiltshire Flora.* Pisces Publications.

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COBOLDIA FUSCIPES (MEIGEN) (NEMATOCERA: SCATOPSIDAE) FEEDING ON SLUG EGGS

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A NUMBER of Diptera are known to be parasites of slugs and slug eggs. As part of an investigation into the natural enemies of slugs, I collected a number of small Diptera to determine their role as parasites of slug eggs. The flies were collected in September 1992 from various sites around Close House Field Station, the University of Newcastle, Northumberland.

The flies were gathered with a pooter and transferred to a large conical glass flask containing moist filter paper and a batch of freshly laid eggs of the slug *Deroceras reticulatum* (Müller). A small beaker containing sweetened water was also placed in the flask. The mouth of the flask was covered with a piece of nylon net, held in place with a rubber band.

The flies were removed from the culture after they had all died. A few days later a number of scatopsid larvae were observed feeding on the slug eggs. The larvae were bred through to adults and the flies identified as *Coboldia fuscipes* (Meigen).

As the adults emerged, they were transferred to flasks containing moist filter paper with a fresh batch of slug eggs. The flasks were incubated at 20°C.

Scatopsid eggs were laid in batches of between 30 and 60 under the moist filter paper, but never in proximity to the slug eggs. Emerging larvae crawled over the filter paper and attacked the slug eggs with side-to-side movements of the head capsule.

Successful penetration of the slug eggs appeared to depend on the number of larvae attacking the egg. When individual first-stage larvae were isolated on slug eggs, they would die without penetrating the eggs. However, when the slug eggs were punctured (with a pair of forceps), the larvae entered the eggs to feed. Individual third and fourth-stage larva were able to penetrate the slug eggs themselves.

First and second-stage larvae were often observed completely submerged in a slug egg. Third and fourth-stage larvae were often found submerged in a slug egg with just their posterior spiracular projections above the egg surface. Bovien (1935), thought that long posterior spiracles were an adaption to damp habitats, and that the length of the spiracles in individual specimens was determined by the experimental conditions – longer spiracles in wetter conditions. However, larvae of all stages were free ranging and moved over the egg surface. Third and fourth-stage larvae often left the slug egg mass and crawled over the filter paper. After several days the slug egg mass was liquified and eventually consumed.

Larvae left the slug egg mass to pupate on the filter paper. At 20°C approximately ten days passed between the larvae hatching and pupating.

Larvae developed and pupated at 8, 12, 16 and 20°C, development time being shortest at 20°C.

At 20°C the pupation period from the first generation was between four and eight days. However this had increased to between 10 and 13 days by the second generation. The reason for this was unclear as the culture (which had arisen from a single gravid female) was still viable and a high emergence rate was evident even after several generations.

Several subsequent generations of *C. fuscipes* were cultured on eggs of *D. reticulatum* and eggs of the slug *Arion hortensis* (Ferussac). When eggs of both slug species were presented to the larvae together, *A. hortensis* eggs were preferentially attacked and consumed before those of *D. reticulatum.*

Unfortunately, *A. hortensis* eggs became increasingly hard to find as winter progressed. A *Drosophila* culture medium was successfully used to rear several more generations of *C. fuscipes.* The larvae ate the culture medium in preference to *A. hortensis* eggs.

Larvae of *C. fuscipes* (= *Scatopse fuscipes* Meigen) have been found on a variety of decaying plant and animal materials (Cook, 1974), including green ginger (Lyall, 1929), wasp nests, bulbs and onions, excrement, wastes from fruit and wine canneries.

Keilin (1921) gave an account of a number of Diptera larvae which fed on Mollusca. Trelka & Berg (1977) gave a detailed account of two *Tetanocera* species (Sciomyzidae) attacking slugs. Stephenson (1965) reported larvae of *Tetanocera elata* Loew infected 14% of *D. reticulatum* collected on an abandoned allotment at Rothamsted. Reidenbach *et al.* (1989) gave an account of *Euthycera cribrata* (Rondani) (Sciomyzidae) attacking *D. reticulatum.*

Robinson & Foote (1968) detailed the mode of attack of the phorid *Megaselia aequalis* (Wood) on eggs of the slug *Deroceras laeve* (Müller). Between one and three phorid eggs were laid on a slug egg. The larvae penetrated the slug egg using a small sclerotised spine. The first and second-stage larvae were confined to feeding on the egg. Third-stage larvae left the egg to assume a more predatory role and broke into other eggs with repeated slashing movements of their mouthhooks. This slashing movement was observed in the present study with *C. fuscipes* larvae, however, the inability of first and second-stage larva to penetrate slug eggs individually rules out any degree of specialisation.

I believe this is the first time that a scatopsid has been reported to feed on slug eggs.

Acknowledgements

I would like to thank Mr Nigel Wyatt of the Natural History Museum for identifying the flies and Jan Woodward for her help in culturing the flies. This work was completed whilst I was supported by a MAFF studentship.

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Hazards of butterfly collecting – a first brush with science – Copenhagen, 1958

It was summer, 1958. I was on holiday with my parents in Denmark, otherwise being at boarding school in an obscure village in the Nilgiri Mountains of southern India. I was fourteen. In those days there was not yet the present jetting around the world at the drop of a hat. A two-year tour was just that. For two years no visits to Denmark, and no visitors from Denmark. I had little opportunity for museum and library researches. Thirty years later, more than a dozen friends and relatives paid visits to Delhi during a two-year tour, and I was in Denmark for consultations twice.

From the Nilgiris I had brought with me a *Neptis* butterfly that I was quite certain ought not to be found there. That genus has only two members in Europe, but even they have been known to cause confusion. Asia and Africa has a plethora of *Neptis* which are very much worse.

I had plucked up the courage to phone the Zoological Museum in Denmark to set up an appointment with the insect curator, Dr S.L. Tuxen, who will be familiar to many readers through his famous book on the genitalia of insects. He was a kind and patient man who was always willing to help budding entomological talent, and soon we were in his laboratory, surrounded by dozens of cases of *Neptis*. A little later, scores of butterfly books and obscure papers were dug out. Was it this one? That one? Well, yes, but no! After an hour or so, Dr Tuxen said "Look young man – I'm afraid that you have me stumped. I don't think I can tell you what it is".

I was shattered by the enormity of this statement! Here was a *scientist*, and he could not identify a butterfly I had caught! Tuxen must have sensed my disquiet. He patiently explained to me some of the intricacies of taxonomy and identification, and for the first time I realised that even in the scientific world things are not as clear-cut as our school books would have us believe. Tuxen also enrolled me in the Danish Entomological Society and waived the membership fee for as long as I remained in India.

Because of my itinerant lifestyle we met only at year-long intervals, but Tuxen patiently encouraged my interest in butterflies, and steered it in a scientific direction. Around 1982, he suggested that I should submit my work for a doctorate at the University of Copenhagen, and helped me navigate through the complex, academic system – the Faculty of Biology had never before been approached by an economist for a doctorate in the butterflies of the Middle East. He died before the official defence of my thesis, which I dedicated to him.

It was only in 1986, after a six-month investigation into the butterflies of the Nilgiri Mountains, that I nailed the culprit from 1958 as *Neptis nata*. It was already known from there. I caught a single male in exactly the same spot as I did thirty years ago. It is very rare in southern India, and usually stays well out of reach. Reading the tangled web of this butterfly's taxonomic history, as traced in Colonel Eliot's splendid monograph of the Oriental Neptini, fully absolves Tuxen from any responsibility for not being able to help me in 1958.

I still have problems with the genus *Neptis*. My recent book on Kenyan butterflies (Oxford University Press) had to go to press with two *Neptis* remaining unidentified. I would love to pin a name on them, or to describe them if necessary. I fear that to do so would involve me in an exercise as ambitious as that of Colonel Eliot's, and I may never summon the necessary courage and stamina for that.– T.B. LARSEN, 358 Coldharbour Lane, London SE9 8PL.

These are supposedly *one* species from *one* locality. That is what *Neptis* throws at you!

A BREEDING EXPERIMENT WITH *PARAGE AEGERIA* L. AB. *SCHMIDTI* DIOZ. (LEP.: SATYRIDAE)

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P. AEGERIA AB. *SCHMIDTI* is characterised by having the eyespots on all wings enlarged to a significant degree. This is most noticeable in the band of ocelli on the upper surface of the hindwings. It would appear to be a rare, or at least a very local, aberration. There is a single, female, example in the RCK Collection of British Butterflies at the Natural History Museum (bred by G.B. Oliver, 1952, in an F3 generation from an original type parent captured in Hampshire) and A.D.A. Russwurm has a particularly extreme captured example (A.D.A. Russwurm, New Forest, August 1966) in his collection that is beautifully illustrated in two publications (Howarth, 1973 and Russwurm, 1978). I have seen no other specimens in collections. However it is unlikely to be quite as rare as this paucity suggests since this species is rarely worked consistently for aberrations.

A worn female ab. *schmidti* was taken in a Wiltshire woodland on 5th September 1993. It was a well developed example and rather striking. She laid 14 eggs and the larvae were put out onto a pot of grass and left until mid-December when I returned from abroad. Thirteen larvae were still surviving and these were brought indoors. They gave rise to an F1 of 13 adults in late January. The spotting ranged from typical to slight enlargement in the nine females and entirely typical in the four males. Pairings between the males and best females were achieved easily under electric light and eggs were laid on cut grass. Approximately 60% were infertile and an F2 brood of about 50 adults resulted. This contained mainly typical examples and minor aberrations with just two significant aberrations, one of each sex. The male is not striking as the spots are invariably smaller in this sex. The female however (Figs. 1 and 2) is a fair development of the form although less extreme than the wild parent.

A number of the minor aberrations were put in the breeding cage but their behaviour was quite unlike that of the F1 adults. They flew very little and tended to sit still in the most shaded part of the cage. No pairings were seen and no eggs were laid.

Given the graded nature of the broods it would seem that ab. *schmidti* Dioz is a multifactorial form, probably combined with a weakening effect.

Figs. 3 and 4 are added to show the opposite end of development of the spotting in this species. This form, ab. *parviocellata* Lempke, tends to have a greater effect on the hindwing spotting than on the apical spot of the forewing. A.M. Jones has bred this aberration on two occasions (Jones, 1990 and 1992) and found it to be controlled by a pure dominant gene. Two fine examples are illustrated on the plate for the 1989 Annual Exhibition of The British Entomological and Natural History Society (Vol. 3, part 2, plate III, April 1990).

Fig. 1. *Parage aegeria* ab *schmidti* Dioz. Female upperside. Bred F2.
Fig. 2. *Parage aegeria* ab *schmidti* Dioz. Female underside. Bred F2.
Fig. 3. *Parage aegeria* ab *parviocellata* Lempke. Male upperside. Gloucester 1994.
Fig. 4. *Parage aegeria* ab *parviocellata* Lempke. Male underside. Gloucester 1994.

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ON THE BRITISH *MORDELLISTENA HUMERALIS* (L.) (COL.: MORDELLIDAE) AND ITS ALLIES

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THE OBJECT of this paper is twofold: to draw attention to an apparently unrecognised colour-form of the above variable species, which has given rise to confusion; and to clarify the distinctions, in part unsatisfactory hitherto, between that species and *M. variegata* (F.). A third species also, *M. neuwaldeggiana* (Panz.) is involved to the extent that the aforesaid form of *humeralis* has been mistaken for it, the body-colour and general aspect being similar in the two.

This overlooked form of *humeralis* has the upper surface, *including the head,* wholly testaceous or brownish yellow, apart from the usual darkening of the elytra towards the apex. It does not seem to be recognised by Continental authors, whose keys to this group (*e.g.* Ermisch, 1969) do not allow for it. Similarly Batten (1986: 231-2) places *humeralis* under the rubric "Colour variegated . . .". By this key, for instance, these pale *humeralis* (as it is convenient to call them) are indeterminable, since they run to *neuwaldeggiana* but do not fit on antennal coloration. I sent Mr Batten an example of this form, and he replied that it could only be *humeralis*; I gathered that he had not previously seen such specimens. In the British literature, however, it has been briefly and somewhat incidentally mentioned by myself (1987), but is now accorded the more prominent notice it merits. My statement there that this is the usual British form (p. 39) may turn out to have been rather premature, but appears true for south-east England at least.

A small series of this deceptive form, from Windsor Great Park, for many years stood as *M. neuwaldeggiana* in my collection; the beetles were obtained from *Heracleum* umbels in a small area unaccompanied by any of the typical, black-headed *humeralis* which would have given a clue to their identity. Not only that, but also the series standing over the former name in the British Coleoptera collection at the Natural History Museum was found to be mixed, about half of them (an entire row derived from the Champion collection, from various southern localities) being "pale" *humeralis*. It is evident, therefore, that this form may well be doing duty for *neuwaldeggiana* in other collections, and that records of both species ought as far as possible to be checked. The fact that where these pale *humeralis* occur, they seem thus far to exclude the recognised forms of the species, increases the chance of error.

Partly (or largely?) because of confusion on the one hand with *M. neuwaldeggiana* as above, and on the other with *M. variegata* (see below) – as in Joy (1932: 311), who treats the two species as one, *M. humeralis* has up to now been regarded as rare in Britain. That does seem to have been the case until fairly recently. Batten (1986: 233) had seen it only from Monks

Wood, Huntingdonshire (D. Tozer, coll. Allen) and added the caution "previously published records . . . are unreliable due to confusion with *variegata*". I first took several at Windsor as above (vii.1945), followed by two at Effingham, Surrey (21.vii.47) which, like those from Monks Wood, are of the typical form with head black except in front and contrasting well with the clear rufous pronotum. Here in the south-east suburbs of London, at least in the last several years, the species – always in its yellow-headed form – can occur in profusion at times though only very locally. I have already noted it from Charlton, and it occurs chiefly in one area of Oxleas Wood (a strip bordering the main Shooters Hill road) on flowers of Umbelliferae, where also its two allies are to be found but less frequently. On 1st August 1992, in this site, an isolated umbel of *Angelica* (the first of this plant seen there by me) was found to be swarming with *Mordellistena*; even the air above it was abuzz with the beetles. The small sample taken for examination consisted of "pale" *humeralis* with a few *variegata* intermixed. Mr R.A. Jones, also, met with the former abundantly at Nunhead Cemetery, south-east London, at about the same time, but I have not seen any of these*. It is noteworthy that the two colour forms of *M. humeralis* now known to occur with us appear so far to inhabit different localities.

Mordellistena humeralis is such a perplexing species because it is decidedly more variable than its allies not just in coloration, but also in certain minor structural points – the latter insufficiently realised up to now. They include length and stoutness of antennal and palpal segments (possibly correlated with body-size, and apparently more pronounced in the typical form); and the basal curvature of the pronotal side-margins, *i.e.* whether slightly sinuate with acute hind angles, or not at all sinuate with the angles obtuse (the latter more common). This would normally constitute a specific character in the genus, but here, exceptionally, it is inconstant. *M. variegata,* on the other hand, though on the Continent very variable in colouring like its close relative ("sehr veränderlich gefärbte Art", Ermisch p.185), appears less so in Britain. The well-marked humeral yellow patches and mostly dark pronotum distinguish at a glance all those I have seen. In contrast I have not seen British *humeralis* with mainly dark elytra or any dark colour on the pronotum, but it is too early to assert that they do not occur.

In practice, therefore, if the above is borne in mind, the separation of these two species (I refer only to British material) should seldom pose any problem. Doubts may, however, arise if some of the key-characters given by authors are taken at face value. Thus, *variegata* may have antennae almost as dark as *humeralis.* Nor are pubescence characters always free from confusion: a purple iridescence on the hairs is attributed by Fowler (p.93, following Thomson) to *humeralis,* but by Buck (1954: 16) to *variegata*; Ermisch and Batten describe the pubescence as smooth in *humeralis* but rough (*i.e.* a little raised) in *variegata.* I would call it more shining and conspicuous and more obviously yellow in the latter species. Whilst the

* See editorial postscript.

alleged antennal differences can be hard to appreciate, the palpal character is good but relates to males only.

An excellent criterion (already known to the older authors but not referred to by Ermisch or Batten) is to be found in the arrangement and extension of the three black or fuscous ridges on the outer face of the hind tibia, viewed in the lateral or slightly ventro-lateral aspect. Because of their dark colour against the yellow background of the tibia, they normally stand out very clearly. There is, admittedly, some variation: the ridges can be poorly developed or defined, a little broken up or confused, or rather indistinct, *e.g.* if the tibia is abnormally dark. One or two of them may be abbreviated, or a rudiment of an extra ridge be present. But, in over 15 specimens of each species examined, no case of "overlapping" was found, so that separation should always be possible (and as a rule easy) on this character alone. The points to note are the position, relative length, and especially the obliqueness, of the ridges; and the area of the tibia occupied by them, which differs markedly in the two species. Only Buck (p.15, figs. 28, 29) illustrates this important character, but most unfortunately his figures are quite inadequate, too little different, apparently confused, and in any case unusable. New figures are therefore required, and are provided here.

Below is a simplified key to the three species considered, designed to accommodate the *neuwaldeggiana*-like form of *M. humeralis,* and omitting characters that seem to be of doubtful utility:–

1/2 Head and whole of antennae rufotestaceous or brownish-yellow; antennal segments beyond the base strongly elongate, linear. (Male maxillary palpi as *variegata,* hind tibial ridges about as *humeralis*.) ..... *neuwaldeggiana*

2/1 If head rufotestaceous or brownish-yellow (many *humeralis*), then antennae dark beyond the base or at least darker towards apex, segments less elongate and less linear. Otherwise head dark except in front.

3/4 The dark ridges on outer face of hind tibiae about as in Fig. 1; male with segment 2 of maxillary palpi simple, or if noticeably broader than 3, not circularly dilated ..... *humeralis*

4/3 The dark ridges on outer face of hind tibiae about as in Fig. 2; male with segment 2 of maxillary palpi broadly, almost circularly, dilated ..... *variegata*

Figs. 1 – 2. Outer face of right hind tibia of *Mordellistena* spp.
1. *humeralis* (L.); 2. *variegata* (F.).

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Editorial postscript

Having had a chance to examine Mr Allen's very interesting paper in advance of publication, I took the opportunity of re-examining the series of *Mordellistena* that I took in Nunhead Cemetery in 1992, (*Br. J. Ent. nat. Hist.* 1992; **5**: 189-190). Using Batten's key (*Ent. Gaz.* 1986; **37**: 225-235) they still worked, more or less, to *M. humeralis* (L.), but examination of the dark ridges of the hind tibiae showed that, in fact, they were all specimens of *M. variegata* (F.). It is always galling and embarrassing to have to retract and correct an identification, especially a published one, but Mr Allen's paper should make such events less common in this particular species complex.– RICHARD A. JONES, 13 Bellwood Road, Nunhead, London SE15 3DE.

Notes on finding the larva of *Coleophora aestuariella* Bradley (Lep.: Coleophoridae)

On 3rd October 1981, I found five small and most peculiar-looking *Coleophora* cases feeding upon the ripening seeds of *Suaeda maritima* on the extreme tidal edge of the saltings at Harty, North Kent. They were about 5mm long, very flat-oval and undecorated with debris. A substantial proportion of the cases were strikingly coloured a bright magenta. Whether or not this was a result of hollowing out a purple bract of the foodplant remains to be determined, although it is to be noted that the cases are similarly coloured whether feeding on "red" or "green" plants. Possibly it is caused by a pigment change as the plant dies.

The larvae overwintered in captivity by encasing their cases within a rough silken cocoon between the layers of tissue provided. Further observation is needed under natural conditions to establish whether it buries itself in the mud, similar to *Coleophora clypeiferella* Hufn. and *C. salicorniae* Wocke which escape as adults with the aid of spines present on the underside of the abdomen.

Two males and a single female were subsequently bred between 7th and 24th July 1982 and were described as a species new to science (Bradley, J.D., 1984. *Entomologist's Gazette* **35**: 137-140.– N.F. HEAL, 44 Blenheim Avenue, Faversham, Kent ME13 8NW.

CYPHA TARSALIS LUZE (COL.: STAPHYLINIDAE) NEW TO BRITAIN

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THE ADDITION to the British List of three species of *Cypha* (*Hypocyphtus*) during the 1960s – *C. imitator* Luze (Kevan, 1962); *C. nitida* (Palm) (Johnson, 1967) and *C. hanseni* (Palm) (Johnson, 1968), prompted me to examine material from most of the major British collections over the next decade or so. In the course of this study I found many specimens to be misidentified, including two from the British collections in the Natural History Museum, collected by G.C. Champion on St. Mary's, Scilly Islands, and identified by him as *C. laeviuscula* (Man.). Fortunately both were males. Dissection revealed them both to possess a heavily built aedeagus totally unlike the slim delicate organ of that species. They were clearly identifiable as *C. tarsalis* Luze (Palm, 1966). Later comparison with a Norwegian male from the Manchester University Museum, collected by Andreas Strand at Brönnöy, Asker, confirmed this determination.

Apart from the locality, Champion's carded specimens carry no other data although, from his publications, it appears that his only visit to the Scilly Islands was from 6th to 15th July 1897 (Champion, 1897). However, he does not include *C. laeviusculus* in the list of species recorded during that visit and Blair (1931), in summarising Scilly Island Coleoptera records, only credits Champion with *C. longicornis* (Payk.) from St. Mary's. The only published record of *C. laeviuscula* from the Scilly Islands is that of Joy & Tomlin (1912) who recorded it from Tresco in June 1912. I have recently been able to examine all the specimens of *C. laeviuscula* from the J.R. le B. Tomlin collection in the National Museum of Wales, amongst which I found a single specimen labelled Tresco. Upon dissection this also proved to be a male *C. tarsalis,* thus confirming this species from both main Scilly Islands. As a consequence, until such time as a specimen of *C. laeviuscula* from a Scilly locality is found in some other collection, this species should be deleted from the Scilly Island beetle fauna.

A number of species of *Cypha* can only be identified with certainty by the use of male characters, principally the structure of the aedeagus. The aedeagus of one of Champion's *C. tarsalis* from the Scilly Islands is depicted in figure 1. Among the known British fauna only the smaller *C. ovulum* Heer has an aedeagus at all similar in shape, but it lacks the bifurcate ventral process projecting forward from the basal capsule. Care must be taken when dissecting out the aedeagus as the two arms of this process may become detached during separation of the parameres.

The very common *C. longicornis,* should be readily identifiable to most coleopterists by its long, narrow, antennae with poorly differentiated club.

Of the three remaining British species of *Cypha* with dark antennae and legs, *C. ovulum* can be separated on its small size, being consistently less than 1mm in length. In *C. imitator* the elytra are shiny with the fine punctures widely spaced and any microsculpture present not forming meshes. *C. laeviusculus* and *C. tarsalis* should separate off together as having their elytra only weakly shining with fine close puncturation, between which there is a distinct microsculpture forming a reticulated network of meshes. These two species can be separated as follows (based on Lohse, 1974):-

tarsalis Luze. 1 – 1.4mm, blackish-brown, often with sides of pronotum and hind body paler. Elytra slightly shorter than pronotum, with strong and moderately thick rasp-like puncturation and a ground sculpture of shagreened meshes. Segment 1 of hind tarsus as long as rest together and segment 1 of front tarsus strongly dilated in male.

laeviusculus Mannh. 0.9 – 1.1mm, black, elytra often brown, sides of pronotum and abdomen paler. Elytra not shorter than pronotum, with puncturation fine and moderately thick, but not rasp-like, and microsculpture of simple rhomboid meshes. Segment 1 of hind tarsus shorter than rest together.

NB – The apex of the aedeagus of the three British specimens is less sharply pointed than in that figured by Palm (1966) and Lohse (1974).

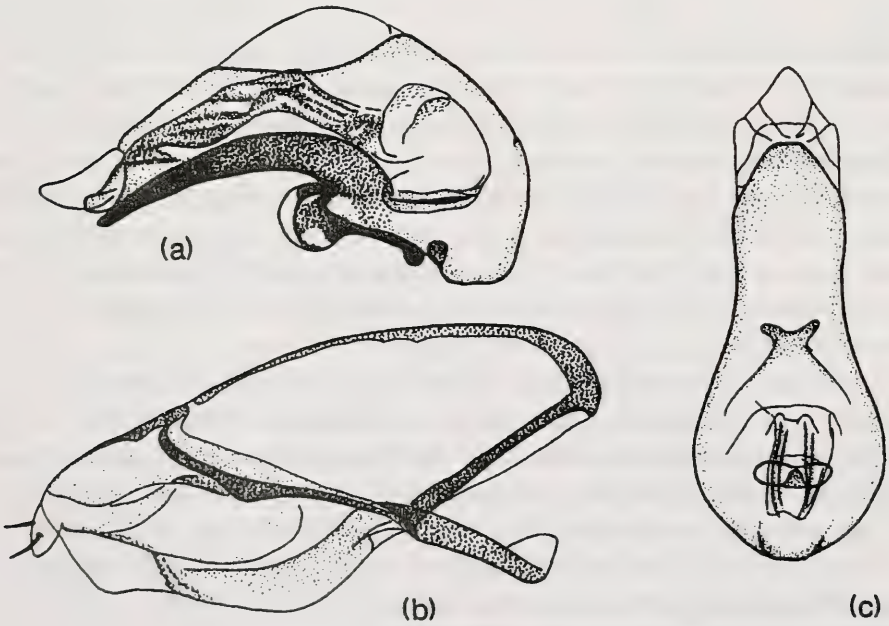

Fig. 1. *Cypha tarsalis* Luze (Col.: Staphylinidae):
(a) aedeagus side view (b) paramere side view (c) aedeagus ventral view.

Cypha tarsalis is widely distributed in middle and south Europe and southern Scandinavia, and Horion (1967) records it from forest and meadow soils under leaves, moss and decaying vegetable matter, and in humus (without *Sphagnum*) in birch moorland. He also notes that in the north it appears to be associated with coastal regions. Although the Scilly Island localities are clearly maritime I have never found further specimens in many years of intensive collecting around the coast of mainland Scotland, Orkney and the Hebrides. In contrast *C. laeviusculus* appears to be common in Scotland and northern England where it is distributed from the pine forests of Speyside to coastal dunes on Tiree.

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A second Kent record of *Coleophora frischella* L. (Lep.: Coleophoridae)

General sweeping of clover situated adjacent to the sea near Herne Bay on 11th August 1984 produced several coleophorids which included a single, fresh *Coleophora frischella* as well as several *C. deauratella* L. & Z. and *C. mayrella* Hb. (=*spissicornis* Haw.). Mr J.M. Chalmers-Hunt informed me at the time that as far as he was aware there was only one other previous record from Kent based upon a single male in the J.F. Stephens and H.T. Stainton collection (In the Natural History Museum, London) from 20th June 1850, at Lewisham.

I also collected seedheads of *Trifolium repens* on 15th September but only succeeded in breeding a single *mayrella*.– N.F. Heal, 44 Blenheim Avenue, Faversham, Kent ME13 8NW.

Fall of the Painted Lady

Life on St. Agnes, Isle of Scilly, is very much influenced by the seasons. In spring, the first visitors are awaited with the same anticipation as hearing the Cuckoo. At the end of October, as the last birdwatcher departs, we know that summer is over and hours of back aching flower picking are about to start. It is also time to start recording our last sighting of the various butterflies that have brightened our island during the spring and summer months. Thus it was as I wrote 5th November for our "last" Painted Lady *Cynthia cardui* L. Little did I realise at the time that by the end of the month, I would have seen more than the rest of the year combined.

Diary of events:

Thursday, 24th November. Wind SE 2, overcast 14 ℃.
09.30 A single insect feeding on ivy blossom. 13.00 - 14.00 A total of twelve insects were observed during a walk along the coast, with five at once in P. Killier (J.W. & P.J. Hale). Others were seen later in the day at a variety of locations. An estimated total of 50 on the island. I spoke to Will Wagstaff, a fellow naturalist on St. Mary's, who confirmed that is was not a local phenomenon as there were many there too. Dr Frank Smith, the Cornwall Recorder had not, so far, received any reports of sightings on the mainland.

Friday, 25th November. Wind SE 2/3, clear-sunny 14/15 ℃.
07.30 When emptying the moth trap we found it contained a Painted Lady together with:- three Dark Sword-grass *Agrotis ipsilon* Hufn., four White Speck *Mythimna unipuncta* Haw., four Silver Y *Autographa gamma* L., and a Pearly Underwing *Peridroma saucia* Hbn. besides the usual resident species. 08.30 One found on long grass, dew covered and torpid, having presumably spent the night there. 10.00 A total of seven viewed from the tractor as I drove the half mile to meet the supply launch. 10.30 At least six were observed coming in off the sea at Horse Point, the most southerly part of the island (per M.E. Hicks).

Saturday, 26th November. Wind SSW 3, clear-sunny 14/15 ℃.
10.00 A total of six were seen as I drove to launch. 11.00 A total of eleven seen as I drove to launch. 14.00 During a walk four were seen together, dancing among the Tamarix (*Tamarix gallica*) branches in the sunshine a real home from home! Reports from other islanders confirmed similar sights elsewhere on the island. 15.30 During a grocery delivery to various parts of the island (we run the island shop), singles were recorded from nearly every field and garden. I would estimate that at least 100 insects were present on St. Agnes alone. One of our farmers visiting St. Mary's reported 30/40 in one field of flowering narcissi (F.H.D. Hicks).

Sunday, 27th November. Wind SW 3, overcast cooler 11 ℃.
07.30 One fluttering weakly in long grass, no other sightings.

Monday, 28th November. Wind SW 3/4, cool 11 °C.
One (M.E. Hicks).

Tuesday, 29th November. Wind SW 3, Sunny am, warmer 13/14 °C.
Up to four recorded from various parts of the island. I also saw three during a visit to St. Mary's in the morning sunshine. Cooler windy weather prevailed until Saturday, 3rd December when at least two were seen in the weak sunshine. Silver Y moths were also flying in the evening. Storm force winds (SW force 10 gusting to 11) and cold driving rain prevented all but the essential outside work to be abandoned until the 9th December.

Friday, 9th December. Wind SW 3/4, milder 13 °C.
At least four different individuals were seen, possibly six, at various parts of the island. I saw two on the way to launch at 10.15. Considering the weather we have experienced recently I did not expect any more sightings this year. "Resilient little devils" as one islander put it.

Monday, 12th December. Wind SW 5, mild 14/15 °C.
Two on the way to launch, plus one from a different part of the island.

Saturday, 24th December. Wind SE 2, sunny, mild 13/14 °C.
One on the south end of Gugh, by MEH. It could have been one from the "fall" but equally possible it could have just arrived.

Behaviour

Although some of the butterflies were observed feeding, the majority were resting in sheltered areas on concrete, granite or dark tree trunks sunning themselves and absorbing the reflected heat and warmth from the weak winter sun. They were easily put to flight which was fast and direct making it extremely difficult to photograph them other than at dawn when the light was poor (Some good video shots and photographs were eventually obtained). Feeding was observed on the following species:- Ivy (*Hedera helix*), Escallonia (*Escallonia macrantha*), Pittosporum (*Pittosporum crassifolium*) and various *Narcissus* sp. grown as a crop by the local farmers.

Discussion

During the spring we often experience falls of Willow Warblers *Phylloscopus trochilus* when the weather conditions are "right", but none of the islanders have ever experienced anything like the above fall of Painted Ladies, particularly so late in the year. Although not active naturalists most of the islanders are aware of the life around them and soon notify me of anything unusual. Over the years many eminent specialists have visited the island so it is almost by osmosis that a wide range of knowledge has been acquired.

An examination of the weather maps for the period showed a large anticyclone over the Bay of Biscay of 1040mb with isobars linking northern Spain to the Isles of Scilly. The light clockwise winds flowing from Iberia to

the islands were probably responsible for the Painted Ladies and the migrant moth species mentioned earlier, drifting to the islands. Whether any insects returned from whence they came when the winds changed we may never know. It is clear that they can withstand the rigours of a good "Scilly blow" with the accompanying low, for us, temperatures. It is possible some may hibernate, as do some of our Red Admirals *Vanessa Atlanta,* under favourable conditions. We await the warm sunny days of January and February to see if we do have any early sighting of the Painted Lady as it is usually mid to late April before we have our first arrivals.

Postscript

Since writing the details of our *Fall of the Painted Lady* we are pleased to report that at least two and possibly four individuals have successfully overwintered on our island. On Sunday, 19th March, 1995 two were seen together, and a singleton at a different site. Singletons were also seen on 20th March, at different locations.

We base our conclusions on the following facts:

Weather conditions have not been suitable for migration since 6th February when we had a small influx, including our second ever specimen of the immigrant Pyralid, *Euchromius ocellea* (Haw.). The wind has been in the west-northerly quarter since then and mostly force four or more, mainly force six plus. The temperatures have been low but there have been occasional days of sun when insects have been flying. No Painted Ladies were observed although Speckled Woods were seen on 12th and 13th March. It was not until 19th and 20th March that any quantity of butterflies emerged when Small Tortoiseshell, Peacock, Speckled Wood and Painted Ladies were seen. If there had been an influx it would be reasonable to expect Red Admirals too as they are usually our first migrant butterfly species; none have been recorded.

Our island is frequently used as a stopping and resting place for migrant birds. In spite of daily coverage, no migrants were seen until 21st March when at least seven Black Redstarts, a Wheatear, White Wagtails and a Fieldfare all appeared late in the day following a day of gentle south-easterly wind. If there had been any migration earlier then some if not all of these birds would have been seen on Sunday given the hours of observation at this time of year. More significant than what has so far been seen, is what has not yet arrived. One of the earliest of migrants is the Chiffchaff, but so far there has been no obvious increase in their numbers. We have had nine over-wintering on the island.

The species of moth trapped on the night of 19th March 1995 were as we would expect at this time of year, including *Orthosia gothica* L. (Hebrew Character), *Selenia dentaria* Fab. (Early Thorn), *Phlogophora meticulosa* L. (Angle Shades) and *Agrotis ipsilon* Hufn. (Dark Sword Grass). This latter species presumably arrived with the early February immigration.

The winter as a whole has been wet, windy but without any frosts or snow. It is therefore feasible that some of the large influx of Painted Ladies which arrived in late November and stayed through into December could well have survived and emerged on the first spring-like day in March.

– JOHN W. HALE AND MIKE E. HICKS, St. Agnes (I.O.S.) Study Group, St. Agnes Post Office Stores, St. Agnes, Isle of Scilly TR22 0PL.

Further early emergences of moths

I wrote recently on the early emergence of spring moths (Aston, 1995) in Selborne. As the 1992-94 seasons progressed, the tendency towards early emergence continued here as follows:

	1994	1993	1992	MBGB&I imago
Caradrina clavipalpis	29th Mar	5th May	26th Jun	Apr-Oct
Eupithecia subfuscata	28th Apr	23rd May	7th May	May, Jun
Xanthorhoe fluctuata	1st May	7th May	23rd May	Apr-Sep
Aethalura punctulata	4th May	None	18th May	May, Jun
Ochropleura plecta	9th May	23rd May	8th Jun	Apr-Jun
Dasychira pudibunda	10th May	8th May	24th May	May, Jun
Spilosoma lutea	10th May	25th Apr	23rd May	May-Jul
Colostygia pectinataria	12th May	30th Apr	17th May	May-Sept
Semiothisa clathrata	13th May	26th May	None	May, Jun
Perizoma affinitata	13th May	23rd May	None	May-Jul
Petrophora chlorosata	13th May	30th Apr	14th Apr	May, Jun
Nola confusalis	14th May	27th Apr	None	May, Jun
Cerura vinula	15th May	22nd May	None	May-Jul
Lacanobia oleracea	15th May	9th Jun	14th Jun	May-Jul
Ligdia adustata	15th May	27th Apr	19th May	May, Jun
Acronicta rumicis	15th May	27th May	None	May-Jul
Charanyca trigrammica	16th May	22nd May	5th Jun	May-Jul
Acasis viretata	19th May	23rd May	None	May, Jun
Epiblema cynosbatella	19th May	23rd May	25th May	May-Jul
Thera britannica	20th May	22nd May	24th May	May-Jul
Diarsia rubi	21st May	24th May	30th May	May, Jun
Caradrina morpheus	22nd May	27th May	24th Jun	Jun-Aug
Apamea sordens	22nd May	3rd Jun	23rd Jun	May, Jun
Hepialus lupulinus	23rd May	25th May	28th May	May-Jul
Axylia putris	25th May	22nd May	15th Jun	Jun, Jul
Autographa pulchrina	1st Jun	8th Jun	5th Jun	Jun, Jul
Peribatodes rhomboidaria	6th Jun	9th Jun	18th Jun	Jul-Sep

Some of the early first appearances in 1994 would seem to have left sufficient time for several species uncharacteristically to produce second generations during the later months. All observations were made at home. The m.v. light is operative on most nights of the year. The emergences are regarded as early in so far as they are early for this locality.

References: Aston, A., 1995. Early emergence of Spring moths. *Entomologist's Rec. J. Var.* **107**: 4; Emmet, A.M., 1991. *The moths and butterflies of Great Britain and Ireland.* Vol. 7(2). Harley Books, Colchester.

– ALASDAIR ASTON, Wake's Cottage, Selborne, Hampshire GU34 3JH.

Phalacrus spp. (Col.: Phalacridae): a correction, and remarks on certain names in the genus

In 1952 I recorded as *Phalacrus substriatus* Gyll. a specimen taken at Blean, East Kent. However, since receiving from the late Philip Harwood a pair of that species, it became evident that the Blean insect was different, and was in fact *P. championi* Guill. (which I had previously taken on Otford Downs, West Kent). An additional reason for making this correction is the possibility that the inclusion of Kent in the distribution of *P. substriatus* by Thompson (1958: 9) was based on the above record.

The nomenclature of one of our species is singularly troubled, so much so, as to invite a few critical comments amplifying those made in my note of 1952. The species in question was added to our list in 1872 as *P. brisouti* Rye, and later equated (correctly) with *P. hybridus* Flach (1888); although Newbury (1907), in introducing the latter as new to Britain, rejected Rye's species as merely a form of *P. corruscus* (Panz.), a mistaken idea, as I pointed out in my 1952 note. Joy (1932) must have overlooked Newbury's paper, since he ignores *hybridus* and, quite indefensibly, places *corruscus* as a synonym of *fimetarius* (F.), a name little used in British works up to then. However, Thompson (1958: 5), in his excellent revision of our Phalacridae, shows the latter to be the earliest available name for *brisouti* Rye, which is placed as "syn. n." of *fimetarius* (F.). Strangely, the name *hybridus* Flach is omitted from the synonymy, an evident oversight as it is included in the bibliography, and likewise from our later catalogues.

As if all this were not enough, one finds (with a sense almost verging on despair) that Vogt (1967), who, incidentally, makes use of all Thompson's figures without published acknowledgement, reinstates the name *brisouti,* with "*fimetarius* Thompson" as a synonym. No authority is cited or reason given for the change-back, notwithstanding that Mr Thompson had obviously examined the Fabrician type of *fimetarius* in the Banks collection at the Natural History Museum, London; and until his identification is shown to have been incorrect, I think that we should continue to abide by it.

Authors are divided over the correct spelling for Panzer's species above, with a distinct majority in favour of *coruscus* as against *corruscus*. Both Thompson and Vogt adopt the single "r", though the former notes it as an emendation due to Paykull (1800). The Latin word does indeed have only one "r". However, if the rules of nomenclature are to be followed, Panzer's original spelling must stand; especially as this choice involves no violent break with existing usage.

Phalacrus fimetarius appears to show an interesting divergence in distribution and incidence between Britain and mid-Europe. With us, it is widely spread over most of southern England and in some parts commoner than *P. corruscus*; that is the case for instance, in this district and in at least a large area of north Kent. This contrasts curiously with the data given by Vogt for mid-Europe: known only from warm slopes of the Kyffhäuser and in the Rhineland, very rare (my translation).

References: Allen, A.A., 1952. *Phalacrus substriatus* Gyll. (Col.: Phalacridae) in Kent; and a few discrepancies, etc., relating to other species. *Entomologist's mon. Mag.* **88**:18; Joy, N.H., 1932. *A practical handbook of British beetles,* **1**: 528, London; Newbury, E.A., 1907. *Phalacrus hybridus,* Flach, an addition to the list of British Coleoptera, with a revision of the British species of *Phalacrus,* Paykull. *Entomologist's mon. Mag.* **43**: 223-5; Thompson, R.T., 1958. Coleoptera, Phalacridae. *Handbk Ident. Br. Insects* **5 (5b)**: 5,9; Vogt, H., 1967. *In* Freude, H., Harde, K.W. & Lohse, G.A. (eds.) *Die Käfer Mitteleuropas* **7**: 160, Krefeld.

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

First Kent record of *Cosmopterix orichalcea* Staint. (Lep.: Cosmopterigidae)

On 6th July 1985 sweeping the general foliage of a floating marsh at Gibbins Brook near Ashford in Kent, produced precious little until about 1600 hours when a single *Cosmopterix* glistened in the net and which thereafter proved to be fairly common. Later examination showed the species to be *orichalcea,* not previously recorded from Kent.

Normally regarded as a May/June insect, the late date was an indication of the atypical season that year. Other entomologists directed to the site reported finding larvae aplenty on 13th September 1985 and I collected a number on 28th September. The foodplant was later identified by Eric Philp of the Maidstone Museum as *Anthoxanthum odoratum* (sweet vernal grass), a previously unrecorded foodplant for this species.– N. HEAL, 44 Blenheim Avenue, Faversham, Kent ME13 8NW.

Moths as a food resource for hospitalised bats

I last wrote a brief note about the feeding habitats of bats and their preferences for particular kinds of moths in 1990 (*Entomologist's Record* **102**:19-20), following a field trial feeding a tame Noctule bat with moths caught at a m.v. lamp. This bat was kept under licence by Ginni Little who runs a bat hospital in Penzance. The bat hospital has expanded considerably in recent years; Ginni has to find what sources of food she can to assist the bats in their recovery and moths play an important part in their diet. Moths are so easily caught in the spring and summer that they provide a ready source of food.

Ginni has furnished me with a list of moths eaten by the hospitalised bats as part of their diet between 1989 and 1991. Forty-seven different species were accepted by the five different bat species (Table 1). All the moths were killed and put in food bowls for the bats. Other insects such as lacewings were released, even though these are taken by bats in the wild. All the species chosen for feeding to the bats are common species in Cornwall except *Euxoa obelisca.* The different moths taken reflected the abundance of the various species in the Penzance area; what was given to the bats depended on what was found in the trap, but Geometers were generally released because experience showed that they were a less popular food-source. There is no way of telling if these feeding patterns are replicated in

Table 1. The moth diet of five species of bat in the Cornwall Bat Hospital. May 1989 to September 1991

	Bats				
Moth species	**A**	**B**	**C**	**D**	**E**
Acronicta rumicis			Y		
Agrotis clavis	Y			Y	Y
Agrotis exclamationis	Y		Y		Y
Agrotis puta					Y
Amphipyra pyramidea			Y		
Apamea monoglypha	Y		Y		
Autographa gamma	Y				
Autographa pulchrina	Y				
Cabera pusaria					Y
Ceramica pisi	Y				Y
Colostygia pectinataria					Y
Diachrysia chrysitis	Y				
Diaphora mendica	Y		Y		
Diarsia brunnea	Y				
Diarsia mendica	Y				
Diarsia rubi			Y		Y
Eilema lurideola					Y
Euxoa obelisca		Y			
Gortyna flavago	Y				
Hadena bicruris					Y
Hadena rivularis	Y				
Hepialus lupulinus					Y
Hoplodrina ambigua					Y
Hydraecia micacea	Y				
Lacanobia oleracea	Y		Y		
Lasiocampa quercus			Y		
Macrolythacia rubi			Y		
Mesapamea secalis				Y	Y
Mythimna ferrago			Y		
Mythimna impura					Y
Mythimna pallens	Y				Y
Noctua comes	Y		Y		
Noctua fimbriata	Y	Y	Y		
Noctua janthina		Y	Y		
Noctua pronuba	Y		Y		
Ochropleura plecta			Y		Y
Omphaloscelis lunosa	Y				
Orthosia cerasi	Y				
Orthosia gothica	Y		Y		Y
Phalera bucephala	Y		Y		
Photedes pygmina	Y				
Phlogophora meticulosa	Y		Y		
Scoliopteryx libatrix	Y				
Spilosoma lubricipeda	Y		Y		
Xanthia togata	Y				
Xanthorhoe montanata					Y
Xestia triangulum	Y				
Total moth species count	28	3	19	2	17

Key to bats
A = Brown Long-eared; B = Daubentons; C = Noctule; D = Natterers; E = Pipistrelle

the wild. The number of different moth species taken by each bat species is partly a reflection of how many bats there were at the hospital and how long they survived.

In the wild, moths form a large part of the diet of the Brown Long-eared bats, along with beetles, caddis flies and other insects. Pipistrelles eat mainly Chironomid flies, along with caddis and various other flying insects, including some moths. There is an obvious relationship between bat size, size of individual moth prey and size of appetite. This is shown in captivity, where the Noctule appears to be able to eat the most moths at one sitting. On the 9th August 1989, she ate the following species: *Noctua janthina, Ochropleura plecta, Acronicta rumicis, Agrotis exclamationis, Lacanobia oleracea* and *Mythimna ferrago*. The Noctule was the only bat to manage *Lasiocampa quercus* and *Macrolythacia rubi*. On the same night, a Brown Long-eared ate the following species: *Mythimna pallens, Gortyna flavago, Noctua comes* and *Xanthia togata*. On 26th May 1990, A Brown Long-eared bat ate *Phalera bucephala, Diaphora mendica, Hadena rivularis, Xestia triangulum, Diarsia brunnea* and *Orthosia gothica*.

The bats have now lost their diet of moths. Regular trapping in the garden showed a reduction in moth catches and a local expert and moth-provider moved away from the district. The patients are now fed on mealworms and a water-soluble canned product suitable for sick cats, dogs and hedgehogs. It may seem cruel to feed moths to bats in this way, but as well as being a natural part of the food chain it also serves to emphasise the importance of insects in the conservation of other, more cuddly creatures.– ADRIAN SPALDING, Tremayne Farm Cottage, Praze-an-Beeble, Camborne, Cornwall TR14 9PH.

Little-known entomological literature 4

There have been a number of books published in the past, perhaps even today, whose titles bely that there is an entire or substantial entomological content. The following are a few which have come to my notice.

A Sister's Stories (1833). Published by Arthur Foster, Kirkby Lonsdale. No author is stated but known to be by Selina Martin. Freeman (1980) in his *British Natural History Books: a Handlist,* under the title, says, "see Selina Martin" but there is no entry of her in his book. The text consists of elder sister Georgiana giving entomological lessons to her younger brother and sisters, with them asking appropriate questions. It commences with a description of a pet tree-frog and how it caught insects. There is a delightful illustration of one leaping up to do just this. The remainder of the book takes us through most orders of insects and ranges from the British swallowtail through *Ornithoptera priamus* from Amboina to a South American Morpho.

There is a surprising amount of information on both life-histories and usefulness (silkworms) and destructiveness (clothes moths). There are 30 wood-cut plates in the book.

June: a book for the country in summer time (1856) by H.T. Stainton, Longman, Brown, Green & Longman, London. The author of this book is of course very well known for his numerous works on the lepidoptera, but this is his least known work and appears to be the rarest, most of his others having been published by van Voorst. It is basically a collecting travelogue of various regions (Devon: Lake District; Scotland *etc.*) mentioning plants, insects, books to read on the way. It is a charming read and gives us an idea of what our countryside was like in the middle of the last century when railways had opened it up, thereby giving quick access to near, and easy access to distant parts of the countryside, but when urban sprawl and motorways had not yet taken it over and in many cases destroyed the reason for going!

The four little wise ones (1853), published by James Nisbet & Co., London. No author stated, but as the book is dedicated to the children of her brother, clearly a lady. A substantial book of 427 pages it deals with ants, including termites, locusts, spiders and (not entomological!) conies. Each subject illustrated with a plate. It contains, for the period, a surprising amount of information on the life-history, habits and inter-relationships of the insects concerned. It is not in Freeman's Handlist.

hrough a pocket lens by Henry Scherren. Published by The Religious Tract Society in 1897 with a second issue in 1904. Profusely illustrated. While the subject could be about almost anything, apart from a chapter on Crustacea, this book is all about insects and how to look at them and their various appendages. It contains too a considerable amount of information also on collecting, life histories and other aspects of insect life/behaviour and quotes a number of references to authorities on entomology of the period.

Tiny toilers and their works by G. Glenwood Clark, published by J. Coker & Co., London. Not dated but around the 1920's. A simplified account, written for young children, of the doings and activities of various insects such as wasps, ants, spiders, caddis, antlions and processionary moths.

Poems by Joses Badcock published by James Paul, London, not dated but 1840's. One has the impression that this was meant as a "follow-on" to Erasmus Darwin's *Botanic Garden* but, in view of the book's rarity and as far as I am aware, no later editions, this rather tedious poetry was not greatly sought after! The various chapters cover all aspects of natural history; that headed entomology covers 35 pages.

The twelve sisters and other stories (1923) by Carl Ewald. Published by Thornton Butterworth this is the English translation from a Danish author. Illustrated by coloured plates and other illustrations. The 12 sisters are in fact cockchafers and the other chapters deal with locusts, bees, spiders,

caterpillars, aphids, ants and – a mixed bag! – "the empty room" mentioning a number of different insects in conservation. Basically the book deals with life-histories as told by the insects themselves.
– BRIAN O.C. GARDINER, 2 Highfield Avenue, Cambridge CB4 2AL.

Evergestis limbata (L.) (Lep.: Pyralidae) new to mainland Britain

July 1994 proved to be one of the warmest on record on the Isle of Wight with mean maximum temperatures of 23.3°C (20.6), and the mean minimum of 15.5°C (13.3). Rainfall figures were below average and wind came from the south between 1st–12th, and 25th–31st, and from the north between 13th–25th. Numbers of moths recorded at an m.v. light trap run in my garden at Chale Green in the south of the Isle of Wight were good with several counts of 95-100 species of macro-moth per night. Good numbers of common migrant species such as *Udea ferrugalis, Nomophila noctuella, Autographa gamma* and *Agrotis ipsilon* were recorded.

On the 23rd July I trapped an unfamiliar *Evergestis* species. After some research the species was still a mystery and I stored the specimen ready to pass on to S. Knill-Jones. To my amazement I trapped another specimen on 30th July. This latter individual was associated with a large arrival of *A. gamma,* as well as numbers of other probable migrants such as *Evergestis extimalis, Idaea vulpinaria atrosignaria, Ostrinia nubilalis, Rhodometra sacraria* and *Heliothis peltigera.* I passed the two specimens on to S. Knill-Jones who showed them at the BENHS annual exhibition where they were identified as *Evergestis limbata.*

These two specimens (now held in the collection of S. Knill-Jones at Freshwater, Isle of Wight) represent the first and second mainland British records. The only other record is a single trapped on Guernsey on 18th July 1990 by T.D.N. Peet. The species ranges over central, south-eastern and parts of southern Europe, where it is said to be abundant and feeds on *Sisymbrium, Alliaria petiolata, Isatis tinctoria* and *Genista tinctoria.*

My thanks to S. Knill-Jones for his help.– SIMON R. COLENUTT, Green Edge, Chale Green, Ventnor, Isle of Wight.

Clambus pallidulus Reitter (Col.: Clambidae) in South Hampshire and East Sussex

Members of the family Clambidae are minute beetles (0.8-1.8mm) which characteristically roll up into a ball when disturbed, looking like a small black mite. *C. pallidulus* was first recognised as a British species by Johnson (1966, *Entomologist's mon. Mag.* **101**: 185). Previously, British examples had been confused with *C. minutus* Sturm. So far, it has proved to be the rarest of the eight members of the genus occurring in Britain. Johnson (1966, *Handbk. Ident. Br. Insects* **4**: pt 6a) refers to records from only four vice-counties: West Kent, East Kent, Berkshire and Oxfordshire. More recently, Whitehead (1990, *Entomologist's mon. Mag.* **126**: 236) reported finding a single specimen at Little Comberton, Worcestershire.

Two further vice-counties can now be added. In May 1980, I found a male *pallidulus* at Bishops Waltham, South Hants. Mr Colin Johnson very kindly confirmed my identification. On 6.iv.95 in company with Mr Peter Hodge, I took a single *Clambus* on Malling Down, East Sussex. On dissection, this proved to be another male *pallidulus*.

In Britain, members of the genus *Clambus* have been found mainly in decaying vegetation of various forms but very little is known of the preferences of individual species. The example of *C. pallidulus* found by Whitehead (*loc.cit.*) occurred in wood-mould in a hollow apple tree. The first specimen found by the author was extracted from debris in a rotten elm stump in a long-disused chalk pit. The second specimen was obtained from pooled sievings of moss growing on the ground among rotten logs beneath a sallow tree and of moss growing on an open chalky slope.

I thank Mr Johnson for confirming the identification of my first specimen and Mr Hodge for introducing me to the site on Malling Down.– J.A. Owen, 8 Kingsdown Road, Epsom, Surrey KT17 3PU.

An American moth in Aberdeen

On 9th June 1994 I was brought a specimen of a large black and white moth that had been found resting close to a light on the outside wall of a warehouse at Aberdeen docks. This proved to be *Ecpantheria scribonia* (Stoll, 1790) (= *Hypercompe deflorata* auth., *nec* Fab. 1775) (Hodges *et al.*, 1983) which ranges across central and eastern USA, where it is known as the "great leopard moth".

The wings of the moth were stained with the pink colour that is characteristic of meconium and so it seems likely that it had recently emerged in an enclosed space. The warehouse, where it was found, handles crates destined for offshore oil platforms and had taken delivery of a shipment originally from Dallas, Texas two or three days previously. Although Dallas is rather further west than is usually quoted for the range of this species, the contents of the crates came from various locations in USA and it is probable that a larva had climbed into a crate and pupated, prior to shipment.

The specimen has been donated to the National Museum of Scotland (NMS), Edinburgh. There it joins another apparently similar specimen labelled "USA-found dead 18.7.74. J. Tilley. Neil Dryborough and Sons Ltd. In container of American oak." This label seems to have been attached by the late E.C. Pelham-Clinton but there is no indication of exactly where Neil Dryborough and Sons have their premises. I am indebted to Dr K.P. Bland for this information.

Now the mystery deepens, for the specimen in the NMS is labelled "*Hypercompe deflorata* (Fab.)", which seems to deny the synonymy suggested by Hodges *et al* (1983). To complicate matters further, there is a record in Heath and Emmet (1979), (in the chapter on Arctiidae written by the late C.G.M. de Worms), of a larva, subsequently bred on 8th August

1969, imported on American oak by an Edinburgh firm of coopers. This record is quoted on the personal authority of E.C. Pelham-Clinton – is it a different specimen from that now in the NMS labelled by Pelham-Clinton "found dead on 18th July 1974"? The details of the two records suggest that they refer to separate specimens but the earlier one is apparently not held by the NMS, where Pelham-Clinton would surely have placed it, and it is puzzling that he did not pass the later record to de Worms, for a book not published until 1979.

The name used by de Worms is also "*Hypercampe deflorata* (Fab.)" but he gives the type location as "India", which seems unlikely for the American moths. Presumably Hodges *et al* (1983) subsequently corrected the confused nomenclature and all our three (or two) imported examples should now be referred to as *Ecpantheria scribonia* (Stoll, 1790).

References: Heath, J. and Emmet, A.M. (eds.) 1979. *Moths and Butterflies of Great Britain and Ireland.* Vol. 9. Curwen Books, London; Hodges, R.W. *et al.* (eds.) 1983. *Check List of Lepidoptera of America north of Mexico.* E.W. Classey Ltd., Oxon.

– MARK YOUNG, Culterty Field Station, University of Aberdeen, Newburgh, Ellon, Aberdeenshire AB41 0AA.

Collecting notes 1994

The first trip of the season was a very wet family holiday to Cornwall in late May. Heavy rain prevented use of the moth trap, but on one sunny morning I managed to find larvae of the Grass Eggar (*Lasiocampa trifolii* D.&S.), Oak Eggar (*L. quercus* Linn.) and Drinker (*Philudoria potatoria* Linn.) in some numbers on the cliff top near Gunwalloe.

On 10th June, David Keningale and I returned to the beautiful forests which lie to the east of Langres in Haute Marne. This huge area of deciduous woodland supports a rich and varied wildlife. It also supports the hotel Cheval Blanc wherein Madame lavishes care and excellent cooking upon *Monsieur Papillon et son ami*!

We hoped to find the elusive Poplar White Admiral (*Limenitis populi* Linn.) and we were not disappointed. Suitable stretches of forest drive to search could be identified by tall aspens above and Pine Marten droppings below. The reputedly shy Martens could be seen and approached by day as they marked their territorial boundaries along the lanes. *L. populi* could not resist the droppings upon which they fed during the afternoon heat. The tenacity of *populi* whilst so engaged was underlined by the number of specimens (all males) found pressed into the surface of the road by the tyres of infrequent, but very rapid, French cars. Most were either on or within a few inches of their precious Marten droppings!

Whilst awaiting the arrival of *populi* from the tree-tops a number of other butterfly species were noted. These included the abundant Black-veined White (*Aporia crataegi* L.), Black Hairstreak (*Strymonidia pruni* Linn.), Heath Fritillary (*Melitaea athalia* Rott.), False Heath Fritillary (*Melitaea*

diamina Lang.), Lesser Marbled Fritillary (*Brenthis ino* Rott.) and Camberwell Beauty (*Nymphalis antiopa* Linn.). We failed again to find larvae of the latter (what is the secret?) but did find larvae of the Large Tortoiseshell (*N. polychloros* Linn.) and Comma (*Polygonia c-album* Linn.).

I did not operate a moth trap on this visit but day-flying moths noted included Red-necked Footman (*Atolmis rubricollis* Linn.), Wood Tiger (*Parasemia plantaginis* Linn.), Pretty Marbled (*Lithacodia deceptoria* Scop.), Silver-barred (*Deltote bankiana* Fabr.) and the Black-veined moth (*Siona lineata* Scop.). The latter species was abundant in one damp meadow and I easily obtained ova from a number of females. I also obtained ova from a small Burnet moth which bore an uncanny resemblance to the Slender Scotch (*Zygaena loti* Hbn.). The adults were feeding on *Lotus* and their larvae are hibernating as I write. Could it be *loti* Hbn?

I returned to Somerset on 17th June to find that the season had not improved in my absence. I added Small Seraphim (*Pterapherapteryx sexalata* Retz.) to the garden list on 29th June. A promising, warm night on 2nd July added Cloaked Carpet (*Euphyia biangulata* Haw.) and Lobster Moth (*Stauropus fagi* Linn.) to the list. The latter was a surprise as the nearest woodland is about one mile away.

I set out again for France on 22nd July for a family holiday in Charente. This was at "La Folatiere", near Ruffec, which is the home of Brian and Stella Smith. La Folatiere consists of thirty acres of woodland, meadow and quarry managed entirely for the benefit of local wildlife, especially the butterflies so beloved by the Smiths. We noted 39 species whilst there – surely testimony to the success of the Smiths' endeavours!

I was primarily interested in the macromoths on the site. In the space available here I cannot describe in detail the 190 species which I recorded. The moths abounded. On a couple of warm, thundery nights I had to switch off the trap as there were too many specimens filling it! (That was a first for me!) Fellow collectors, well versed in the writings of Richard South, Tutt, and P.B.M. Allen, could not fail to be moved by meeting, alive and fluttering, such legendary species as the Three-humped Prominent (*Tritophia tritophus* D.&S.), Large Dark Prominent (*Notodonta torva* Hb.) and Dusky Marbled Brown (*Gluphisia crenata* Esp.). Equally exciting were rare visitors to the UK such as Dusky Hook-tip (*Drepana curvatula* Borkh,), Tawny Prominent (*Harpyia milhauseri* Fabr.) and Black V Moth (*Arctornis l-nigrum* Mull.). Amongst my favoured Noctuidae were Great Dart (*Agrotis crassa* Hb.), Small Ranunculus (*Hecatera dysodea* D.&S.), Scarce Dagger (*Acronicta auricoma* D.&S.), Orache (*Trachea atriplicis* Linn.), Dewick's Plusia (*Macdunnoughia confusa* Steph.) and Light Crimson Underwing (*Catocala promissa* D.&S.).

Amongst the numerous visitors to the trap, I recognised 15 "non-British" species. These included the spectacular Pine Tree Lappet (*Dendrolimus pini* Linn.) and *Odonestis pruni* Linn. a pretty orange version of the Drinker whose larvae feed upon a range of trees. *Gnophos furvata* Schiff. is a huge

"Annulet" which favours limestone areas. *Lythria purpuraria* Linn. just scrapes on to the British list (two specimens in Perth in 1861) and is illustrated in South (1961). A fourth Chocolate-tip, *Clostera anastomosis* Linn. was not uncommon whilst a "marbled brown" *Drymonia querna* Fabr. was represented by only two specimens. L'Homme (1923) suggests that the latter is more common in the south of France.

Two processionary moths turned up, the Pine (*Thaumetopoea pityocampa* Schiff.) and the Oak (*T. processionea* Linn.). I found these difficult to separate using the plates in my copy of Sietz (1913). A "pale and interesting" species is the Lymantriid *Ocneria rubea* Schiff. The Arctiid *Paidia murina* Hb. resembles a very large version of the Round-winged Muslin moth (*Thumatha senex* Hb.). Noctuidae were represented by the beautiful green *Polyphaenis sericata* Esp. and the striking *Ephesia fulminea* Scop. The Latter is a Catocalid with yellow and black hindwings. The larvae favour Blackthorn and L'Homme (1923) suggests that they prefer the oldest trees. The Pale Shoulder (*Tarache lucida* Hufn.) is another species which just scrapes on to the British list and is illustrated in South (1961).

I failed miserably to rear larvae of the Black V moth. Ova were easily obtained from females in the trap, but many first instar larvae refused to feed when offered a range of leaves. Those that did feed died during the next instar. They showed no sign of "spinning up" for the winter. Any suggestions as to an explanation for this failure would be gratefully received!

Every good trip should leave some lasting memories. Two remain vivid from La Folatiere. The first is sitting by the trap in a snow storm of moths listening to the Lerots (Garden Dormouse, *Eliomys quercinus* Linn.) playing a noisy version of tag in the nearby trees. The second is emptying the trap early in the morning whilst a few feet away Large Blues (*Maculinea arion* Linn.) were opening their wings to receive the first warmth from the sun. How I pity those that cannot enjoy such recollections!

We returned to Somerset on 7th August – it was still a disappointing season. I added only a dozen new species to the garden list in 1994. I am beginning to suspect that being surrounded by arable farmland is not conducive to building up a long list of garden moths. The sprays so liberally applied are not specific to one pest species, nor are they only applied on calm days. A visit to south Devon in October produced no migrants. Indeed, the only migrant I recorded was a male Vestal (*Rhodometra sacraria* Linn.) in the garden trap on 30th August. Let us hope that 1995 proves a more memorable season. Needless to say, my trips to France are already booked!

References: L'Homme, L., 1923-1935. *Catalogue des Lepidopteres de France et Belgique*; Seitz, A., 1913. *Macrolepidoptera of the Palaearctic Fauna*; South, R., 1961. *The Moths of the British Isles.*

– M.D. Bryan, "Extons", Taunton Road, Bishops Lydeard, Somerset.

Synchita humeralis (F.) (Colydiidae): a second record for West Kent

This beetle is now by far the rarer of our two species of *Synchita* in the south-east, owing to the recent spread of *S. separanda* Reitt. to new habitat,

and any find of the true *S. humeralis* in Kent (see below) is decidedly notable. I was therefore surprised to detect an example of that species among some insects sent by my correspondent K.C. Lewis from the woods near Bexley. On learning of its interest, Mr Lewis most kindly insisted that I retain the specimen. It was taken by sweeping tall grass at the edge of a field bordering Chalk Wood, 24.v.1994. To find a *Synchita* at large is of course very exceptional, and one must suppose that the insect had been induced, probably by sultry weather, to emerge from its normal habitat under bark and take flight.

The previous certain Kent record is of a specimen bred by our Editor, Paul Sokoloff, from the fungus *Daldinia concentrica* on dead and dying birch at Keston, March 1984. There are in the literature two much older records for the county; but as I have shown (Allen, 1964: 41), the first – Tunbridge Wells 1882 – may really have referred to *S. separanda,* while the second has proved erroneous.

References: Allen, A.A., 1964. The genus *Synchita* Hellw. (Col.: Colydiidae) in Britain; with an addition to the fauna and a new synonymy. *Entomologist's mon. Mag.* **100**: 36-42; Sokoloff, P.A., 1985. [Exhibit at Br. Ent. Nat. Hist. Soc. Annual Exhibition, 27th October 1984] *Proc. Trans. Br. ent. nat. Hist. Soc.,* **18**: 6.

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

Foodplants of *Coleophora lusciniaepennella* (Treitschke) (Lep.: Coleophoridae) in Lancashire (VC 60)

Whilst searching for moth larvae on the Lytham St Annes sand-dune nature reserve in Lancashire on 25th May 1994 I was amazed at the proliferation of *Coleophora lusciniaepennella* (= *viminetella* Zell.) larvae in their cases on *Salix repens.* On the reserve, a single seedling of *Betula pendula* (about four feet high) showed signs of *Coleophora* feeding on the leaves.

After a short search two cases resembling those of *Coleophora lusciniaepennella* were found actively feeding on the Birch. These were reared and subsequently produced two *Coleophora lusciniaepennella. A Field Guide to the Smaller British Lepidoptera* (Emmet. A.M., 1988) makes reference to *lusciniaepennella* feeding on *Betula*, in Scotland but this appears not to have been noted in England before. Whether the eggs had been laid on the Birch or the larvae had just moved onto it from the *Salix* is not known, but there was no shortage of *Salix repens* in the immediate vicinity of the Birch seedlings.– S.M. PALMER, 137 Lightfoot Lane, Fulwood, Preston, Lancashire PR4 0AH.

***Bankesia douglasii* Stainton (Lep.: Psychidae) in Hampshire**

N.F. Neal reports *Bankesia douglasii* Staint. new to Kent (*Ent. Rec.* **106**: 98). This species was discovered by A.H. Stainton near Warsash, on the eastern shore of Southampton Water in 1867. It was last seen near the end of the century (B. Goater, *the Butterflies and Moths of Hampshire and the Isle of Wight,* 1974).

I'm pleased to report it has returned – or has it simply been overlooked?

My son, Luke, caught one flying in our garden in morning sunshine on 20th March 1994. I did not recognise it at the time. It did look a bit like *Eriocrania sparrmannella* Bosc. (to me anyway) and its flight was not unlike that species. I mentioned this to my friend Dave Appleton, who almost at once took one on his way to work at Segensworth, three miles from its ancient haunts, on 10th March this year. Inspired by this, I took my morning cuppa to the bottom of the garden and found it flying (as originally reported) in sunshine from shortly after 7.30am for about an hour and a half, but only in near calm conditions. I found no cases, nor was there any obvious place to look. It wouldn't be an easy species to find if you were not local. I wonder if there is any significance in its re-discovery near a railway station?– RICHARD DICKSON, 39 Serpentine Road, Fareham, Hampshire PO16 7ED.

Agrilus sinuatus (Ol.) (Col.: Buprestidae) at Tunbridge Wells, Kent

On 25th August 1994 I found a single specimen of this attractive metallic purple beetle on the edge of Folly Shaw, a small piece of undisturbed woodland in Hilbert Recreation Ground, Tunbridge Wells. It was sitting conspicuously on nettle foliage, having presumably been washed down from nearby hawthorns by a recent shower. This species would appear to be a relatively new arrival in this area, since there are no examples in the comprehensive collection of local Coleoptera assembled by R.A. Crowson between 1938 and 1947 and held at Tunbridge Wells Museum.
– IAN C. BEAVIS, 104 St. James' Road, Tunbridge Wells, Kent.

Die Schmetterlinge Baden-Württembergs. Edited by **Günter Ebert. Band (volume) 3,** Nachtfalter (moths) I. 518pp., 344 colour photographs, 166 diagrams and drawings, 64 distribution maps, hardback, size 17x24cm. Price DM 79. **Band 4,** Nachtfalter II. 535pp., 488 colour photographs, 204 diagrams and drawings, 122 distribution maps, hardback, size 17x24cm. Price DM 79. Verlag Eugen Ulmer, 1994.

Following on the publication in 1991 of the sumptuous first two volumes covering the butterflies (*Tagfalter*) of the south-western German state of Baden-Württemberg, work on this opulent and monumental series has continued with the moths (*Nachtfalter*). In December 1994, the first two volumes, embracing the Hepialidae, Cossidae, Zygaenidae, Limacodidae, Psychidae, Thryididae, Bombycidae, Endromidae, Lasciocampidae, Lemoniidae, Saturnidae, Sphingidae, Notodontidae, Dilobidae, Thaumetopoeidae, Drepanidae, Thyatiridae, Lymantriidae, Nolidae and Ctenuchidae, were published and launched at a reception given by the publisher in the State Natural History Museum in Karlsruhe, Germany, attended by Günter Ebert and his co-authors, and the State Minister for Nature Conservation. It is the financial support it has received from the latter's ministry and the state museum which has kept the price of these

superbly produced and lavishly illustrated books down to DM 79 (less than £35) per volume. Three further volumes, covering the Geometridae and Noctuidae, are in advanced preparation.

As with the butterfly volumes, which I reviewed for this journal (*antea* 1992, **104**: 87), the wealth of first-hand ecological and biological information contained in these new books makes them invaluable to entomologists living and working in those many parts of Europe, including the British Isles, where the Baden-Württemberg species (the majority of them) also occur. The format follows that of the butterfly volumes, the main part consisting of a detailed systematic treatment of the Baden-Württemberg species, with superb colour photographs taken, mostly in the field, within its borders of all stages from egg to imago, and of the typical habitats of each species with locality and date specified, also distribution maps compiled from computerised data and flight-period histograms showing regional variations. The text covering each species is a mine of up-to-date ecological and behavioural information based on studies made within Baden-Württemberg, plus verified lists of larval foodplants. The past and current status of each species, and the conservation measures needed to be undertaken to ensure their survival are also discussed.

The illustrated introductory sections in the first volume include one (Part 2) dealing with methods for observing moths (including attracting imagines through the use of pheromones) and observations on the natural food sources of imagines; another (Part 3) concerning aspects of food competition between species and the niches occupied by them, and the relationship between microclimate, landscape history and the changes in the distribution of species; while Part 4 contains a checklist of the species treated in the two volumes, a list of their German names, a table showing their habitat preferences, a list of the flowers visited by imagines and a discussion of their habitats, status and conservation, including a revised Red Data List for Baden-Württemberg.

Although naturally this work is written in German, the first volume contains sections in English and French to enable those who only speak those languages to obtain the maximum information from the text and figures without needing to understand German. With a minimum of help, in addition, from a German-English dictionary the non-German reader will gain access to much valuable information not readily available elsewhere.

Once again, Günter Ebert of the Karlsruhe State Museum of Natural History and his collaborators and publishers have earned the gratitude of European lepidopterists for these two latest volumes in their magnificent seven-volume work; they have maintained the extremely high standard set by the first two on the butterflies. I recommend them without hesitation. They may be ordered direct from the publisher Verlag Eugen Ulmer, Postfach 700561, 7000 Stuttgart 70, Germany.

John F. Burton

Contents – *continued from back cover*

THE ENTOMOLOGIST'S RECORD

AND JOURNAL OF VARIATION

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

Contents

Notes and observations

(Continued on inside back cover)

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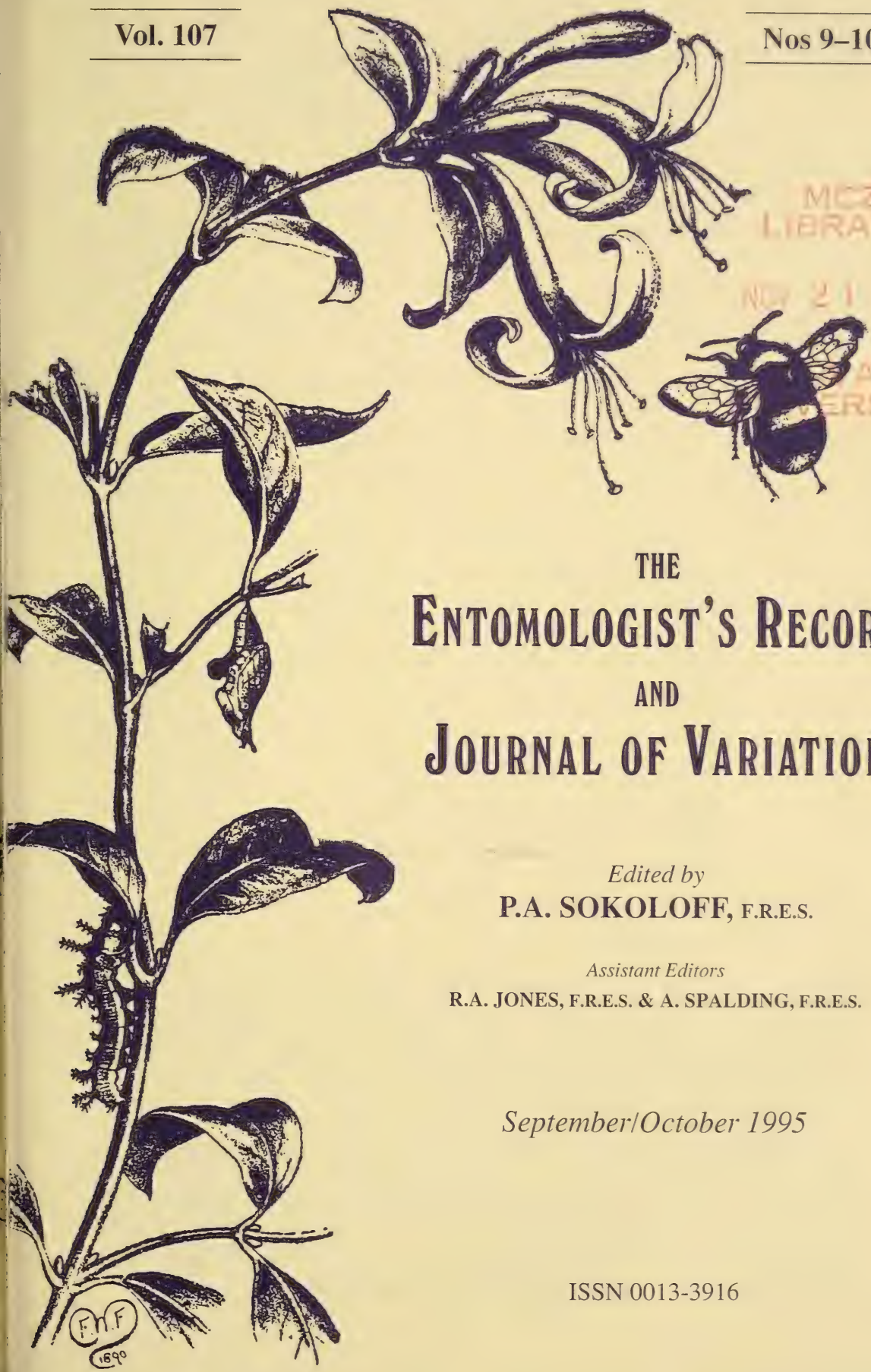

THE ENTOMOLOGIST'S RECORD AND JOURNAL OF VARIATION

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WHERE TO WRITE

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SOME ENTOMOLOGICAL JARGON EXPOSED

RICHARD A. JONES
13 Bellwood Road, Nunhead, London SE15 3DE.

SEVERAL YEARS AGO, an eminent lepidopterist sidled up to me at an entomological meeting, confessed he had come across a beetle description and asked me in hushed tones "What colour, exactly, is ...", he hesitated, "...testaceous?" He pronounced it carefully so that I, a supposed coleopterist, should know precisely what he was talking about.

At the time, I was astounded that he should need to question me on the matter, and quickly gave my sheepish answer. Afterwards I wondered what could have possibly caused this confusion. In my naivety, I had not grasped what to many was so obvious – each of the entomological disciplines has its own terminology, its own distinctive set if words and terms, its own obfuscating and elitist jargon.

Lepidopterists are guilty of a few minor transgressions into idiom. The quaint use of the word "imago" may not be a problem, but when I first stumbled across the plural "imagines", imagine my confusion at what I thought was some surreal flight of transcendental fancy. And if I am still not absolutely sure where a tornus might be, at least I can look it up in most standard books on insects.

On the other hand, coleopterists have accumulated a wide vocabulary of strange and alien-sounding terms, not least in one of the most basic and important areas of description – colour. Faced with "testaceous", my learned colleague had been stumped. Most 19th and 20th century beetle books rely almost entirely on such terms to describe colours, but sure enough, most standard entomological texts ignore these seemingly archaic words.

In looking through a few Coleoptera books and in particular the many articles on beetles in entomological journals, I quickly came to the conclusion that it is sometimes difficult for a new-comer to the subject to fully appreciate what are really very good descriptions of these insects. I did, however, find several of them mentioned in the glossary provided by Cooter *et al.* (1991) (derived in part from that in Fowler, 1887) and the "orismology, or explanation of terms" in Kirby & Spence (1826). The *Oxford English Dictionary* (*OED*) also offers some definitions, but these are sometimes at odds with entomological use.

To dismiss the use of such terms as needlessly confusing would be to denigrate part of the varied and colourful language of description, better perhaps to give them a fresh airing and make them more widely known. With this in mind, I offer up the following short glossary gleaned from various sources.

Aeneous: brassy: from the Latin ***aeneus*** meaning "brazen" (*OED*), also perhaps a more metallic golden green (Cooter *et al.*).

Castaneous: ruddy-brown; the deep rich brown which makes sweet chestnuts (*Castanea*) so appetizing on the brazier and horse chestnuts (*hippocastanum*) so irresistible when found found lying beneath a conker tree.

Ferrugineous: reddish or pinkish; sometimes described as rust-red (Cooter *et al.*).

Fulvous: reddish yellow (*OED*) tawny or dirty orange (Kirby & Spence).

Fuscous: dull brown, tawny (Cooter *et al.*) or dusky (*OED*).

Piceous: dark brown; despite its origin in *pix*, the Latin word for pitch, actually a shade less black than pitchy (see below); with a tinge of red (Kirby & Spence), green or yellow (Cooter *et al.*).

Pitchy: very dark brown, almost black; the true colour of pitch or tar. For some unknown reason "pitch-black" has come to mean a blackness deeper than pitch really is.

Rufous: red; either brownish (*OED*) or pale (Kirby & Spence).

Sulphureous: pale yellow; the colour of sulphur (*OED*) as in the bright yellow bands of the hedge snails, *Cepaea*; or perhaps tinged with a shade of very pale green much like the Brimstone butterfly (Kirby & Spence).

Testaceous: dirty yellow, yellowish-brown, light reddish-yellow. Various dictionaries describe this as the colour of dull terracotta pottery, reflecting the etymology of the word from **testa**, the Latin for "tile". Some earlier entomological works (*e.g.* Kirby & Spence) use it thus.

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MICROLEPIDOPTERA REVIEW OF 1993

DAVID J.L. AGASSIZ[1], ROBERT J. HECKFORD[2] AND JOHN R. LANGMAID[3]

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TWO SPECIES WERE ADDED to the British list of microlepidoptera in 1993, *Batrachedra parvulipunctella* Chrétien and *Cochylis molliculana* Zeller. The first may be an adventive, whereas the second appears recently to have colonised the south coast of England. It is much harder to say how many have become extinct, for we can only declare such an event after an interval of some decades. As studies of rare species are made it is saddening to find some which have not been recorded for 20 years.

Following its discovery a year earlier, *Mompha bradleyi* Riedl continues to be found though we cannot yet say that its distribution is fully known. Further records of *Bohemannia auriciliella* (Joannis), *Athrips rancidella* (Herrich-Schäffer), *Gelechia senticetella* (Staudinger) and *Sclerocona acutellus* (Eversmann) are interesting, but do not tell us enough about their status or distribution.

Homoeosoma nimbella (Duponchel), so easily overlooked on account of its similarity to closely related species, is confirmed in its known disjunct localities in the extreme south-west and on the east coast of England, but we wonder whether it is still more widespread. *Phlyctaenia stachydalis* (Germar) is one of those little-seen species which one feared was declining, but new localities provide encouragement.

Spreading species continue: *Parocystola acroxantha* (Meyrick), *Dioryctria schuetzeella* Fuchs among them, but not in a dramatic way. The absence of records of *Caloptilia rufipennella* (Hübner) and *Phyllonorycter leucographella* (Zeller) in the list of records submitted in no way marks a cessation of their movement, for populations have been observed to increase by many workers.

New information on the life history of *Coleophora lassella* Staudinger fills what was one of the more remarkable gaps in our knowledge since it was the last in its family whose biology was undiscovered. This may lead to a better understanding of its distribution.

Migration records are included in other articles in this journal and there are none of which we are aware worthy of special comment.

Literature published since our last Review includes Volume 8 of *Microlepidoptera Palaearctica* which covers part of the Phycitinae (Pyralidae) but no species recorded from the British Isles is included. Additions and corrections to the lepidopterous fauna of Shropshire by A.M. Riley and R.M. Palmer were published in the *Entomologist's Gazette* **45**: 167-182. The *Moths and Butterflies of Berkshire* by B.R. Baker is a fine

county list containing many interesting records of microlepidoptera. An unpublished, but widely circulated list of additions to the Lepidoptera of Orkney was produced by Ian Lorimer not many months before his death. As usual an important source of records is the report of the Annual Exhibition in the *British Journal of Entomology and Natural History* **7**: 154-159 and this list contains a number of new vice-county records which are not repeated in this article.

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, B.R. Baker, H.E. Beaumont, K.P. Bland, K.G.M. Bond, E.S. Bradford, M.F.V. Corley, P.A. Crowther, B. Dickerson, A.M. Emmet, A.P. Foster, B. Goodey, E.F. Hancock, R.J. Heckford, M.W. Harper, R.P. Knill-Jones, J.R. Langmaid, D.V. Manning, D.O'Keeffe, R.M. Palmer, S.M. Palmer, M.S. Parsons, A.N.B. Simpson, B.F. Skinner, F.H.N. Smith, R.A. Softly, D.H. Sterling, M.J. Sterling, P.H. Sterling and M.R. Young.

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*. Numbers in the left-hand column are those from *A checklist or label list of British Lepidoptera* by J.D. Bradley and D.S. Fletcher, 1986.

Again an attempt has been made to identify new vice-county records; these are in **bold** type. The maps held by A.M. Emmet have been used for this purpose and we are grateful to Maitland Emmet for providing this information, and also for proof reading.

Copies of the full list of records submitted are available from David Agassiz.

Systematic List

ERIOCRANIIDAE

7 *E. chrysolepidella* (Zell.) – Beetham (**69**) vacated mines 25.v.91 & 23.v.92 – M.R. Shaw & KPB, *Ent. Gaz.* **45**: 272

8 *E. unimaculella* (Zett.) – Nahilla (**H30**) 19.v.93 larvae on *Betula* – KGMB

9 *E. sparrmannella* (Bosc.) – Easton Hornstocks (**32**) one, 23.iv.93 – AME, MSP, PHS & JRL

10 *E. salopiella* (Staint.) – Yardley Chase (**32**) 18.v.93 – DVM

12 *E. sangii* (Wood) – Nahilla (**H30**) 19.v.93 larvae on *Betula* – KGMB; Yardley Chase (**32**) 18.v.93 – DVM

13 *E. semipurpurella* (Steph.) – Nahilla (**H30**) 19.v.93 larvae on *Betula* – KGMB

NEPTICULIDAE

33 *Bohemannia auriciliella* (Joann.) – Lover (**8**) 24.vi.93, third British specimen – MFVC, *BJENH* **7**: 155

23 *Ectoedemia argyropeza* (Zell.) – Nagles Mts (**H4**) 17.x.93 – KGMB

25 *E. intimella* (Zell.) – Copt Oak (**55**) many tenanted mines on *Salix cinerea* 31.x.93 – AME & JRL

39 *E. heringi* (Toll) – Copt Oak (**55**) a few tenanted mines on *Quercus* 31.x.93 – AME & JRL; Yardley Chase (**32**) 19.x.93 – DVM

45 *Trifurcula subnitidella* (Dup.) – Tory Hill (**H8**) 25.vi.93 – KGMB

53 *Stigmella splendidissimella* (H.-S.) – Copt Oak (**55**) a few tenanted mines on *Rubus idaeus* 31.x.93 – AME & JRL

54 *S. auromarginella* (Rich.) – Portland (9) 12.vi.93, mines on *Rubus fruticosus* agg., moths bred – RJH & JRL

88 *S. samiatella* (Zell.) – Emer Bog (11) vacated mines on *Castanea sativa* 26.x.93 – DHS & JRL

89 *S. basiguttella* (Hein.) – Bourne (**53**) one tenanted mine on *Quercus* 1.xi.93 – AME & JRL

103 *S. nylandriella* (Tengst.) – Lings Wood (**32**) 30.ix.93 – DVM

109 *S. prunetorum* (Staint.) – Salome Wood (**31**) mine on *Prunus spinosa* 22.x.93 – D. Evans per BD

114 *S. glutinosae* (Staint.) – Newtown Linford (**55**) a few tenanted mines on *Alnus glutinosa* 31.x.93 – AME & JRL

OPOSTEGIDAE

120 *Opostega auritella* (Hübn.) – Barton Broad (27) one at m.v.29.vii.93 – MJS

INCURVARIIDAE

145 *Nemophora minimella* ([D. & S.]) – Mount Caburn NNR (14) 8.viii.93 – MSP

152 *Adela rufimitrella* (Scop.) – Brackley Lough (**H30**) 20.v.93 – KGMB

HELIOZELIDAE

156 *Heliozela resplendella* (Staint.) – Newtown Linford (**55**) a few vacated mines and cut-outs on *Alnus glutinosa* 31.x.93 – AME & JRL; Ballivor (**H22**) mine on *Alnus glutinosa* 23.viii.93 – KGMB; Yardley Chase (**32**) 12.x.93 – DVM

PSYCHIDAE

180 *Diplodoma herminata* (Geoff.) – Little Cawthorpe (**54**) one 25.vi.93 – PHS & JRL

175 *Narycia monilifera* (Geoff.) – Easton Hornstocks (**32**) a few cases 23.iv.93 – AME, MSP, PHS & JRL; Yardley Chase (**32**) 13.iv.93 – DVM

185 *Luffia ferchaultella* (Steph.) – Collingham, Wetherby (**64**) larval cases 25.vi.93, many reared – D.H. Smith per HEB

TINEIDAE

228 *Monopis weaverella* (Scott) – Easton Hornstocks (32) 15.vii.93 – C. Gardiner per MSP; Yardley Chase (32) 20.v.93 – G.E. Higgs per DVM

229 *M. obviella* ([D. & S.]) – Eynesbury (**31**) 1.vii.93 – BD

LYONETIIDAE

264 *Bedellia somnulentella (*Zell.) – Fineshade (**32**) 14.vii.93 – DVM

BUCCULATRICIDAE

266 *Bucculatrix nigricomella* Zell. – Strandhill (H28) vacated mine on *Chrysanthemum leucanthemum* 21.v.93 – KGMB

GRACILLARIIDAE

283 *Caloptilia betulicola* (Hering) – Edzell, Gannochy Gorge (**90**) spinnings on *Betula* 2.vii.93 – KPB, RPK-J, RMP, MRY & JRL

284 *C. rufipennella* (Hübn.) – Deffer Wood, Barnsley (63) many larval cones 22.ix.93 – HEB; Leckford (**12**) vacated cones on *Acer pseudoplatanus* 7.viii.93 – DHS & JRL

285 *C. azaleella* (Brants) – Petts Wood (16) common v. & viii.93 – DO'K

286 *C. alchimiella* (Scop.) – Wittering Copse (**32**) 14.viii.93 – MSP per DVM

287 *C. robustella* Jäckh – Larvae mining *Castanea sativa* – JMC-H, *Ent. Rec.* **106**: 180

289 *C. falconipennella* (Hübn.) – Petts Wood (16) six bred from *Alnus glutinosa* ix-x.93 – DO'K

294 *Aspilapteryx tringipennella* (Zell.) – Saltfleetby-Theddlethorpe (**54**) a few mines in *Plantago lanceolata* 23.vi.93 – PHS & JRL; Brampton Wood (31) 29.viii.93 – BD

305 *Parornix scoticella* (Staint.) – Lings Wood (**32**) 30.ix.93 – DVM

315 *Phyllonorycter harrisella* (Linn.) – Leemount (**H4**) mines on *Quercus petraea* 16.x.93 – KGMB

321 *P. messaniella* (Zell.) – Cannon Hall Park, Barnsley (63) mines frequent on *Ulmus* 22.ix.93, moths reared – HEB

324 *P. sorbi* (Frey) – Copt Oak (**55**) many mines on *Sorbus aucuparia* 31.x.93 – AME & JRL; Lings Wood (**32**) 30.ix.93 – DVM

330 *P. cerasicolella* (H.-S.) – Edlington Wood, Doncaster (63) mines on *Cerasus,* moths reared iii.93 – HEB

331 *P. lantanella* (Schr.) – Yardley Chase (32) 28.x.93 – G.E. Higgs per DVM

354 *P. emberizaepenella* (Bouché) – Colsterworth (**53**) one mine on *Symphoricarpus* 1.xi.93 – AME & JRL

357 *P. stettinensis* (Nic.) – Wadenhoe (**32**) 10.x.93 – DVM

GLYPHIPTERIGIDAE

391 *Glyphipterix simpliciella* (Steph.) – Achiltibuie (**105**) 28.v.93 – Mary Harrop, *Ent. Rec.* **106**: 31

392 *G. schoenicolella* Boyd – Slepe Heath, Hartland Moor, Studland Heath (9) larvae on *Juncus bufonius* 26.vii.93 – PHS, RJH & JRL, *Ent. Gaz.* **45**: 1-3.

397 *G. thrasonella* (Scop.) – Rossie Moor (**90**) many 4.vii.93 – KPB, RPK-J, RMP, MRY & JRL; notes on the species – A. Spalding, *Ent. Rec.* **106**: 184

DOUGLASIIDAE

398 *Tinagma ocnerostomella* (Staint.) – Shrewton Folley (8) 13.vi.93 – M.H. Smith, *Ent. Rec.* **106**: 76

YPONOMEUTIDAE

410 *Argyresthia brockeella* (Hübn.) – Edzell, Gannochy Gorge (**90**) a few 2.vii.93 – KPB, RPK-J, RMP, MRY & JRL

417 *A. spinosella* Staint. – Saltfleetby-Theddlethorpe (**54**) several 23.vi.93 – PHS & JRL

435 *Zelleria hepariella* Staint. – Freshwater (**10**) 14.vii.87 – S.A. Knill-Jones, *Ent. Rec.* **106**: 77

437 *Swammerdamia caesiella* (Hübn.) – Copt Oak (**55**) a few vacated larval spinnings on *Betula* 31.x.93 – AME & JRL; Yardley Chase (**32**) 7.x.93 – DVM

439 *S. compunctella* H.-S. – Sandwich Bay (**15**) 10.viii.93 – ESB; Feshiebridge (96) larvae abundant in spun tips of *Sorbus aucuparia* 20.v.93 – DO'K

442 *Cedestis gysseleniella* (Zell.) – Fineshade (**32**) 6.vii.93 – DVM

443 *C. subfasciella* (Steph.) – Fineshade (**32**) 23-26.vii.93 – DVM

444 *Ocnerostoma piniariella* Zell. – Edzell (**90**) one 3.vii.93 – KPB, RMK-J, MRY, & JRL

449 *Prays fraxinella* (Bjerk.) – Little Cawthorpe (**54**) one 25.vi.93 – PHS & JRL

468 *Rhigognostis incarnatella* (Steud.) – Chopwell Wood (**66**) 28.vii & 1.viii. 92, 3.viii.93 – T.C. Dunn *Ent. Rec.* **106**: 152

469 *Eidophasia messingiella* (F.v.R.) – Farnborough (12) 8.vi.93 – R.W. Parfitt per JRL

471 *Digitivalva perlepidella* (Staint.) – Steep (**12**) one 21.v.93 – JRL, *Ent. Gaz.* **45**: 36

473 *Acrolepiopsis assectella* (Zell.) – Farnborough (**12**) 8.viii.93 – R.W. Parfitt per JRL

476 *Acrolepia autumnitella* Curt. – Newtown Linford (**55**) a few vacated mines on *Solanum dulcamara* 31.x.93 – AME & JRL

EPERMENIIDAE

483 *Epermenia chaerophyllella* (Goeze) – Westmuir (**90**) a few larvae on *Heracleum* 3.vii.93 – RMP, MRY & JRL

SCHRECKENSTEINIIDAE

485 *Schreckensteinia festaliella* (Hübn.) – Easton Hornstocks (**32**) 26.vi.93 – MSP

COLEOPHORIDAE

494 *Coleophora coracipennella* (Hübn.) – Yardley Chase (**32**) 18.v.93 – DVM

495 *C. spinella* (Schrank) – Little Cawthorpe (**54**) a few larval feeding on *Crataegus* 25.vi.93 – PHS & JRL

496 *C. milvipennis* Zell. – Rannoch Moor (88) feeding on *Betula nana,* an unusual foodplant – KPB

504 *C. lusciniaepennella* (Treits.) (= *C. viminetella* Zell.) – Larkfield (**H30**) cases on *Myrica* 21.v.93; Coom Wood (H3) cases on *Myrica* 2.vi.93 – KGMB

511 *C. orbitella* Zell. – Haldon Hill (3) 23.vii.93 – RJH

512 *C. binderella* (Koll.) – Weaveley Wood (**31**) 28.vii.93 – BD

514 *C. ahenella* Hein. – Wiltshire, four localities (8) cases 1992-93 – SMP

515 *C. albitarsella* Zell. – Fineshade (**32**) 16.vii.93 – DVM

516 *C. trifolii* (Curt.) – Ballavolley (**71**) at m.v. 15.vii.93 – KGMB

517 *C. frischella* (Linn.) – Fineshade (**32**) 1.vi.93 – DVM

518 *C. mayrella* (Hübn.) – Fineshade (**32**) 11.vi.93 – DVM

519 *C. deauratella* L. & Z. – Fineshade (**32**) 19-23.vii.93 – DVM

524 *C. lithargyrinella* Zell. – Bray Head (**H20**) cases on *Silene maritima* 19.iv.93 – KGMB; Fovant Wood (**8**) one case 21.iv.93 – SMP

535 *C. ibipennella* Zell. (= *ardeaepennella* Scott) – Fineshade (**32**) 2.vii.93 – DVM

539 *C. conspicuella* Zell. – Grove Park, SE16 (16) cases abundant on *Centaurea nigra,* also near Bickley (16) 1993 – DO'K.

551 *C. galbulipennella* Zell. (= *otitae* Zell.) – Hythe Ranges (15) 6.vii.93 – MSP, *Ent. Rec.* **105**: 286-7

552 *C. lassella* Staud. – Hartland Moor, Slepe Heath, (9) cases on *Juncus bufonius* 26.vii.93 – JRL, RJH & PHS, account of its biology *Ent. Gaz.* **45**: 1-3

555 *C. follicularis* (Vallot) – Saltfleetby-Theddlethorpe (**54**) a few larval feedings on *Pulicaria* 23.vi.93 – PHS & JRL

556 *C. trochilella* (Dup.) – Fineshade (**32**) 28-29.vii.93 – DVM

559 *C. peribenanderi* (Toll) – Enniskerry (**H20**) one at m.v. 1.vii.93 – KGMB; Fineshade (**32**) 11.vi.93 – DVM

560 *C. paripennella* Zell. – Little Cawthorpe (**54**) larval feedings on *Centaurea nigra* 25.vi.93 – PHS & JRL

561 *C. therinella* Tengst. – Fineshade (**32**) 10.vii.93 – DVM

565 *C. saxicolella* (Dup.) – Fox Holes (**31**) 8.viii.93 – BD; Fineshade (**32**) 6-10.vii.93 – DVM

568 *C. versurella* Zell. – Fineshade (**32**) 2.vii.93 – DVM; West Melton, Rotherham (**63**) 3.vii.86 & 14.vii.92 – HEB
574 *C. deviella* Zell. – Gibraltar Point (**54**) two 22.vi.93 – PHS & JRL
581 *C. taeniipennella* H.-S. – Yardley Chase (**32**) 20.iv.93 – DVM
582 *C. glaucicolella* Wood – Fineshade (**32**) 14.vii.93 – DVM
584 *C. alticolella* Zell. – Slepe Heath (9) cases on *Juncus bufonius* 26.vii.93 – PHS, RJH & HRL, *Ent. Gaz.* **45**: 1-3.
587 *C caespititiella* Zell. – Fineshade (**32**) 7.vi.93 – DVM; Slepe Heath (9) cases on *Juncus bufonius* 26.vii.93 – PHS, RJH & JRL

ELACHISTIDAE
592 *Stephensia brunnichella* (Linn.) – Grays (**18**) a few vacated mines on *Clinopodium* 18 .vii.93 – DJLA & JRL
593 *Elachista regificella* (Sirc.) – Dura Den (**85**) mines on *Luzula sylvatica* – KPB
601 *E. albifrontella* (Hübn.) – Edzell, Gannochy Gorge (**90**) one 2.vii.93 – KPB, RPK-J, RMP, MRY & JRL
611 *E. triatomea* (Haw.) – Tory Hill (**H8**) 6.viii.93 – KGMB
622 *E. adscitella* Staint. (= *revinctella* Zell.) – Weaveley Wood (**31**) 26.vi.93 – BD
624 *Biselachista trapeziella* (Staint.) – Slish Wood (**H28**) mines in *Luzula sylvatica* 21.v.93 – KGMB
632 *Cosmiotes consortella* (Staint.) – Confirmed as at least bivoltine – RJH, *Ent. Gaz.* **45**: 196

OECOPHORIDAE
638a *Denisia albimaculea* (Haw.) – Marlborough Downs (**7**) 28.vi.93 – D. Brotheridge *Ent. Rec.* **105**: 285
648 *Endrosis sarcitrella* (Linn.) – Edzell (**90**) a few 2-3.vii.93 – KPB, RPK-J, RMP, MRY & JRL
656 *Parocystola acroxantha* (Meyr.) – Berrow (**6**) 31.viii.93 – B.E. Slade, *Ent. Rec.* **106**: 35
658 *Carcina quercana* (Fabr.) – Frampton (**53**) one larva on *Crataegus* 22.vi.93 – PHS & JRL
666 *Semioscopis avellanella* (Hübn.) – Easton Hornstocks (32) 20.iv.93 – MSP
672 *Depressaria pastinacella* (Dup.) – Frampton (**53**) a few larvae on *Heracleum* 22.vi.93
674 *D. badiella* (Hübn.) – Porton Down (**8**) 14.viii.93 – SMP
676 *D. pulcherrimella* Staint. – Fineshade (**32**) 19-23.vii.93 – DVM
689 *Agonopterix ciliella* (Staint.) – Yardley Chase (**32**) 1993 – G.E. Higgs per DVM
691 *A. purpurea* (Haw.) – Ballynacourty (H6) 6.v.93 – KGMB
700 *A. pallorella* (Zell.) – Folkestone Warren (15) bred from *Centaurea scabiosa* vii.91 – DO'K

705 *A. ulicetella* (Staint.) – Rossie Moor (**90**) many larvae on *Ulex* 4.vii.93 – KPB, RPK-J, RMP, MRY & JRL

708 *A. carduella* (Hübn.) – Folkestone Warren (15) bred from *Centaurea scabiosa* vii.91 – DO'K

713 *A. angelicella* (Hübn.) – Den of Airlie (**90**) larvae on *Angelica* 3.vii.93 – RMP, MRY & JRL

715 *A. capreolella* (Zell.) – Chestfield (15) 27.iii.71 – ESB

GELECHIIDAE

724 *Metzneria lappella* (Linn.) – Easton Hornstocks (32) 29.vi.93 – MSP

726 *M. metzneriella* (Staint.) – Tory Hill (**H8**) several at m.v. 26.vi.93 – KGMB

727a *M. aprilella* (H.-S.) – Barnack Hills & Holes NNR (**32**) 24.vi.92 – C. Gardiner per MSP

735 *Monochroa tenebrella* (Hübn.) – Rossie Moor (**90**) one 4.vii.93 – KPB, RPK-J, MRY & JRL

747 *Chrysoesthia sexguttella* (Thunb.) – Spurn (61) 26.ix.92, larvae mining leaves of *Halimione,* a previously unrecorded foodplant, moths reared iv.93 – HEB, *Ent. Rec.* **105**: 226

756 *Parachronistis albiceps* (Zell.) – Collyweston Great Wood (**32**) 10.vii.91 – DVM

757 *Recurvaria nanella* ([D. & S.]) – Farnborough (**12**) several vii.93 – R.W. Parfitt per JRL

760 *Exoteleia dodecella* (Linn.) – Edzell (**90**) two 2.vii.93 – RMP & JRL, one 4.vii.93 – KPB

761a *Athrips rancidella* (H.-S.) – Richmond Park (**17**) 23.vii.93 – MSP

762 *A. mouffetella* (Linn.) – Corby (**32**) 32.vii.93 – DVM

771 *Teleiodes alburnella* (Zell.) – Corby (**32**) 5.vi.93 – L. Bassenger per BD

780 *Bryotropha similis* (Staint.) – Little Paxton (**31**) 5.vi.93 – L. Bassenger per BD

787 *B. terrella* ([D. & S.]) – Frampton (**53**) one 22.vi.93 – PHS & JRL

790 *Chionodes fumatella* (Dougl.) – Winterton (**27**) one at m.v. 27.vii.93 – MJS

791 *C. distinctella* (Zell.) – Winterton (**27**) two at m.v. 28.vii.93 – MJS

794 *Lita sexpunctella* (Fabr.) – Y Llethr, Merioneth (48) 15.vii.93 adult on *Calluna* – APF

796 *Aroga velocella* (Zell.) – Farnborough (**12**) 14.viii.93 – R.W. Parfitt per JRL

801a *Gelechia senticetella* (Staud.) – Southsea (**11**) one at m.v. 3.viii.93 – JRL, *Ent. Gaz.* **45**: 36

812 *Scrobipalpa instabilella* (Dougl.) – Baltray (**H31**) larvae on *Halimione* 11.iii.93 – KGMB

822 *S. acuminatella* (Sirc.) – O'Donnell's Rock (**H29**) 20.vi.93 – KGMB

828 *Caryocolum viscariella* (Staint.) – Fineshade (**32**) 19-23.vii.93 – DVM

830 *C. fraternella* (Dougl.) – Fineshade (**32**) 28-29.vii.93 – DVM

843 *Aproaerema anthyllidella* (Hübn.) – Clogher Head (**H31**) larvae on *Anthyllis* 20.iv.93 – KGMB

857 *Anarsia lineatella* Zell. – Lizard (**1**) 20.viii.93 – larva in nectarine, moth bred – RJH

861 *Telephila schmidtiellus* (Heyd.) – Mount Caburn NNR (**14**) a few larvae on *Origanum* 9.v.93 – MSP & JRL

862 *Dichomeris marginella* (Fabr.) – Corby (**32**) 17.viii.87 – D.H. Howton per DVM

866 *Brachmia blandella* (Fabr.) – Easton Hornstocks (32) 8.vii.93 – C. Gardiner per MSP; Werrington (**32**) 1991-92 – P. Waring per DVM

870 *Oegoconia quadripuncta* (Haw.) – Farnborough (12) 14.vii.93 – R.W. Parfitt per JRL

871 *O. deauratella* (H.&S.) – Fineshade (**32**) 29.vii.93 – DVM; Farnborough (**12**) 10.vi.93 – R.W. Parfitt per JRL

BLASTOBASIDAE

874 *Blastobasis decolorella* (Woll.) – Edzell (**90**) a few 2-3.vii.93 – KPB, RPK-J, RMP, MRY & JRL; Farnborough (**12**) 8.vii.93 – R.W. Parfitt per JRL; Northfield Wood, Onehouse (**26**) 3.viii.91 – A. Aston, *Ent. Rec.* **106**: 150

MOMPHIDAE

879a *Batrachedra parvulipunctella* Chrétien – Cadgwith (**1**) 18.viii.91 – RJH, *BJENHS* **7**: 156; *Ent. Gaz.* **45**: 261-265, **New to Britain**

880 *Mompha langiella* (Hübn.) – Ashurst (11) larvae on *Epilobium parviflorum* & *Chamaenerion angustifolium* 12.vii.93 – JRL, *Ent. Gaz.* **44**: 256

881 *M. terminella* (H. & W.) – Dinton Wood (**8**) 1993 – SMP

885 *M. conturbatella* (Hübn.) – Den of Airlie (**90**) one 3.vii.93 – RMP, MRY & JRL

889a *M. bradleyi* Riedl – Stapleford (**20**) galls on *Epilobium hirsutum* 21.viii.93 emerged ix.93; Woodwalton Fen (**29**) galls 3.ix.93, one emerged 4.ix.93 – MJS; Stratford-upon-Avon (**38**) pupae in galls of *E. hirsutum* 4.ix.93, moths bred – RJH

COSMOPTERIGIDAE

898 *Limnaecia phragmitella* Staint. – Brackley Lough (**H30**) larvae on *Typha* 20.v.93 –KGMB

902 *Glyphipteryx lathamella* (Fletch.) – Manvers Site, Bolton-on-Dearne (63) 16.vi & 5. vii.93 – J.D. Coldwell, det HEB

TORTRICIDAE

921 *Trachysmia inopiana* (Haw.) – Kettering (**32**) 1.vi.92 – D.H. Howton per DVM

927 *Piercea minimana* (Caradja) – Tory Hill (**H8**) 25.vi.93 – KGMB

928 *P. permixtana* ([D. & S.]) – Tory Hill (**H8**) 6.vii.93 – KGMB
942 *Aethes piercei* Obraztsov – Tory Hill (**H8**) 25.vi.93 – KGMB
945 *A. cnicana* (Westw.) – Edzell, Gannochy Gorge (**90**) one 2.vi.93 – KPB, RPK-J, RMP, MRY & JRL
947 *A. smeathmanniana* (Fabr.) – Fineshade (**38**) 25.v.93 – DVM
949 *A. dilucidana* (Steph.) – Easton Hornstocks (**32**) 29.vi.93 – MSP
951 *A. beatricella* (Wals.) – Fineshade (**32**) 28.vi.93 – DVM
954 *Eupoecilia angustana* (Hübn.) – Westmuir (**90**) many 3.vii.93 – RMP, MRY & JRL
960 *Falseuncaria ruficiliana* (Haw.) – A new larval foodplant *Rhinanthus minor* – M.H. Smith, *Ent. Rec.* **106**: 26-28
964 *Cochylis dubitana* (Hübn.) – Castor Hanglands (**32**) 25.vii.85 – MSP per DVM
964a *C. molliculana* Zell. – Southsea (**11**) one at m.v. 21.viii.93 – JRL, *BJENH* **7**:157; *Ent. Gaz.* **45**: 255-258; Portland (**9**) 24.vi.91 – RJH, *Ent. Gaz.* **45**: 259. Lyme Regis (9) 8.vii.93 – B.P. Henwood *Ent. Gaz.* **45**: 259; Fareham (11) 25.viii.93 – R.J. Dickson, *Ent. Gaz.* **45**: 260. **New to Britain**
967 *C. pallidana* Zell. – Myrtleville (**H4**) 24.vi.93 – KGMB
968 *C. nana* (Haw.) – Westmuir (**90**) a few 3.vii.93 – RMP, MRY & JRL
970 *Pandemis cerasana* (Hübn.) – Edzell (**90**) a few 2-3.vii.93 – KPB, RPK-J, RMP, MRY & JRL
974 *Argyrotaenia ljungiana* (Thunb.) – Cladagh River (**H30**) 20.v.93 – KGMB
985 *Cacoecimorpha pronubana* (Hübn.) – Corby (**32**) x.92 – D.H. Howton per DVM
987 *Ptycholomoides aeriferanus* (H.-S.) – Eccleshall Wood, Sheffield (**63**) 3.vii.93 – HEB
990 *Aphelia unitana* (Hübn.) – Douglas River (**H4**) several v.vi.93; Tory Hill (**H8**) 25.vi.93 – KGMB
991 *Clepsis senecionana* (Hübn.) – Larkfield (**H29**) 20.v.93 – KGMB
994 *C. consimilana* (Hübn.) – Frampton (**53**) one 22.vi.93 – PHS & JRL; Edzell (**90**) one 2.vii.93 – KPB, RPK-J RMP, MRY & JRL
998 *Epiphyas postvittana* (Walk.) – Farnborough (**12**) several v.-x.93 – R.W.. Parfitt per JRL; Cottingham (**61**) 24.x.93 & two, 7.xi.93 – PAC; Haxby, York (**62**) ix.-x.93 – T.J. Crawford det HEB; notes on its history in Cornwall (1 & 2) – A. Spalding, *Ent. Rec.* **106**: 29
1001 *Lozotaeniodes formosanus* (Geyer) – Castor Hanglands (**32**) 1991 – MSP per DVM; West Melton, Rotherham (**63**) 8.vii.93 – HEB
1002 *Lozotaenia forsterana* (Fabr.) – Edzell (**90**) one 3.vii.93 – KPB, RPK-J, RMP, MRY & JRL
1011 *Pseudargyrotoza conwagana* (Fabr.) – Edzell, Gannochy Gorge (**90**) one 2.vii.93 – KPB, RPK-J, RMP, MRY & JRL

1016 *Cnephasia longana* (Haw.) – Corby (**32**) vii.89 – D.H. Howton per DVM

1018 *C. communana* (H.-S.) – Friday Wood, Colchester (19) 6.vi.93 – BG

1023 *C. genitalana* P. & M. – Winchester (11) six specimens between 3 & 21.viii.93 – DHS, *Ent. Gaz.* **45**: 68

1030 *Eana incanana* (Steph.) – Collyweston Great Wood (**32**) 10.vii.91 – DVM

1034 *Spatalistis bifasciana* (Hübn.) – Collyweston Great Wood (**32**) 31.v.92 – C. Gardiner per DVM

1035 *Acleris bergmanniana* (Linn.) – Frampton (**53**) a few 22.vi.93 – PHS & JRL

1045 *A. notana* (Don.) – Easton Hornstocks (**32**) 17.ix.91 – MSP per DVM

1052 *A. umbrana* (Hübn.) – Heybrook Bay (3) larvae on *Prunus spinosa,* moths bred 4.viii, 11.ix & 24.ix.93 – RJH, *Ent. Gaz.* **45**: 106

1067 *Celypha cespitana* (Hübn.) – Edzell (**90**) one 2.vii.93 – KPB, RPK-J, RMP, MRY & JRL

1079 *Olethreutes bifasciana* (Haw.) – Fineshade (**32**) 14.vii.93 – DVM

1083 *Hedya dimidioalba* (Retz.) – Frampton (**53**) one 22.vi.93 – PHS & JRL; Edzell (**90**) one 2.vii.93 – KPB, RPK-J, RMP, MRY & JRL

1087 *Orthotaenia undulana* ([D. & S.]) – Edzell (**90**) one 2.vii.93 – KPB, RPK-J, RMP, MRY & JRL

1089 *Apotomis semifasciana* (Haw.) – Tory Hill (**H8**) 6.vii.93 – KGMB

1092 *A. turbidana* (Hübn.) – Edzell (**90**) one 2.vii.93 – KPB, RPK-J, RMP, MRY & JRL

1097 *Endothenia gentianaeana* (Hübn.) – Frampton (**53**) one 22.vi.93 – PHS & JRL

1109 *Lobesia littoralis* (H. & W.) – Corby (**32**) 14.vi.93 – DVM

1110 *Bactra furfurana* (Haw.) – Ashton Wold (**32**) 31.vii.92 – BD per DVM

1113 *Eudemis profundana* ([D. & S.]) – Bedford Purlieus (**32**) 1987 – per DVM

1118 *Ancylis uncella* ([D. & S.]) – Larkfield (**H29**) 21.v.93 – KGMB

1132 *Epinotia subocellana* (Don.) – Rossie Moor (**90**) one 4. vii. 93 – KPB, RPK-J, RMP, MRY & JRL

1136 *E. immundana* (F. v. R.) – Rossie Moor (**90**) one 4. vii. 93 – KPB, RPK-J, RMP, MRY 7 JRL

1142 *E. tedella* (Clerck) – Colsterworth (**53**) a few larvae on *Picea abies* 1.xi.93 – AME & JRL

1146 *E. rubiginosana* (H.-S.) – Edzell (**90**) one 2.vii.93 – RMP & JRL; Brampton Wood (**31**) 8.vi.93 – BD

1155 *E. brunnichana* (Linn.) – Corby (**32**) viii.86 – D.H. Howton per DVM

1157 *Crocidosema plebejana* Zell. – Freshwater (**10**) 18.vi.90 – S.A. Knill-Jones, *Ent. Rec.* **106**: 77

1174 *Epiblema cynosbatella* (Linn.) – Edzell (**90**) one 2.vii.93 – KPB, RPK-J, RMP, MRY & JRL

1181 *E. grandaevana* (L. & Z.) – Spurn (**61**) 9.vi.93 – B.R. Spence per HEB.
1184 *E. scutulana* ([D. & S.]) – Rossie Moor (**90**) a few 4. vii. 93 – KPB, RPK-J, RMP, MRY & JRL
1184a *E. cirsiana* (Zell.) – Little Cawthorpe (**54**) two 25.vi.93 – PHS & JRL
1199 *Eucosma pupillana* (Clerck) – Tophill Low, Watton Carr (**61**) 22.vii.93 – PAC; Bucks (24) G.E. Higgs, *Ent. Rec.* **106**: 151
1205a *Spilonota laricana* (Hein) – Ballavolley (71) 14.vii.93 – KGMB
1212 *Rhyacionia pinivorana* (L. & Z.) – Edzell (**90**) a few 2.vii.93 – KPB, RPK-J, RMP, MRY & JRL
1215 *Cryptophlebia leucotreta* (Meyr.) – Freshwater (**10**) 29.x.89 – S.A. Knill-Jones, *Ent. Rec.* **106**: 114
1219 *Lathronympha strigana* (Fabr.) – Den of Airlie (**90**) several 3.vii.93 – RMP, MRY & JRL; Tory Hill (**H8**) 25.vi.93 – KGMB
1221 *Strophedra weirana* (Dougl.) – Collyweston Great Wood NNR (**32**) 21.vi.92 – C. Gardiner per MSP
1225 *Pammene obscurana* (Steph.) – Havant Thicket (11) one at m.v. 30.iv.93 – JRL; Ham Street (15) 24.v.93; Dartford Heath (16) three beaten from *Betula* 6.v.93 – DO'K
1229 *P. albuginana* (Guen.) – Friday Wood, Colchester (**19**) 29.v.93 – BG
1241 *Cydia compositella* (Fabr.) – Lough Nagirra (**H8**) 6.vi.93 – KGMB
1245 *C. janthinana* (Dup.) – Ballavolley (**71**) at m.v. 14.vii.93 – KGMB
1246 *C. tenebrosana* (Dup.) – Bourne (**53**) larval feeding signs in fruits of *Rosa* 1.xi.93 – AME & JRL; Haughend (**90**) 2.vii.93 – KPB
1247 *C. funebrana* (Treits.) – South Cave, Beverly (**61**) 26.iv.93 – D.B. Cutts per HEB
1248 *C. molesta* (Busck) – Edinburgh (**83**) ex French apple purchased 3.x.92, emerged 7.vi.93 – KPB
1255 *C. succedana* ([D. & S.]) – Huntingdon (**31**) 29.v.93 – BD
1265 *C. cognatana* (Barr.) – Glen Quoich (**92**) a few 1.vii.93 – RMP, MRY & JRL
1278 *Dichrorampha sequana* (Hübn.) – Saltfleetby-Theddlethorpe (**54**) a few 24.vi.93 – PHS & JRL
1281 *D. simpliciana* (Haw.) – Corby (**32**) 14.vii.93 – DVM

PYRALIDAE

1297 *Crambus uliginosellus* Zell. – Dalcroy Promontory (**88**) actively flying 16.vii.93 – KPB; Skipworth Common (61) 17.vii.93 – HEB
1307 *Agriphila latistria* (Haw.) – Corby (**32**) 24.viii.89 – D.H. Howton per DVM
1323 *Pediasia contaminella* (Hübn.) – Farnborough (12) 17.vii.93 – R.W. Parfitt per JRL
1326 *Platytes cerussella* ([D. & S.]) – Bretton, Peterborough (32) 10.vi.93 – P. Kirby per MSP
1328 *Schoenobius gigantella* ([D. & S.]) – Werrington (**32**) 30.vi.93 – P. Waring per DVM

1337 *Eudonia alpina* Curt. – Occurrence at low altitude – S. Clancy, *Ent. Rec.* **106**: 6 & D. Howton *ibid.* **106**: 101-102.

1358 *Evergestis pallidata* (Hufn.) – Hazelborough Forest (**32**) 27.vii.90 – D.H. Howton per DVM

1363 *Pyrausta ostrinalis* (Hübn.) – Tory Hill (**H8**) 26.vi.93 – KGMB

1368 *Margaritia sticticalis* (Linn.) – A possible resident of Suffolk and Norfolk – M.R. Hall, *Ent. Rec.* **106**: 31

1374a *Sclerocona acutellus* (Evers.) – Virginia Water (**17**) 13.vi.89, second British specimen – P.J. Baker, *BJENH* **7**: 35

1380 *Phlyctaenia perlucidalis* (Hübn.) – Marlow (**24**) 7.vii.83 – D. Wedd per MVA

1384 *P. stachydalis* (Germ.) – Collyweston Great Wood (**32**) – 2.vi.92 – C. Gardiner per DVM; Montgomeryshire (46) – JMC-H, *Ent. Rec.* **105**: 285

1387 *Nascia cilialis* (Hübn.) – Petts Wood (**16**) 24.v.93 – DO'K; Details of its life history in Norfolk and Suffolk (25-28) – G.M. Haggett, *Ent. Rec.* **106**: 28-29.

1396 *Mecyna flavalis* ([D. & S.]) – Winchester (11) 21 & 31.vii & 10.viii.93 – DHS

1408 *Palpita unionalis* (Hübn.) – Dungeness (15) 11.ix.93 – S. Clancy per BFS; Littlestone (15) 10.x.93 – K. Redshaw per BFS

1430 *Paralipsa gularis* (Zell.) – Boscombe Down (**8**) 8 & 25.v.93, possibly originating from bird food in nearby shed – SMP

1435 *Acrobasis tumidana* ([D. & S.]) – Pagham (**13**) 14.viii.93 – BFS

1444 *Pempelia obductella* (Zell.) – Mount Caburn NNR (14) 8.viii.93 – MSP

1445 *P. formosa* (Haw.) – Fineshade (**32**) 11.vi.93 – DVM

1451 *Pyla fusca* (Haw.) – Castor Hanglands (**32**) 1991 – M. Hillier per DVM

1454a *Dioryctria schuetzeella* Fuchs – Ambersham Common (**13**) 16.vii.93 – BFS; Freshwater (**10**) 14.vii.85 – S.A. Knill-Jones, *Ent. Rec.* **106**: 114

1455 *D. mutatella* Fuchs – Corby (**32**) 16.vii.87 – D.H. Howton per DVM

1456 *Epischnia bankesiella* Rich. – Lleyn Peninsula (**49**) 12.vii.93 – APF & K.N. Alexander *Ent. Rec.* **105**: 254

1461 *Assara terebrella* (Zinck.) – Castor Hanglands (**32**) 10.ix.93 – C. Gardiner per DVM

1469 *Euzophera cinerosella* (Zell.) – Addington (17) 10.vi.93 – BFS

1482 *Homoeosoma nimbella* (Dup.) – Winterton (**27**) two at m.v. 27.vii.93 – MJS; St. Mary's, Isle of Scilly (1) 4.vi.93 – RJH, *Ent. Gaz.* **45**: 106

1485 *Phycitodes maritima* (Tengst.) – Worlick Farm (31) 6.viii.93 – D. Evans per BD

PTEROPHORIDAE

1504 *Platyptilia pallidactyla* (Haw.) – Little Cawthorpe (**54**) a few 25.vi.93 – PHS & JRL

1506 *Stenoptilia saxifragae* Fletch. – Stockport (**58**) 20.vii.91 – S. Hind per ESB

1509 *S. pterodactyla* (Linn.) – North Walney (**69**) one 26.vi.93 – RWJU & JRL

1510 *Pterophorus tridactyla* (Linn.) – Tory Hill (**H8**) 25-26.vi.93 – KGMB

1523 *Oidaematophorus lithodactyla* (Treits.) – Saltfleetby-Theddlethorpe (**54**) one larva on *Pulicaria* 24.vi.93 – PHS & JRL

Corrections to 1992 list

68, 626 & 628. Substitute: N. Uist (110) for (100)

A subcortial fungus beetle basking in sunlight

Mr Allen's comment (*Ent. Rec. J. Var.* 1995; **107**: 201) on the unusual appearance of a subcortical beetle in the sweep-net reminded me that I had recently seen a most unlikely insect out and about, sunning itself on a tree root. On a visit to Beckley Woods, near Peasmarsh, East Sussex on 27.iv.1995 I noticed a shiny pea-sized beetle sitting in the sun on a root at the foot of a small ash tree. As I approached within about ten feet, it dropped from its sunny position the few inches onto the leaf mould around the tree. It proved to be a specimen of *Scaphidium quadrimaculatum* Ol.

This pretty little beetle is moderately common, at least in Sussex, but is more usually found under the thick bark of fungoid trees and logs; I have never found it "out in the open".

As with the subcortical beetle which Mr Allen reported – the colydiid *Synchita humeralis* (F.) – there is no doubt that *Scaphidium* must occasionally leave the sanctuary of its normal habitat beneath the bark, to fly off and colonise new sites, but occasions are rarely seen or recorded. Some dead-wood and fungus-feeding beetles are well known for their flight near dusk and are regularly caught by evening sweeping. Among these are Pselaphidae, Scydmaenidae and, in particular, the Leiodidae, many of which are practically subterranean. I have taken the delicately marked anobiid *Hedobia imperialis* (L.) several times by sweeping late in the evening. However, on this occasion, the *Scaphidium,* was "out and about" during late morning; although the sun was warm, the brisk wind had a chilling edge to it and very few insects were on the wing.

It may be interesting to remark that whereas previously the Scaphidiidae has been regarded as a separate family, it has recently been suggested that the group should be accorded only sub-family status within the Staphylinidae – a group of diverse habit, including under fungoid bark, which nevertheless take to the air at the least invitation from a cool April sun.– RICHARD A. JONES, 13 Bellwood Road, Nunhead, London SE15 3DE.

OVERWINTERING ORTHOPTERA AND OTHER INSECTS IN CRETE

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BEING A LARGE ISLAND at the extreme south-eastern corner of Europe, with habitat zones ranging from Mediterranean littoral to Alpine, Crete may be expected to have a diverse Orthoptera fauna (Willemse, 1984, Willemse & Kruseman, 1976). Most members of this fauna, especially the montane species, are European in origin and pass the winter as eggs to become adult in summer. A significant proportion of Cretan Orthoptera in the hotter coastal habitats are northern outliners of taxa associated with Africa and the Middle East whose strategy is to breed during the wet season or whose life-cycle is unrestricted by a need for winter diapause in the egg stage. Around the Meditteranean, such species are adult during the winter and early spring (Uvarov, 1966). A visit to Crete in April 1994 yielded adults of nine species of Orthoptera as follows:

TETRIGIDAE
Paratettix meridionalis (Rambur). Lake Kournas, 21.iv., abundant on the lake shore; Georgopolis, 25.iv., one pair collected from reedbed.

PYRGOMORPHIDAE
Pyrgomorpha conica (Olivier). Phaistos, 23.iv., one female; Agia Triada, near Phaistos, 23.iv., one male; Oasis Beach, Chania, 24.iv., one male (not collected); Stavros, 26.iv., two males.

ACRIDIDAE
TROPIDOPOLINAE
Tropidopola longicornis (Fieber). Georgopolis, 25.iv., two males, from reedbed. These grasshoppers cling to reed stems and shuffle round to the opposite side of the stem when approached. When disturbed, they fly in a caddis-like fashion to another plant.

EUPRECOCNEMINAE
Heteracris littoralis (Rambur). Kommos, 23.iv., two males, two females, from among low shrubs in sand dunes.

CYRTACANTHRIDINAE
Anacridium aegyptium (Linnaeus). Abundant in rough vegetation. Kalives; Lake Kournas; Chania airport; Georgopolis.

OEDIPODINAE
Aiolopus strepens (Latreille). Abundant in grassland. Kalives; Lake Kournas; Georgopolis.
Acrotylus insubricus (Scopoli). Golden Bay, Chania, 24.iv., one male.

GOMPHOCERINAE

Ochrilidia tibialis (Fieber). Stavros, 26.iv., one male, one female.

Chorthippus bornhalmi Harz. Phaistos, 23.iv., one male; Georgopolis, 25.iv., one female. Willemse (1984) assigned the *Chorthippus* species which is widespread on Crete to *C. brunneus* (Thunberg) but later doubted its true identity (Wilemse, 1985). A second *Chorthippus* sp., which is morphologically quite a distinct form *C. brunneus, C. biroi* (Kuthy), is known to be endemic to montane areas of Crete. Recently the taxonomy of *C. brunneus* and closely related European species has been shown to be far more complex than formerly supposed. The sibling species which occur north of the Alps, *C. biguttulus* (Linnaeus) *C. brunneus* and *C. mollis* (Charpentier), are replaced in southern Europe by morphologically similar species that have different songs (Ragge & Reynolds, 1988). The song of the male collected at Phaistos was kindly recorded by Mr Nigel Tucker at the BBC Natural History Unit, Bristol and the recording analysed by Dr David Ragge. The song was indistinguishable from reference recordings of *C. bornhalmi,* a species already known from mainland Greece and the Balkans (Ragge *et al.*, 1990). It was concluded that the Cretan specimen, which was morphologically similar to reference specimens of *C. bornhalmi,* in the collection at BM(NH) should be assigned to this species, thus extending its known range to Crete.

Of the nine species collected as adults, *C. bornhalmi* is exceptional in representing a typically northern palaearctic genus and is presumably much more common on Crete during the summer. *Heteracris littoralis, Tropidopola longicornis* and *Ochrilidia tibialis* are widespread in North Africa and the Middle East and reach the fringes of southern Europe. The other species listed are widespread around the Mediterranean but all may be considered northern outliers of a tropical or subtropical fauna.

ODONATA

Only two species were seen: *Ceriagrion tenellum* Selys and *Ischnura elegans* van der Linden; both at Georgopolis in coastal seepages.

RHOPALOCERA

Although not especially sought, the following butterflies were recorded: *Papilio machon* L. – Laki; Phaistos. *Iphiclides podalirius* (L.) – Laki; Vamos. *Zerynthia cerisyi cretica* (Rebel) – Kalives; Vamos; Lake Kournas; Omalos; Laki; Asi Gonia; Spili; Akrotiri (most records were of single specimens but there were good colonies on a partly quarried hillside at Vamos and on the hills between Laki and Omalos). *Artogeia rapae* (L.) – common and widespread. *Euchloe simplonia* (Hübner) – Golden Bay, Chania; Georgopolis. *Colias croceus* (Geoffroy) – widespread. *Polyommatus icarus* (Rott.) – Vamos. *Polygonia egea* Cramer – Omalos. *Vanessa atalanta* (L.) – widespread. *Cynthia cardui* (L.) – common and widespread. *Pararge*

aegeria (L.) – Kalives. *Lasiommata megera* (L.) – Kalives. This species list is similar in its composition to the detailed account of Hardy (1994).

Crete is a fascinating island for the entomologist with species derived from several zoogeographical zones and with endemic elements. Several species of Orthoptera reach their northern limits in the reedbeds of the Cretan coast. They are vulnerable to the rapidly expanding coastal development of the island and should be considered in any conservation projects to save such habitats.

Acknowledgements

I thank Dr S. Nicholls and Mr N. Tucker of the BBC Natural History Unit, Bristol for obtaining a recording of the male *Chorthippus bornhalmi* and Dr D.R. Ragge for his analysis of the recording and subsequent identification of *C. bornhalmi*.

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"Mothathons" in Cornwall

As moth recorder for the Caradon Field and Natural History Club (formed 1984), I organised "mothathons" in 1987 and 1988 in south-east Cornwall. These were attempts to record as many moths and butterflies in a 24-hour period from midnight to midnight, in as many different habitats as were reasonably practical in this area. There was some discussion over the ground rules, so that the attempt one year could be replicated the next, introducing an air of competition. One of our number did not approve of the competitive angle and so only took part in one of the sessions.

It would have been possible to maximise the catch by using a large number of lamps and setting out several Heath traps which we could inspect in the morning. However, we decided to limit moth trapping to the results of a single lamp set up over a white sheet. For a species count, all the participants had to see it; this was especially important during the day for moths and butterflies flying some distance away.

Moth trapping started at midnight. There was a strong temptation to cheat by running the light before midnight, switching off the lamp as midnight approached and then starting again by counting all those moths still on the sheet at 12 o'clock. Reluctantly, we decided against this. In 1987, we started on 11th July on Portwrinkle Beach. With 34 species recorded after ten minutes, we sped off to Lydcott Wood in the Seaton Valley. Counting only new species, our count was up to 55 by 1.45am, including *Prays fraxinella* (the Ash Bud Moth). Despite cold weather, we moved to the Looe Valley, recording another 15 species, then on to Bodmin Moor which unfortunately was shrouded in thick mist. The only moth that came to light there was the Bright-line Brown-eye (*Lacanobia oleracea*). By this time only five of us (the maddest ones) were left. On to a nearby wood where we added six new species, including a Peppered Moth (*Biston betularia*) flying after the dawn chorus at 5.15am.

At 5.30 we took a break for sleep, meeting at 10.30 looking for Chimney Sweeper (*Odezia atrata*) and other day-flying species on St. Cleer Down. Then onto Bodmin Moor for just two species including the Silver Hook (*Eustrotia uncula*), followed by a trip to the iron-age hillfort at Cadsonbury where we recorded Four-dotted Footman (*Cybosia mesomella*), disturbed from the heather, then to Luckett Nature Reserve for the Heath Fritillary (*Mellicta athalia*). A break for tea followed, and we started again at 9.30pm, looking for dusking Geometers and running a lamp until 11.30 before dashing to the final pre-arranged site for the last 20 minutes lamping and three new species. For all this hard work our total was only 115 moths and 15 butterflies.

The next year we ran the mothathon on 14th May, trying for different species. Due mainly to the unseasonably cold weather, we recorded only 84 species. The highlight was probably the reaction of campers to our small party (five strong) when we set up the lamp at 2.30am just by their tent in a small clearing. Not only did we wake them up, but the police (attracted by our light) turned up and moved them on.

We have made no more attempts to improve our record. A team working the whole of Cornwall including dune habitats, cliffs, reed-beds and woods should be able to beat these totals easily, as could someone working in habitats with greater biodiversity, *eg* the New Forest. In fact, the total of 130 only just beats my species total for a single night's trapping in Cornwall.–ADRIAN SPALDING, Tremayne Farm Cottage, Praze-an-Beeble, Camborne, Cornwall TR14 9PH.

A PITFALL TRAP FOR REPETITIVE SAMPLING OF HYPOGEAN ARTHROPOD FAUNAS

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PITFALL TRAPS set at ground level are widely used in sampling surface arthropod faunas. Some arthropods, however, including several British beetles spend some of their lives beneath the surface of the soil. Some of these can be found in decaying vegetable material in the soil such as old seed potatoes, as was pointed out sometime ago by Wood (1886). Not all of them, however, can be found in this material and, anyway, their presence in such situations is not readily amenable to quantitative studies.

Recently, Thompson (1995) has described the capture in the London area of two specimens of the hypogean weevil *Raymondionymus marqueti* (Aubé) using a pitfall technique described by Kuschel (1991). This involved leaving an opened jar below ground for up to ten months. The method, however, requires a somewhat complicated procedure every time the trap is emptied and is not really suitable for repeated sampling. This note describes a type of pitfall trap designed to provide repetitive sampling of soil arthropods to a depth of at least 0.5 metres. If desired, the contents of the trap can be examined on a daily basis.

Construction of the trap

In brief, the trap is a hollow cylinder with mesh walls, set vertically into the soil. At the bottom of the cylinder is an open-topped, removable container (see photograph) which traps beetles and other arthropods which have made their way from the surrounding soil through the mesh walls and fallen down. The mesh allows them to gain access to the trap while preventing soil surrounding the trap from falling into the container.

The major items used in making the trap are:

1. A short piece of rigid plastic pipe, diameter 7-10cm, as used for domestic rain-water down pipes, obtainable from builders' suppliers and DIY stores.
2. A piece of strong plastic netting. The material used by the author was monofilament nylon net (cloth no. N2000\53) obtained (some time ago) from Begg, Cousland & Co. Ltd, 636 Springfield Road, Glasgow G40 3HS. This netting is woven from nylon thread diameter 0.75mm and has a mesh count of 3.6 per cm, giving an open area 53%.
3. A screw-cap, polythene bottle, with a capacity of 200-300 ml and with a diameter just less than the internal diameter of the rigid pipe, obtainable from camping or domestic hardware stores.

The cylindrical part of the trap is in two sections joined together – a long upper section made from the plastic netting and a short lower section comprising a piece of the rigid pipe cut to be 3-4cm longer than the height of

the bottle. The plastic netting is cut into a rectangular strip of length equal to the depth to which sampling is required and of width about 20% more than the circumference of the rigid pipe. The netting is rolled into a cylinder somewhat wider than the diameter of the bottle and wound round with two or three bands of self-adhesive PVC tape to maintain the cylindrical shape. The lower 2cm of the netting is fitted over the upper end of the rigid pipe (see photograph). The junction is sealed by a band of "Blue-tack" adhesive wound round the rim of the pipe before the netting is slipped over its end and the junction securely bound with self-adhesive tape.

The polythene bottle forms the container in which beetles and other arthropods are trapped. Openings are made in the shoulder of the bottle by making three vertical cuts with a hacksaw or sharp knife just clearing the neck of the bottle (see photograph) and three horizontal cuts just below the shoulder of the bottle. Care must be taken in making these cuts to leave three bands of polythene at least 1cm wide between the neck of the bottle and its walls so as not to weaken it unduly. In operation, the bottle must fit into the pipe in such a way that small creatures falling on to it cannot escape downwards between the outside of the bottle and the internal wall of the pipe. To achieve this, PVC tape is wound round the bottle in a band immediately below its shoulder until the bottle just slides into the pipe.

In the operation of the trap, the bottle is lowered into the device, or withdrawn from it, by means of a loading rod. This consists of a piece of wooden dowelling, 2-3cm in diameter, to one end of which the cap of the bottle is attached by a screw passing through a hole bored in the centre of the cap. The cap is attached with its outside next to the rod so that the bottle can temporarily be attached to the loading rod by applying the cap to the bottle and turning the rod clockwise. Before the trap is set into the soil, the bottle attached to the rod is inserted into the trap and a mark made on the rod corresponding to top of the mesh cylinder. This serves to indicate how far the bottle must be inserted when the trap is in operation in the ground.

Operation of the trap

To set up the trap, a vertical hole, wide enough to take the trap, is dug with a hand trowel in the selected spot. When the chosen depth has been reached (the upper edge of the netting should be just below the level of the surrounding soil), the cylinder is inserted into the hole and the soil packed tightly round the outside of the rigid pipe with a piece of wood such as the free end of the loading rod. The space between the outside of the netting cylinder and the sides of the hole is then carefully filled up with some of the soil removed in making the hole, packing the soil as far as possible to its normal consistency. The bottle with preservative is then attached to the loading rod and lowered into the device. When it is in position within the rigid tube, the loading rod is turned anti-clockwise until the cap is free and the loading rod withdrawn. A jam-jar lid is then placed over the top of the netting cylinder and a paving stone slab placed over the whole for protection.

The photograph shows the region of the trap at the junction of the netting and the rigid pipe. A piece of the netting has been cut away to show how the collecting bottle sits neatly in the rigid pipe at the bottom of the trap.

To examine the contents of the trap, the loading rod is inserted after the cover has been removed. The rod is twisted clockwise to attach the cap to the bottle and the latter then withdrawn. Small amounts of soil falling down during removal or replacement of the bottle are accommodated at the bottom of the rigid pipe which is a few centimetres longer than the height of the bottle.

If the trap is to remain in place for more than a few days, the bottle must contain some preservative. Thompson (1995) used a mixture of sherry and vinegar which probably acted as an attractant as well as a preservative. Clearly there are many other possibilities to be investigated.

Results and discussion

Capture of the following beetles trapped over a few weeks by two prototype traps set in the author's garden and loaded with a sherry-vinegar mixture illustrates the sampling potential of the device:

Kissister minimus (Aubé) – 1 ex.
Ptenidium laevigatum Erichson – 7 exx.
Parabathyscia wollastoni (Janson, E.W.) – 1 ex.
Langelandia anophthalma (Aubé) – 10 exx.
Raymondionymus marqueti (Aubé) – 3 exx.

The ability of the trap to capture small creatures is shown by the presence in the catch of *P. laevigatum,* a minute beetle about 0.4mm high by about 0.5mm wide.

It will be obvious that the trap as described will be open to soil inhabitants living at all levels from the soil surface down to the lower edge of the netting. If it is desired to exclude creatures living above a certain level, the device can easily be modified by winding a spiral of PVC insulating tape around the netting from the top down to the critical level.

Acknowledgement

I thank Mr Richard Thompson for confirming my provisional diagnosis of *R. marqueti,* for telling me about his own searches for this beetle and for helpful discussion on the significance of this species in the London area.

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THE LARGER MOTHS OF DAWLISH WARREN, DEVON

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Introduction

DAWLISH WARREN, in the county of Devon, is an unusual double sand spit, about 1.5 miles long forming part of the estuary of the river Exe. It is the largest sand dune system in Devon. The spit and surrounding area are of great importance to wildlife both vertebrate and invertebrate being an internationally important site for wading birds and wildfowl. The site contains a Local Nature Reserve and most of Dawlish Warren and the intertidal surrounds are designated a Site of Special Scientific Interest (SSSI), forming part of the Exe Estuary's Special Protection Area and RAMSAR wetland of international importance.

A sketch map of the area is shown in figure 1.

The habitat is varied and includes sandy beach, mobile dune, fixed dune with grass and heathland, scrub, damp meadow, reedbed, freshwater ponds, saltmarsh, mudflat, stony and waste ground.

According to a recent survey (de Lemos, 1992) there are 350 species of flowering plant, of which three are rare, 29 scarce and 87 notable in Devon. 250 species of fungi have been found of which ten are rare or restricted, two were new to Britain, and five new to science! Thirty-six species of mosses and liverworts have been recorded.

There are good stands of sallow and alder with birch and a few isolated oaks – including pedunculate, turkey and holm oaks. Isolated specimens of ash and sycamore can be found, but elm and beech are absent. A few conifers are present.

There is a good growth of the Ericacea on the golf course with some small encroachment onto the main dune.

The survey

Despite its importance and attractiveness as an entomological habitat there has been no systematic attempt to record the lepidopterous fauna of the Warren. Isolated records can be found in the literature. The Dawlish Warren Nature Reserve maintains a card index of reported species, which includes moths.

Status of records

When regular light trapping commenced at the Warren, it was hoped to amalgamate all records to form a definitive list. Scrutiny of the historic records revealed the presence of a considerable number of highly improbable species, and it was felt that these could not be uncritically incorporated into a list. It was therefore decided to split the list into three sections:

- species recorded and personally confirmed by the author;
- species which have been recorded and are likely to occur, but which have not been personally confirmed by the author;
- species for which records exist, but whose occurrence is highly improbable.

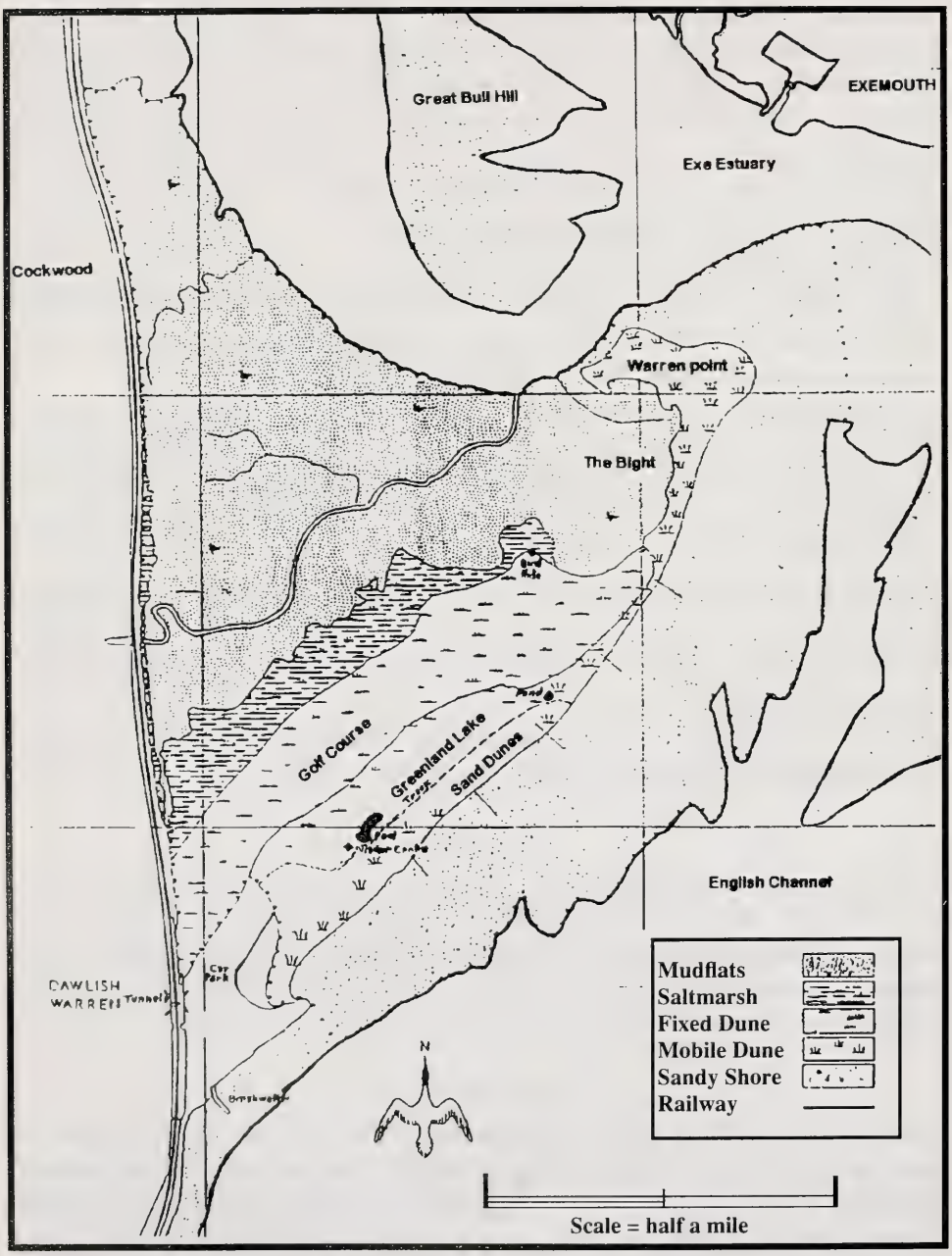

Figure 1. The Dawlish Warren Nature Reserve, Devon. SX 9879

For each species listed a brief note of its distribution and abundance within the British Isles is given. There is insufficient data to comment of the abundance of most species with the Warren itself. Larval foodplants are included for interest. These are taken from the national literature and do not necessarily reflect the natural foodplant within the Warren.

Acknowledgements

My thanks to Keri Walsh, warden of the Dawlish Warren Nature Reserve for her help and support, my wife Mavis for her help, and Bernard Skinner and Paul Sokoloff for their general help and advice.

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PART 1

Records from Dawlish Warren based upon confirmed sightings in the period from 1982-1995.

HEPIALIDAE

0017 *Hepialus lupulinus* Linn. Common swift

Common resident; larva feeds on roots of grasses and other plants.

COSSIDAE

0161 *Zeuzera pyrina* Linn. Leopard

A widespread species in England as far north as Yorkshire; two records for the Warren. The larva feeds internally over a number of years in a range of trees such as Apple and Pear.

ZYGAENIDAE

0169 *Zygaena filipendulae* ssp. *anglicola* Trem. Six Spot Burnet
Common resident; larva feeds on Birds-foot Trefoil.

0170 *Z. trifolii* ssp. *decreta* Verity. Five spot burnet.
A widespread and often common species in south-west England; larva feed on *Lotus uliginosus*.

SESIIDAE

0371 *Sesia bembiciformis* Hb. Lunar Hornet Clearwing
Widespread but locally common throughout the British Isles; larva feeds internally in Sallow; old exit holes were found by Dr B. Henwood in 1992.

PYRALIDAE

1293 *Chrysoteuchia culmella* Linn.
Common resident, larva feeds on culms of various grasses forming silken galleries.

1294 *Crambus pascuella* Linn.
A common resident throughout the country; the early stages are apparently undescribed.

1302 *C. perlella* Scop.
Common resident and migrant; larva feeds on bases of stems of grasses from a silken tube.

1304 *Agriphila straminella* D. & S.
Common resident; larva feeds on grasses especially Sheep's Fescue.

1305 *A. tristella* D. & S.
Common resident especially where tall grasses abound; larva feeds on bases of grass stems.

1306 *A. inquinatella* D. & S.
Common resident; larva feeds on roots and bases of smaller grasses, especially Sheep's Fescue.

1307 *A. latistria* Haw.
Local but fairly common where it occurs; small numbers seen on the Warren; larva feeds on roots of grasses especially *Bromus* ssp.

1309 *A. geniculea* Haw.
Common resident; larva feeds on grasses.

1313 *Catoptria pinella* Linn.
Widespread but local resident; larva feeds in dense tufts of Cotton Grass, Tufted-hair Grass and other grasses.

1323 *Pediasia contaminella* Hb.
Recorded from Devon (*Ent. Rec.* **106**: 14) and formerly by T. Dobson 25.7.1990 and 17.7.1991. Local on dry grassland; larva feeds on Sheep's-fescue Grass and other grasses. Noted in some numbers and probably breeding on the Warren.

1329 *Schoenobius forficella* Thunb.
Locally fairly common resident; larva feeds on Common Reed, Sweet-grass and sedges.

1332 *Scoparia subfusca* Haw.
Common throughout the British Isles; larva feeds on roots of Ox-tongue and Colts-foot.

1336 *Eudonia pallida* Curt.
Widespread resident, sometimes common as on the Warren; larva unknown; supposed to feed on mosses and lichens.

1338 *Dipleurina lacustrata* Panzer
Common resident; larva feeds on mosses attached to stone walls and tree trunks.

1344 *E. mercurella* Linn.
Common resident; larva feeds on mosses in most situations.

1350 *Parapoynx stagnata* Don. Beautiful China-mark
Common near water; larva, aquatic, feeds on Reeds, Water Lilies and other plants.

1356 *Evergestis forficalis* Linn. Garden Pebble
Common resident; larva feeds on Cruciferae and can be a pest.

1375 *Ostrinia nubilalis* Hb. European Corn-boxer
Formerly a very rare immigrant but now firmly established but mainly in the south-east; the species is to be found in Hampshire and now Devon.

1376 *Eurrhypara hortulata* Linn. small Magpie
Common resident; larva feeds on Common Nettle and other plants.

1378 *E. coronata* Hufn.
Common resident; larva feeds on Elder.

1385 *Ebulea crocealis* Hb.
Widespread and locally common; larva feeds on Fleabane in marshy areas.

1390 *Udea prunalis* D. & S.
Common resident; larva feeds on a variety of foodplants including bramble, Elder, Nettle, Dogs Mercury, Deadnettle and several others.

1395 *U. ferrugalis* Hb.
A migrant species which probably breeds during the warmer months; larva feeds on a wide variety of low growing plants.

1397 *Mecyna asinalis* Hb.
Resident, mainly associated with the west of the British Isles; larva feeds on Wild Madder.

1398 *Nomophila noctuella* D. & S. Rush Veneer
A migrant species which probably breeds during the warmer months; larva feeds on Clover and Knotgrass.

1405 *Pleuroptya ruralis* Scop. Mother of Pearl
Common resident; larva feeds on Common Nettle.

1413 *Hypsopygia costalis* Fabr. Gold Triangle
Locally common resident; larva feeds on stored clover and hay, and in Squirrels dreys and probably thatch.

1414 *Synaphe punctalis* Fabr.
Common resident; larva feeds on terrestrial mosses.

1424 *Endotricha flammealis* D. & S.
Common resident; larva feeds on Greater Birds-foot Trefoil and several species of deciduous trees and shrubs.

1428 *Aphomia sociella* Linn. Bee Moth
Common resident; larva feeds on cells of wasps and bees (usually *Bombus* sp.) nests and occasionally on detritus.

1432 *Anerastia lotella* Hb.
A.H. Dobson, 26.6.1961. *Devon Association Ent. Section* 14th report; larva feeds amongst rootstock of grasses such as Sheep's Fescue and Marram. Recorded recently in July 1994 and on 24.6.1995.

1469 *Numonia advenella* Zinck.
Locally common but few seen on the Warren; larva feeds on Hawthorn and Rowan.

1443 *Pempelia genistella* Dup.
Very local on south coast localities and probably breeding on the Warren; larva feeds on Gorse.

1452 *Phycita roborella* D. & S.
Locally common in Oakwoods but often found in other habitat; larva feeds on Oak, Pear and Crab Apple.

1458 *Myelois cribella* Hb. Thistle Ermine
Locally common resident; larva feeds on thistle.

1484 *Phycitodes saxicola* Vaugh.
Widespread on the coast; several seen on the Warren; larva feeds on flowers of Compositae.

PTEROPHORIDAE

1495 *Marasmarcha lunaedactyla* Haw.
Common resident; larva feeds on Rest-harrow.

1524 *Emmelina monodactyla* Linn.
Common resident; larva feeds on Lesser Bindweed.

HESPERIIDAE

1526 *Thymelicus sylvestris* Poda. Small Skipper
Common resident; larva feeds on grasses.

1531 *Ochlodes venata* Brem, & Grey, Large Skipper
Common resident, larva feeds on grasses.

PIERIDAE

1545 *Colias croceus* Geoffr. Clouded Yellow
A migrant species seen in most years in southern England and

beyond, breeding when conditions permit; larva feeds on Clovers and Trefoils but cannot survive the winter.

1546 *Gonepteryx rhamni* Linn. The Brimstone
Identified by Mr & Mrs Normand in August 1986; larva feeds on Buckthorn and Alder Buckthorn and is usually a common species where its foodplant occurs.

1549 *Pieris brassicae* Linn. Large White
Common resident and migrant; larva feeds on *Brassicae* ssp.

1550 *P. rapae* Linn. Small White
Common resident; larva feeds on *Brassicae* ssp. and *Nasturtium.*

1551 *P. napi* Linn. Green-veined White
Common resident; larva feeds on *Cruciferae* ssp. and other plants.

1553 *Anthocharis cardamines* Linn. Orange Tip
Common resident; larva feeds on Hedge Mustard and *Cruciferae* ssp.

LYCAENIDAE

1555 *Callophrys rubi* Linn. Green Hairstreak
Recorded in *Devon Butterflies* and seen by Mr Normand in 1990; in the main the butterfly is generally distributed; larva feeds on a wide variety of plants including Gorse, Broom and Birds-foot Trefoil.

1561 *Lycaena phlaeas* Linn. Small Copper
Common resident; larva feeds on Docks and Sorrels.

1571 *Plebejus argus* ssp. *argus* Linn. Silver-studded Blue
Specimen captured by W.A. Eley on 29.8.81 and now in the collection of Clifton Park Museum, Rotherham; larva feeds on Sheep's-fescue Grass.

1574 *Polyommatus icarus* ssp. *icarus* Rott. Common Blue
Common resident;larva feeds on Birds-foot Trefoil.

1580 *Celastrina argiolus* Linn. Holly Blue
A widespread species that has been found in many areas in Devon; recorded by Mr Normand in 1992; larva feeds on Holly and Ivy.

NYMPHALIDAE

1590 *Vanessa atalanta* Linn. Red Admiral
An annual and usually common migrant that breeds here in the spring and summer months; it probably overwinters as an adult. Larva feeds on Nettle and Pelitory.

1591 *Cynthia cardui* Linn. Painted Lady
A common migrant species which breeds when conditions permit; larva feeds on Thistles and other plants. Imago is not known to hibernate here.

1593 *Aglais urticae* Linn. Small Tortoiseshell
Common resident; larva feeds on Common Nettle.

1596 *Nymphalis antiopa* Linn. Camberwell Beauty
An uncommon migrant species; recorded by Mr Normand on 26.7.82.

1597 *Inachis io* Linn. The Peacock
Common resident; larva feeds on Nettle.

1598 *Polygonia c-album* Linn. The Comma
Widespread and relatively common throughout Devon and other counties; larva feeds on Nettle, Hop and Elm.

SATYRIDAE

1614 *Pararge aegaria* Linn. Speckled Wood
Common resident; larva feeds on grasses.

1615 *Lasiommata megera* Linn. Wall Brown
Uncommon resident; with a few recorded on the Warren; larva feeds on grasses.

1620 *Melanargia galathea* Linn. Marbled White
Recorded in *Devon Butterflies* and seen by Mr Normand in 1992, on the grassy area near the bird hide; larva feeds on grasses.

1625 *Pyrona tithonus* Linn. The Gatekeeper
Common resident; larva feeds on grasses.

1626 *Maniola jurtina* ssp. *insularis* Thompson. Meadow Brown
Common resident; larva feeds on grasses.

1634 *Malacosoma neustria* Linn. Lackey
Common resident; larva feeds on a wide variety of trees and shrubs.

LASIOCAMPIDAE

1637 *Lasiocampa quercus* ssp. *quercus* Linn. Oak Eggar
Locally widespread resident; larva feeds on a wide variety of trees and shrubs including Bramble and Sallow.

1640 *Philudoria potatoria* Linn. Drinker
Common resident; larva feeds on various grasses and reeds.

DREPANIDAE

1645 *Falcaria lacertinaria* Linn. Scalloped Hook Tip
Widely distributed and moderately common over much of the British Isles; larva feeds on Birch.

1646 *Drepana binaria* Hufn. Oak Hook Tip
Common resident; larva feeds on oak.

1648 *D. falcataria* Linn. Pebble Hook Tip
Common resident; larva feeds on Birch and occasionally Alder.

THYATIRIDAE

1652 *Thyatira batis* Linn. Peach Blossom
Common resident; larva feeds on Bramble.

1653 *Habrosyne pyritoides* Hufn. Buff Arches
Common resident; larva feeds on Bramble.

1654 *Tethea ocularis* ssp. *octogesimea* Hb. Figure Of Eighty
Widespread in southern England and several seen on the Warren; larva feeds on Poplar and Aspen.

1657 *Ochropacha duplaris* Linn. Common Lutestring
Widely distributed with a few seen on the Warren; larva feeds on Birch, Oak and Alder.

A RECORD OF *HERMEUPTYCHIA CUCULLINA* (WEYMER) FROM BRAZIL INCLUDING SOME REMARKS ON OTHER HERMEUPTYCHIAN TAXA (LEP.: SATYRIDAE)

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THE NEOTROPICAL BUTTERFLY genus *Hermeuptychia* (Satyridae: Euptychiini Miller) was erected by Forster (1964) in the course of a remarkable – and up to now sole – attempt to bring about some order into the confusingly vast genus *Euptychia* Hübner that so far comprised over 200 described species. The type of *H. cucullina* (Weymer) (1911: plate 48C, Fig. 2) was described from specimens taken in Columbia, and other samples have so far only been known from the Bolivian Yungas (Forster 1964: plate 30, Figs. 8, 9).

On the 26.x.1993, the author of the present note encountered *H. cucullina* in the rain forest by Foz do Iguacu, state of Parana, Brazil. This site lies in the close vicinity of the Iguacu Falls that represent the Brazilian border with Paraguay and Argentina. It may be assumed that the species does not care about political frontiers, so that Paraguay and Argentina may formally be regarded to be inhabited by the species. The true ecological distribution range of *H. cucullina* cannot yet be even estimated, since it can be easily mistaken for other hermeuptychian species: D'Abrera (1988: p. 777), *e.g.* mistakenly figures *H. gisella* (Hayward) (1957: Fig. 2) as "*H. cucullina*". In the same work, true *H. cucullina* is figured as "*H. hermes hermesina*" Staudinger i. I. (D'Abrera 1988: p. 777). D'Abrera argues that "*H. h. hermesina*" might only be a seasonal form of "*H. cucullina*". Indeed, true *H. h. hermesina* resembles *H. gisella* to some extent and therewith D'Abrera's "*H. cucullina*". *H. cucullina,* however, does not exhibit seasonal forms (Forster 1964). If D'Abrera had known *H. gisella,* the mentioned confusion probably would have never arisen. True *H. h. hermesina* from the Bolivian Yungas is given with the central figure of *H. hermes* in D'Abrera's work. The right hand *H. hermes* individual on the same plate resembles a form having been recorded from the Bolivian lowlands by Forster (1964: p. 90), that had in the meantime been described and figured from Brazilian Mato Grosso do Sul (*H. hermes isabella* Anken 1994: Fig. 3). This example clearly demonstrates, how easily the hermeuptychian taxa mentioned can be mistaken for others.

Since – as a matter of fact – only the correct identification of a given butterfly may shed some light on its ecology and distribution, *H. cucullina* is once more figured in the given paper in order to help avoiding further inconsistencies and misinterpretations. Additionally, an identification key of the mentioned hermeuptychian taxa including similar *H. fallax* (Felder) (1862: plate 30, Fig. 7, 10), *H. helena* Anken (1994: Fig. 1) and *H. fallax marinha* Anken (1994: Fig. 5), based on wing markings, is tentatively provided. It is strongly recommended, that the key mentioned may only be

used as a rough guide. A secure identification is only possible by combining features of outer appearance and such of the male genital apparatus (therefore comp. Forster 1964 and Anken 1994).

Key to extremely similar specific and subspecific taxa of the genus *Hermeuptychia* as mentioned in the text:

Note: The given characters of presumably diagnostic importance only cover outer appearance. While evaluating the key, the reader should bear in mind that worn specimens tend to fade and therefore may not be readily identified without examination of the male genital apparatus.

Key to similar species:

1: 4 to 5 distinct ocelli on the forewing verso and 6 ocelli on the hindwing verso clearly exhibited ("4-5 and 6" – pattern), two of them (on veins 6 and 2 on the hindwing verso) considerably pronounced in comparison to the others 2
1': less ocelli 3

2: verso discal and postdiscal brown bands more or less straight: ..... *H. gisella*
2': verso bands considerably crooked: *H. hermes*
3: verso discal and postdiscal brown bands straight: ..... *H. helena*
3': bands crooked 4

4: postdiscal band extremely wavy and pattern of ocelli alike 0-1/3-4: ..... *H. fallax*
4': postdiscal band more straight; pattern alike 0/3: ..... *H. cucullina*

Key to similar subspecies:

H. hermes:

1: All ocelli of approximately the same size: ..... *H. h. isabella*
1': the ocellus on vein 7 on the forewing verso and the ocelli on veins 6, 2 and 1c on the hindwing verso somewhat pronounced 2

2: verso surface light brown, ocelli on veins 5 and 4 on the forewing verso reduced: ..... *H. h. hermesina*
2': All ocelli clear, exhibiting a dark centre including a light nucleolus; overall verso surface dark brown: ..... *H. h. hermes*

H. fallax:

1: Discal and postdiscal bands on the verso surface bowing towards mediad: ..... *H.f. fallax*
1': bands straight: ..... *H.f. marinha*

Fig. 1: A female specimen of *Hermeuptychia cucullina* (Weymer) from Foz do Iguacu, Parana, Brazil (26.x.1993), Upperside.
Fig. 2: As Fig. 1, Underside.

Acknowledgements

I should like to dedicate the content of the given note to Bernard D'Abrera and his masterpiece on Neotropical butterflies. My criticism on his work ought to be seen simply as a partial achievement of D'Abreras intention, which is to provide a foundation for others.

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Cydia lunulana (D.&S.) (Lep.: Tortricidae) new to Shropshire (VC40)

On the afternoon of 24th May 1994 during the Dipterists' Summer Meeting, a small group visited Prees Heath Site of Special Scientific Interest, Shropshire (SJ5536). The weather was cool and overcast and there were few Diptera to be found so my attention was drawn to a small moth disturbed from some bushes; this was later identified as *Cydia lunulana* (D.&S.). Riley (1991) does not list this species for Shropshire and no records are given in Riley & Palmer (1994). The distribution of *C. lunulana* is given in Bradley *et al* (1979) as Herefordshire, Yorkshire, Cumberland, Durham and Northumberland northwards to Sunderland as well as around the coast of North Wales. Emmet (1991) gives the recorded foodplants as *Lathyrus* spp. especially *L. montanus* (Bitter Vetch), *Vicia cracca* (Tufted Vetch) and *Pisum sativum* (Garden Pea). It was noted that vetches were common at Prees Heath especially on the more disturbed areas.

I would like to thank Dr John Langmaid for identifying this specimen.

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PYRALID MOTHS IN PROFILE: PART 2 – *ACROBASIS TUMIDANA* (DENNIS & SCHIFFERMÜLLER)

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ACROBASIS TUMIDANA D. & S. is readily separated from the similar *A. repandana* by the prominent ridge of raised reddish scales near the antemedian line and at the base of the forewing. Although the former may be partially flattened by setting these characters these are normally visible to the naked eye especially in live specimens. Nevertheless numerous specimens of *repandana* have been erroneously identified as the much rarer *tumidana* despite the obvious absence of these raised scale tufts. Accurate recording has been further confused by nomenclature name changes with *repandana* being known formerly as *tumidella*.

Before detailing those records supported by a correctly identified voucher specimen it is best to eliminate those published records of *tumidana* which on investigation have proved to be erroneous.

15.vii.1901, Glanvilles Wootton, Dorset (Dale, 1901).
1920-1957, Aldershot district, Hampshire (Richards, 1957).
7-14.viii.1935, (three) Fritton Lake, Suffolk (Morley, 1937).
3.ix.1962, (two) Buckingham Palace, London (McClintock, 1964).
15.vii.1964, Westonbirt, Gloucestershire (Newton, 1972).
18.viii.1987, Dinton, Wiltshire (Agassiz, 1989).

Authenticated specimens from the last century (Total 13)

From September 1858 it was taken, sometimes commonly, for at least four years, probably longer, in the environs of south-east London near Forest Hill by Messrs Robert McLachlan and Howard Vaughan. (McLachlan, 1861 and Barrett, 1903). Five specimens in the BM(NH) support this occurrence. It should be mentioned here that in the latter reference Barrett gives details of an additional example from Portsmouth, Hampshire, but this was later found to be incorrect (Huggins, 1958).

Other specimens in the collections of BM(NH) are:
17.viii.1873, Darenth (Kent), A.B. Farn.
viii.1875, (four), Darenth (Kent), A.B. Farn.
No date, West Wickham (Kent), Bond, Purdey Coll.
17.vii.1898, (two), Herne (Kent), Purdey Coll.

Authenticated specimens post 1900 (Total 16)

vii.1918, Malvern Link, A. Day, Ford Coll. BM(NH).
1934, Tile Hill Wood, Warwickshire, J.W. Saunt, Coventry Museum.
2.viii.1951, Orlestone Wood, Kent, E.G. Hare.
28.vii.1989, Portland, Dorset, Portland Bird Observatory.
1.viii.1991, Dungeness, Kent, B. Skinner.

27.viii.1991, Greatstone, Kent, R. Turley.
3.ix. 1991, Studland, Dorset, B. Skinner.
1.viii.1992, Greatstone, Kent, B. Banson.
10.viii.1992, Portland, Dorset, Portland Bird Observatory.
10.viii.1992, Greatstone, Kent, B. Banson.
17.viii.1992, Dungeness, Kent, D. Walker.
15.viii.1992, (three), Pagham, Sussex, R. McCormick.
14.viii.1993, Pagham, Sussex, B. Skinner.
4.viii.1994, Christchurch, Hampshire, M. Jeffs.
11.viii.1994, Pagham, Sussex, B. Skinner.

An analysis of these records would suggest that *tumidana* was at some time during the last century established in south-east London and north-west Kent. One cannot rule out the possibility that these residents were the result of colonisation by immigrants, but the location makes it more likely that they were relict populations destined to be doomed by habitat destruction. At that time much of Forest Hill and surroundings were dominated by the oak woodland of the Great North Wood and Darenth from its past history must have been an entomological Shangri-la.

The origin of both records from central England taken during the first half of this Century is not easily explained, perhaps they too were the last survivors of relict populations; certainly this Century has seen the demise of other resident species of Pyralid in the Midlands.

On the remaining captures, all post 1950, there is enough evidence to accept most of them as immigrants; only the most recent from Sussex might indicate a possible colonisation.

For the sake of completeness the final list details those published records which because of the absence of voucher specimens cannot be confirmed or disproved.

28.viii.1895, Shoreham, Sussex, A.C. Vine (Goss & Fletcher, 1905).
31.viii.1895, Shoreham, Sussex, A.C. Vine (Goss & Fletcher, 1905).
Pre 1905, Charmandean, Sussex, H.B. Fletcher (Goss & Fletcher, 1905).
Pre 1908, Folkestone, Kent (Goss & Bower, 1908).
7.viii.1904, Studland, Dorset, F.H. Fisher (Richardson, 1913).
18.vii.1936, Henswood, Wiltshire (Anon, 1939).
1952, Tile Hill Wood, Warwickshire, S.E.W. Carlier (Robbins, 1992).
1978, Claret Lodge, Leicestershire, H. Weston-Bird (McPhail, 1993).
The records from Lancashire and Cheshire in (Ellis revised Mansbridge, 1940) are the result of muddled nomenclature, see (Ellis, 1890) and (Day, 1903).

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Scythris picaepennis (Haw.) (Lep.: Scythrididae): extended emergence or possible bivoltinism in South Wiltshire

Between 1986 and 1991 I recorded *Scythris picaepennis* from four separate locations in South Wiltshire (VC8). Records from three of these sites corresponded with the stated imago emergence period, *i.e.* July (Meyrick, 1927; Emmet, 1988 and Emmet, 1991) and mid-June to end of July (Bengtsson, 1984). However at the fourth site, Boscombe Down, the moth was occasionally found to be quite common well beyond the end of July (see list below). It should be borne in mind that these were casual observations and not exhaustive searches.

3rd July 1989 - 1	10th July 1990 – 1
3rd August 1989 – 6	17th July 1990 – 1
10th August 1989 – 30	29th August 1990 – 15
5th September 1989 – 18	5th September 1990 – 1
	13th September 1990 – 1

In northern Europe the Scythrididae are mostly univoltine but a few may be bivoltine; in any case they have a very extended flight period (Bengtsson,

1984). *S. picaepennis* may therefore take advantage of suitable weather and habitat to produce a second brood or, at least, considerably extend its flight period. The location where this phenomenon was noted is a sheltered south-facing disused railway bank where the moths could mostly be found in the flower-heads of *Ranunculus repens* or *Helianthemum nummularium*.

References : Bengtsson, B.A., 1984. *Fauna Entomologica Scandinavica*. Vol. 13; Emmet, A.M., 1988. *A Field Guide to the Smaller British Lepidoptera*; Emmet, A.M., 1991. *The Moths and Butterflies of Great Britain and Ireland*. Vol. 7 (2); Meyrick, E.M., 1927. *Revised Handbook of British Lepidoptera*.

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Hazards of butterfly collecting – Political undercurrents

Before I left Zambia in 1971, I took some local leave for a final visit to my old haunts in Mwinilunga District, in the far north-east. At that time the politics of the district were somewhat confused. The United National Independence Party (UNIP) governed the country, appointed district governors, and maintained a presence wherever possible. It was a one-party State. However, much of Mwinilunga District still staunchly supported the African National Congress (ANC). The latter had an armed wing, which based itself in neighbouring Angola, although at that time most of the arms seemed to consist of bows and arrows.

I made a bee-line for the Isombo Stream, nor far from Kalene Hill Mission, the home of exotic rainforest fauna from Zaire to the north. I camped in my Peugeot 707 stationwagon not far from the village which controlled the area, and which of course supported UNIP. However, I then found I had camped right beside a track used by the armed wing of the ANC to infiltrate back into Zambia. They greeted me in a secretive manner and went on their way.

During the course of the day's collecting I had acquired a thorn in my foot and I went to the nearby stream to wash and try to remove it. Two large gentlemen smartly dressed in green uniforms appeared and proudly announced themselves as members of the Angolan Army, on a friendly cross border visit. They volunteered, could they help me remove the thorn?

Which all goes to show that Christian charity and even tolerance of political disagreement can survive in disturbed times, and that foreigners who maintain a neutral stance do not need to feel alarmed or even out of place.

On another occasion, during a weekend on an official tour, I was, all by myself, collecting dragonflies for Elliot Pinhey at a roadside pond on the Zambia-Malawi border. A smart looking local politician on a bicycle appeared and wanted to know who I was? I said I was an economist from Lusaka. "A communist", he said, "my word, I have never met one of them before". I am still not sure I convinced him that the two words are not synonymous!

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OBSERVATIONS ON THE BEHAVIOUR OF THE PANOPTES BLUE BUTTERFLY, *PSEUDOPHILOTES PANOPTES* (HÜBNER) (LEP.: LYCAENIDAE)

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CONTINUOUS OBSERVATIONS on the behaviour of an individual Panoptes Blue butterfly, *Pseudophilotes panoptes,* were noted over a period of four hours, to see if this species showed thermoregulatory behaviour characteristic of small butterflies as described by Heinrich (1993). The time spent in various thermoregulatory activities was recorded, along with details of territorial and feeding behaviour. The fieldwork was carried out in March 1994 on a disturbed habitat near Malaga, in southern Spain.

Butterflies need to elevate their thoracic temperature in order to fly. They do this by basking. Basking posture varies with family and in the Lycaenidae lateral basking, in which the wings are closed dorsally and tilted sideways to present the underside of the wings at right angles to the sun, is common. Blues of the genus *Everes* and *Glaucopsyche* bask with wings partially open to the sun (Heinrich 1993). It has been suggested that in this posture the wings act as reflectance panels that focus heat onto the body (Kingsolver 1985a,b), but Heinrich (1990) has shown that the wings in fact act as convection baffles to retard cooling. Small-bodied butterflies have only a limited flight range of a few seconds because they cool rapidly by convection. The range per flight is temperature dependent; individuals bask for longer and make shorter flights at low ambient temperatures (Ta) (Heinrich 1993).

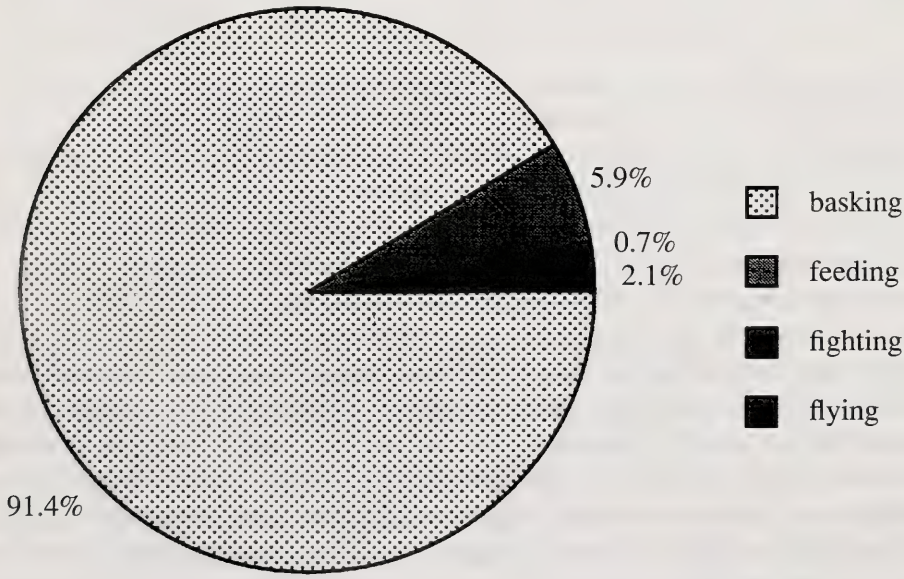
The Panoptes Blue spent 91.4% of its time basking on low plants about 5cm above the ground, more frequently with fully opened wings, than with partially opened wings (Figure 1). The butterfly orientated itself with its thorax facing the sun, maximising the interception of solar radiation. Often a complete circle was turned after landing before the most favourable position was found. Some lateral basking behaviour was also observed. When the sun temporarily disappeared behind clouds, or there was a sudden gust of wind, the wings of the Panoptes Blue were closed to a greater degree which may have further decreased convective cooling. In strong gusts of wind the wings were completely closed, with the forewings drawn up between the hindwings, thus decreasing the surface area exposed and perhaps minimising heat loss. This posture may also have made the butterfly less susceptible to being blown away. Complete closure of the wings also occurred in extremely hot conditions and this may have prevented overheating. Taking to flight may achieve the same result by causing heat loss (dependent on Ta).

The Panoptes Blue is a small butterfly and flies in a fluttering manner for only a short period of time (2.1% of total time observed) (Figure 1) before landing to bask.

Aggressive behaviour was observed in the Panoptes Blue (0.7% of total time observed) (Figure 1). The individual studied remained in the same area (approximately $1m^2$) of open ground for the duration of the four hour period. That area can be called a territory for the purpose of this study. When a second butterfly of the same species entered that territory a particular sequence of behaviour was observed. First the two butterflies flew straight upwards together in close proximity, appearing to be in physical contact at times. Then they separated before spiralling downwards and flying upwards together again. Each of these interactions lasted several seconds and was followed by a brief rest period of basking before the sequence started again. The intruder was eventually chased away every time; in one case it had to be chased several metres away before it gave up. Interspecific aggressive behaviour was also observed. The Panoptes Blue was seen to chase a Spanish Festoon, *Zerynthia rumina* L., much larger than itself, out of its territory.

The Panoptes Blue was observed feeding several times, mainly on *Euphorbia* species within the territory (5.9% of total time observed) (Figure 1). The purpose of the aggressive behaviour may have been a defence of foodplants. No female Panoptes Blues were seen during the study, but the behaviour could have evolved in relation to courtship. When feeding the butterfly did not always adopt a basking posture orientated with respect to the sun; sometimes it did not adopt a basking posture at all. This is consistent with the results of Pivnick and McNeil (1987) who found that when thoracic

Figure 1. Proportional allocation of time by the Panoptes Blue butterfly, *Pseudophilotes panoptes*, over a four hour period.



Note: it was not always possible to distinguish between basking and resting.

temperature (and thus Ta) was high enough, adult Essex Skippers, *Thymelicus lineola* Ochsenheimer, were able to feed with their wings closed.

These observations on the behaviour of the Panoptes Blue butterfly, *Pseudophilotes panoptes* reveal thermoregulatory behaviour consistent with that proposed by Heinrich (1993) for small butterfly species. Since so little is known about the behaviour of this continental species, this may be the first documented record showing that the behaviour of the Panoptes Blue includes components characteristic of thermoregulation in many small-bodied butterflies.

Acknowledgements

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An Autumnal Broad-bordered Bee Hawk, *Hemaris fuciformis* L. (Lep.: Sphingidae), in an Essex Garden

In the course of correspondence Dr R.R. Uhthoff-Kaufmann recently informed me of his sighting of a Bee hawk moth in his front garden in Old Harlow, Essex, on 29th September 1994. This may, perhaps, be of interest in connection with the note by G.M. Haggett (*antea*: 24) reporting the species in good numbers in recent years in the Norfolk/Suffolk breckland, including its appearance for about the first time in gardens and one, exceptionally, in October last. At about 10.30am in sunshine the moth arrived "from nowhere" and fed for at least a minute at flowers of variegated "busy lizzies" (*Impatiens* sp.) in a tub. The hindwings appeared to have large "eye-spots" – applicable to *H. fuciformis* only. Dr Kaufmann adds that there was at the time a local newspaper report of several other residents in the Harlow area having seen Hummingbird Hawkmoths in their gardens, and suggests with reason that some at least of these may have been Bee Hawks. A small (?) autumn brood would have been a likely product of the very hot weather of July 1994.– A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

An update on the Southern Chestnut moth *Agrochola haematidea* Dup. (Lep.: Noctuidae) in Britain

Further searches were made for the Southern Chestnut *Agrochola haematidea* in 1994 but it has still not been found away from the sites on which a strong colony was discovered, for the first time in Britain, in 1990, (*British Wildlife* **3**: 112-114, 307-308, **5**: 53; *Ent. Gaz.* **44**: 183-203, 1993). Not a single individual has been reported amongst the migrant moths which turn up at our coasts and elsewhere. The moth was seen again in numbers in 1994 at its single site but there is some concern at the numbers of lepidopterists visiting simply to obtain specimens. Collectively, it appears that well over a hundred moths were removed from the site in 1994, probably more, and larvae were also collected.

So far the moth has sustained the collecting which has taken place, but this is not through any planning or co-operation. The latter would enable the efforts of visiting lepidopterists to be directed at improving our knowledge of moth and its distribution on the site and enable a check on numbers seen and numbers removed. Visits could be spread over the season and over the years to ensure the population is monitored rather than over-collected. The population appears to be strong at present but a continuation of unco-ordinated visits and removal of specimens at recent levels, as more collectors learn of the confidential locality, could lead to a ban on collecting this species, which would be unfortunate for all concerned.

This happened, for not dissimilar reasons, with the Sussex Emerald *Thalera fimbrialis* which was added in 1992 to the list of moths protected by the *Wildlife and Countryside Act 1981* (*Brit. Wild.* **4**: 322). The latter was seen in good numbers again in 1994 at its single site. Other species which may await discovery in Britain may prove less able to withstand similar bouts of collecting. Colin Pratt, county moth recorder for Sussex has offered to co-ordinate visits for the Southern Chestnut and to be a link with the local English Nature office who advise the landowners. His aim will be to maintain a record of the numbers seen and taken and to direct recording to maximise usefulness, to ensure that the moth becomes better understood and is not over-exploited. He can be contacted at 5 View Road, Peacehaven, Newhaven, East Sussex, Tel: 01273 586780. He will not be giving away details of the site however.

For those unfamiliar with moth collecting issues, it must be emphasised that it is the amateur collectors and recorders of moths that provide virtually all the information on the status of moths in Britain and who discover the new species such as the Southern Chestnut. The aim here is to develop a situation where the discoverers of exciting new species can feel confident about announcing their results without fear that, on the one hand, a swarm of collectors will descend on the site the following season, and on the other, that the moth will automatically end up on the protected list if it is only found on one site.

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Hazards of butterfly collecting – Butterflies witness for Jehovah – Nigeria, March 1995.

I was papering more than 130 different butterflies caught that day in the tiny village of Old Ekuri on the edge of the Oban Hills National Park in eastern Nigeria. It had been an amazing day, not so much in terms of the number of species – 130 in a day is commonplace in the Oban Hills – but in terms of quality. Dozens of skippers and blues that I had not previously seen, at least two new to science.

There are probably few things more scruffy-looking than yours truly papering butterflies and making field notes after a whole day in the forest. But daylight ends at six, work has to be finished before then since electricity is not one of the luxuries with which Old Ekuri is endowed. There are, in fact, no luxuries at all in Old Ekuri.

My scientific work apart, I also carry the brief for popularising the National Park with the communities living near the park, making them understand the importance of conservation. They generally respond well to my findings that of all areas of similar size anywhere in Africa, there are more butterflies in "their" park than anywhere else. Biodiversity writ large!

That afternoon a most amazing apparition bore down upon me. A dapper young gentleman in a black three-piece suit and matching tie. He might have been a London City gent from the 1950s, minus the bowler hat. He was, as it happened, a missionary of the Jehovah's Witnesses, having just walked in from the next village, 20km away. I gave him an overview of the Oban Hills' butterfly situation (at least 950 species), the African one (3,700 species), and the world (18,000 species). He gave my butterflies a good look-over: "I beg to differ" he said, "There are 150,000 species of butterflies". I mumbled something about that having to include moths as well, but he was adamant: "And from where do you have this statistic?". From *Awake,* the Jehovah's Witnesses magazine (average printing 12,900,000, published in 73 languages!).

We left it at that. I had another three splendid days at Old Ekuri. Driving back the next day, we were flagged down in the next village by the missionary. "I am terrible sorry" he said, "I was wrong... you are right". *Awake* had actually stated that there were 15,000 butterfly species, not 150,000. He had inadvertently added a zero. He was deeply contrite. He gave me a copy of the relevant issue.

The article in question gives a fair account of mimicry, a rather less fair account of scientific controversy concerning mimicry, ending – predictably – with a strong creationist message: "You created all things, and because of your will they existed and they were created". – *Revelations* **4**: 11.

My Jehovah's Witness friend and I now roughly agree on the world butterfly community of 15-18,000, though I am not absolutely convinced that God created all of them, retaining a sneaking suspicion that evolution played a rather significant role. I spent much of my childhood in southern

BY *AWAKE!* CORRESPONDENT IN SOUTH AFRICA

These Pretty Butterflies Are Poisonous?

HAVE you ever watched entranced as a butterfly fluttered by? Were you impressed by its beauty, its design, and its colors? As it flits from flower to flower, it seems to tantalize and tease you. You would love to get a closer look, maybe even a photograph, but it never seems to stop long enough on any one bloom—and it is always twitching its wings up and down. But did you know that some of these delightful creatures are believed to be poisonous?

Let us take a look at the two on these pages—the monarch (on the right), with its large black and orange-brown wings, and the viceroy (above), which looks almost identical to the monarch, although it is usually smaller. What makes them poisonous, and what purpose does that serve?

Butterflies, of which there are more than 15,000 species, go through four stages of development to become those delicate winged wonders that we see in our gardens. One of these is the larva, or caterpillar, stage. The monarch caterpillar feeds on the toxic milkweed, and thus, it is claimed that it becomes "a truly toxic butterfly, potentially deadly to any bird that eats one and doesn't vomit it back up," writes Tim Walker in *Science News*. The poison is cardenolide, a heart poison. What about the viceroy butterfly?

Walker states: "For more than a century, the conventional wisdom has held that this winged insect cloaks a very appetizing body behind the colors of a toxic monarch butterfly, *Danaus plexippus*." As you can see from the photos, the two butterflies have a very similar design except for the black inner line on the lower wings of the viceroy. During the last 100 years, evolutionists have believed that the viceroy evolved a wing design similar to that of the poisonous monarch in an effort to avoid attacks from birds that had learned to keep away from this distasteful butterfly. Except for that, it was believed, the viceroy was appetizing to birds.

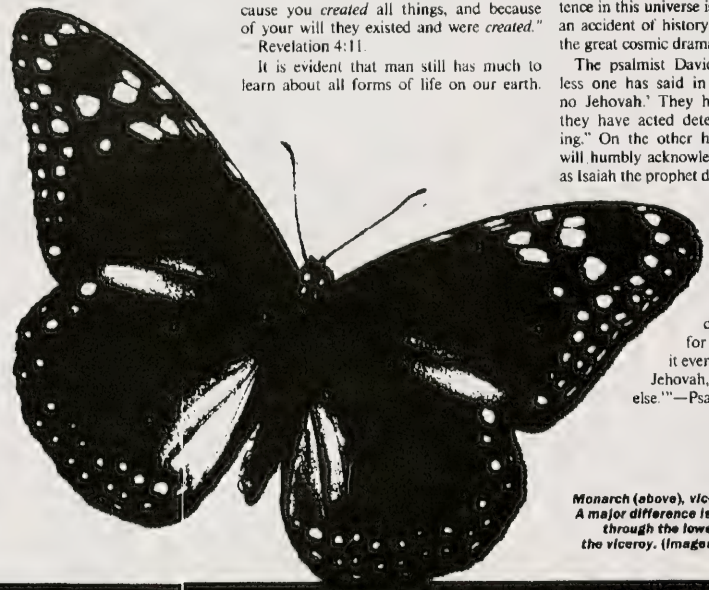
What have investigators recently discovered? Walker writes: "New research indicates, however, that the viceroy has successfully deceived scientists, not birds. . . . Two zoologists have demonstrated that to discerning birds, the viceroy can taste just as foul as the noxious monarch." But why is the viceroy distasteful, especially since its larvae eat nontoxic willows, not toxic plants? Walker writes: "This suggests that viceroy butterflies somehow manufacture their own chemical defense."

In fact, the present state of entomology suggests that the experts still have much to learn and should perhaps be less reliant on their "conventional wisdom." One critic wrote this about a recent book on the monarch butterfly: "This remarkable book shows us that the more we learn about the monarch the less we 'know' with confidence."

Rather, it is as the Bible states: "You are worthy, Jehovah, even our God, to receive the glory and the honor and the power, because you *created* all things, and because of your will they existed and were *created*." Revelation 4:11.

It is evident that man still has much to learn about all forms of life on our earth. One fundamental barrier to accurate knowledge is the refusal of many scientists to accept the existence and the active role of a Creator-Designer. Paul Davies, professor of mathematical physics, wrote in his book *The Mind of God:* "There is no doubt that many scientists are opposed temperamentally to any form of metaphysical . . . arguments. They are scornful of the notion that there might exist a God, or even an impersonal creative principle or ground of being that would underpin reality . . . Personally I do not share their scorn. . . . I cannot believe that our existence in this universe is a mere quirk of fate, an accident of history, an incidental blip in the great cosmic drama."

The psalmist David wrote: "The senseless one has said in his heart: 'There is no Jehovah.' They have acted ruinously, they have acted detestably in their dealing." On the other hand, the wise person will humbly acknowledge the Creator, even as Isaiah the prophet did: "This is what Jehovah has said, the Creator of the heavens, He the true God, the Former of the earth and the Maker of it, He the One who firmly established it, who did not create it simply for nothing, who formed it even to be inhabited: 'I am Jehovah, and there is no one else.'"—Psalm 14:1; Isaiah 45:18.



Monarch (above), viceroy (page 16). A major difference is the black line through the lower wings of the viceroy. (Images not to scale)

The centre-spread of the magazine I was given in the village.

India at a Danish missionary school. Every year, all Danish missionaries in India summered there. When you went butterfly collecting after church on Sunday (having already lost valuable collecting time), you were subject to sudden ambushes from middle-aged gentlemen, clamping a hand on your head and demanding with menaces "Well Torben, how is your relationship with the Lord this morning?". The experience put me off religion, especially of proselytising variety, for life.

But, like it or not, you really have to hand it to the Jehovah's Witnesses. The issue of *Awake* that I saw had a lot of genuine information – such as an accurate resumé of Balkan history since Grand Duke Ferdinand was murdered in Sarajevo. Their 12,900,000 copies end up in parts which no other printed matter reaches. And the gracious apology from my friend on the little matter of butterfly numbers will remain in my memory.– TORBEN B. LARSEN, 358 Coldharbour Lane, London SW9 8PL.

Early migrant moths in Scotland in 1995

Agrotis ipsilon (Hufn.), the Dark Sword Grass moth, is usually recorded as a casual immigrant in Scotland in mid-late summer but one came to light near Kincraig, Strathspey on 6th April 1995; three were present in an m.v. light trap at Sands of Forvie National Nature Reserve, Aberdeenshire on 13th April 1995 and four were present in a similar trap at Oldmeldrum, Aberdeenshire on 14th April 1995. No other known migrant moth species were recorded on the same occasions but some of the first Sand Martins and Wheatears were seen in Aberdeenshire on the 13th and 14th April after a period of unseasonally warm weather and light winds.

Skinner (1984. *Colour Identification Guide to Moths of the British Isles.* Viking, Middlesex) suggests that the species may occasionally survive mild winters in Britain. However, the 1994/95 winter has been of average severity in Scotland and Aberdeenshire is an unlikely location for overwintering migrants! It therefore seems probable that these specimens were primary migrants.– M.R. YOUNG, Culterty Field Station, University of Aberdeen, Newburgh, Ellon, Aberdeenshire AB41 0AA.

[Large numbers of *A. ipsilon* were also recorded at light and on sugar at Loch Rannoch on 8th April 1995, when the hills were still covered with snow. – A.S.]

Early emergence of butterflies and moths in the Isle of Wight during 1995

The winter of 1994-5 was one of the wettest though warmest in recent years. The first half of April was influenced by a large area of high pressure which resulted in warm sunny days causing an early emergence of butterflies and moths in this very forward spring.

The most exceptional record of the winter was that of *Selenia dentaria* (Fabr.) which was taken at Binstead by Brian Warne on 14th January. An

example of *Vanessea atalanta* (L.) was seen at Firestone Copse, Havenstreet on 2nd February which supports further evidence that this species hibernates in this country during mild winters. A specimen of *Cynthia cardui* (L.) was observed at Luccombe Down on 4th February. Two of our commoner migrant moths also appeared during this month namely *Agrotis ipsilon* (Hufn.) on 6th February at Freshwater and *Nomophila noctuella* (D.&S.) on 22nd February at Binstead.

The warm and sunny April caused the exceptionally early emergence of *Pieris napi* (L.) at Whitefield Woods, Ryde and *Callophrys rubi* (L.) in the chalk-pit at Compton Down on 12th April, and *Pyrgus malvae* (L.) on 14th April also at the latter locality. Amongst the moths the most outstanding were *Acronicta psi* (L.) at Ryde, *Aethalura punctulata* (D.&S.) at Whitefield Woods, *Aspitates ochrearia* (Rossi.) on Compton Down on 14th April; *Spilosoma luteum* (Hufn.) at Binstead on 25th April and *Xanthorhoe spadicearia* (D.&S.) at Cranmore on 27th April.

I now give below a list of early emergents taken on the island during 1995.

Date	**Species**	**Locality**
January		
14th	*Selenia dentaria* (Fabr.)	Binstead
February		
2nd	*Vanessa atalanta* (L.)	Firestone Copse
4th	*Cynthia cardui* (L.)	Luccombe Down
8th	*Xylocampa areola* (Esp.)	Cranmore
22nd	*Nomophila noctuella* (D.&S.)	Binstead
April		
8th	*Menophra abruptaria* (Thunb.)	Binstead
12th	*Pheosia gnoma* (Fabr.)	Binstead
	Pieris napi (L.)	Whitefield Woods
	Callophrys rubi (L.)	Compton Down
13th	*Ochropleura plecta* (L.)	Binstead
14th	*Acronicta psi* (L.)	Ryde
	Aethalura punctulata (D.&S.)	Whitefield Woods
	Agrotis puta (Hb.)	Freshwater
	Aspitates ochrearia (Rossi)	Compton Down
	Pyrgus malvae (L.)	Compton Down
15th	*Pterostoma palpina* (Cl.)	Freshwater
23rd	*Lasiommata megera* (L.)	Compton Down
24th	*Eligmodonta ziczac* (L.)	Binstead
25th	*Spilosoma luteum* (Hufn.)	Binstead
26th	*Notodonta dromedarius* (L.)	Binstead
27th	*Xanthorhoe spadicearia* (D.&S.)	Cranmore
28th	*Alcis repandata* (L.)	Whitefield Woods
30th	*Tyria jacobaeae*	Arreton

May		
1st	*Phalera bucephala* (L.)	Freshwater
3rd	*Coenonympha pamphilus* (L.)	Compton Down
6th	*Noctua pronuba* (L.)	Cranmore
8th	*Hadena perplexa* (D.&S.)	Freshwater

I should like to mention the following observation that I witnessed on Compton Down on 14th April. This was a pair of *Phragmatobia fuliginosa* (L.) in copula settled on the grass accompanied by five other males crawling over the unfortunate couple. This is the first time that I have seen this species assemble in this way.

Finally I should like to record two very early sightings of the Large Red Damselfly (*Pyrrhosoma nymphula*). Andy Butler saw two at Alverstone on 9th April and my mother noticed one in the garden at Freshwater on the following day.– S.A. KNILL-JONES, Roundstone, 2 School Green Road, Freshwater, Isle of Wight.

Drunken goat moth larvae

I have also had occasion to resuscitate "drunken" goat moth larvae, (*vide* Clerck, J., 1995. Drunken goats. *Entomologist's Rec. J. Var.* **106**: 82). Mine were fed on wholemeal bread and apple, in the recommended fashion, but the container was rather tall and narrow and, on one occasion, the apple became somewhat decayed. Fumes of some sort overcame my larvae and one morning I found them insensible. They were apparently completely lifeless but not flaccid or misshapen, as may happen with disease. Suspecting that they were merely intoxicated, I placed them on some absorbent paper and gently massaged them, so as to cause air to be forced in and out of the spiracles. After about 30 minutes they began to wriggle slightly and after a further 30 minutes had made a full recovery. Since then they have again fed voraciously and are now (April 1995) just becoming active after the winter. I wondered how much the effect was due to alcohol fumes, of which the container certainly smelt, and how much to CO_2 anaesthesia.– M.R. YOUNG, Culterty Field Station, University of Aberdeen, Newburgh, Ellon, Aberdeenshire AB41 0AA.

[Note: All three moths duly emerged in July 1995 – M.Y.]

***Stigmella continuella* (Stt.) (Lepidoptera: Nepticulidae) in Scotland**

In September 1988, Mark Young introduced *Stigmella continuella* (Stainton, 1856) to the Scottish list when he discovered mines of this species on the Glenfarrar NNR (VC96) and Ariundle NNR (VC97) (Agassiz, D. (1990) *Ent. Rec. J. Var.* **102**: 131). Last year this species turned up in two further, widely separated localities. On 10.ix.1994 the author found two vacated leafmines of this species on Birch at Camghouran (Grid Ref. NN5455), Rannoch, Perthshire (VC88). On 21.ix.94 a survey for a Forestry

Authority/Scottish Natural Heritage research project, conducted by David Barbour, Allan Watt and Colin McBeath, yielded vacated mines of this species in Birch in two separate localities in Knapdale. The first was in a spruce plantation with 30% mix Birch near Loch Buic (Grid Ref. NR7988) and the other was in a birchwood besides Daill Loch (Grid Ref. NR8189), both in Knapdale Forest, Kintyre (VC101).

These new records could possibly indicate a recent invasion of Scotland by this species, although my own opinion is that it is a low density species that is under-recorded. At the Perthshire site both mines were close together on the succulent leaves of small shoots arising directly from the main trunk. The location of the mines at the other sites was not recorded.– K.P. BLAND, 35 Charterhall Road, Edinburgh EH9 3HS.

An outbreak of the Lackey moth, *Malacosoma neustria* L. 1758 (Lep. Lasiocampidae) in Beckton, east London, May 1995

Early in May 1995 whilst checking the infestation of *Euproctis chrysorrhoea* (L. 1758) in Beckton, east London, I was surprised to see so many active "nests" of the Lackey, *Malacosoma neustria* (L. 1758). I had already collected a batch of ova of this moth from Sloe in February in the same area, but did not expect to be greeted by such an apparent population explosion. Soon after the initial sightings I counted the number of larval "nests" to be found. As the larvae were already well advanced, a "nest" for our purposes was any clearly-defined group of larvae feeding separately from another. As some of the larval clusters were so close together it cannot be assumed that they were not originally from the same egg batch.

Sixty-six were counted in all in a very small area alongside a busy main road, roughly running opposite the recently inaugurated Docklands Light Railway. The following foodplants were noted along with the numbers of larval "webs": Sloe 43; Rose 11; Hawthorn 5; Hazel 2; Oak 1.

E. chrysorrhoea and *M. neustria* did not seem to be in competition as larvae were seen to share facilities on more than one occasion *i.e.* the Brown-tails would sit on the Lackey's "web". Outside the Beckton area, larvae were noted singly on Hawthorn and on *Prunus* en masse in Walthamstow, also in May 1995.

Plant (1993) mentions *M. neustria* as an "...occasional pest species which can reach plague proportions in some years, although normally it causes little more than local defoliation of hedges". Gómez de Aizpúrua (1988) cites this species as being a pest in Spain on "numerous occasions". Soria (1987) details "an enormous quantity of larvae found in Mazarambroz (Toledo) in 1981 on Oak and describes serious outbreaks on Oak, specifically, *Quercus pyrenaica* Willdenow, in the sixties. In 1987, more than 20,000 hectares of Oak were attacked north of Madrid in the Sierra de Guadarrama, leading to defoliation on a massive scale.

References: Gómez de Aizpúrua, C., 1988. *Biología y Morfología de las Orugas.* Tomo VI. MAPA, Madrid; Plant, C., 1993. *Larger Moths of the London Area.* London Natural History Society; Soria, S., 1987. *Lepidopteros Defoliadores de Quercus pyrenaica* Will. 1805, MAPA, Madrid.

– GARETH E. KING, 22 Stoney Meade, Slough SL1 2YL.

Pediasia fascelinella (Lep.: Pyralidae): two more Kentish examples

Following the first county record of this species that came to my light at Dungeness on 3rd August 1990 (*Ent. Rec. J. Var.* **103**: 51-52), I can report two more specimens recorded in Kent during 1994. The first was taken by John Owen at Dymchurch on 2nd July, and the second was taken by myself at Dungeness on 30th July.

The nearest existing British colony of this pyralid is in Suffolk (Parsons, 1993. *A review of the scarce and threatened pyralid moths of Great Britain*), and as all three of the Kentish records have occurred out of habitat and with immigrant species, I would suggest the Continent as their most likely place of origin.– SEAN CLANCY, "Delhi" Cottage, Dungeness, Romney Marsh, Kent TN29 9NE.

Large Tortoiseshell butterfly, *Nymphalis polychloros* L. in Kent

During the early afternoon of Sunday 9th April 1995 Pamela Stafford and myself were exploring the old church at Elmsted in Kent when my attention was drawn to a dead Peacock butterfly in the central aisle.

Looking up at the windows we saw several more Peacocks and Small Tortoiseshells, presumably attracted to the warmth and light. We carefully removed them to a warm, horizontal gravestone in the churchyard and within a short time most had become active and flown away.

Using a broom we gently coaxed the higher butterflies down from the window, and during this operation a large butterfly dropped to the floor, and slowly opened its wings. We were astonished to see the unmistakable wing pattern of a Large Tortoiseshell. After removal to the gravestone, it sunned itself for a little while, allowing us ample opportunity to examine it closely, and then, in good light, it strongly flew away.

In all, 25 Peacocks and six Small Tortoiseshells and, of course, the Large Tortoiseshell, were "rescued".– PETER BURNESS, 1 Hinton Close, West Park, Eltham, London SE9 4SE.

Unseasonal Lepidoptera records from Rothamsted Insect Survey light-traps

On 6.xii.1994 a single *Orthosia cerasi* Fabricius was caught in the RIS light-trap at Hamstreet, Kent (Site No. 472, O.S. grid ref. TR004 334) and one *Cerastis rubricosa* Denis & Schiffermüller was caught at Rhandirmwyn, Dyfed (Site No. 346, OS grid ref: SN782 441). Both species usually fly in March and April. These extraordinarily early records probably result from

the very mild weather prior to the date of capture. At Rothamsted, the highest mean November temperature for over 100 years was recorded and at Rhandirmwyn, minimum temperatures rarely fell below 10°C.

Waring, P. (1995, *British Wildlife* **6**(4): 257-258) cites other early records including that of an *Orthosia gothica* on 12.xii.1994. This species also usually flies in March and April.

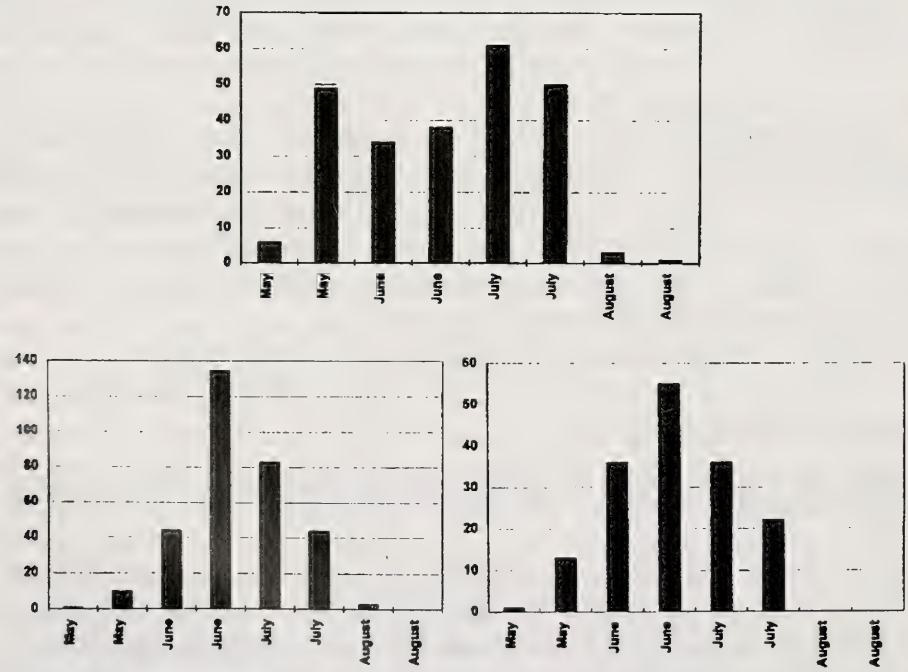
It would be of value to read of further unusual records resulting from the mild early winter weather of 1994 as they may give some indication as to which species are affected by such conditions and to what extent.

Thanks are extended to Mr David Davies and Mr Michael Tickner for operating the traps at Rhandirmwyn and Hamstreet, respectively.– ADRIAN M. RILEY, Department of Entomology & Nematology, IACR-Rothamsted, Harpenden, Hertfordshire AL5 2JQ.

A note on the flying times of *Laothoe populi* L. (Lep. Sphingidae)

Following the recent discussion of the voltinism of *L. populi* in the pages of this Journal by West (**106**: 41-45) and Spalding (**106**: 126), I examined my m.v. trap records from west Devon to see whether they added anything to the debate. They do not, as I rarely operate the trap late enough in the year, but they nevertheless show a curious monthly distribution pattern which seems worth placing on record.

The figure shows my 242 light trap records covering the period 1988-1994, with each month being divided into halves. This illustrates a clear



Trap catches of hawkmoths:
Top: *Laothoe populi*; Left: *Deilephila elpenor*; Right: *Sphinx ligustri*.

peak in the second half of May in addition to that expected in July. I took this to be a reflection on my somewhat erratic trapping pattern but to check, I analysed my records of *Sphinx ligustri* L. (163 records) and *Deilephila elpenor* L. (320 records), two other locally common sphingids that appear frequently in the trap with *populi*. These are also shown and indicate the expected type of distribution. This, surely, eliminates any sampling effects. My curiosity aroused, I re-examined West's and Spalding's data. The former show a minor late May peak in four of the ten years where full data are available (1987, 1989, 1991 and 1992), whilst Spalding's figure shows a somewhat later, minor peak in the first week of June. These observations are obviously inconclusive but suggest that this moth, in some years and in some parts of the country at least, exhibits an unusual pattern of emergence. Perhaps other readers will examine their own records to see how widespread this phenomenon is, or suggest an explanation.– R.W. Bogue, Kingston House, Tuckermarsh, Bere Alston, Devon PL20 7HB.

Scarcity of Vanessid butterflies

I refer to the observation "The scarcity of Vanessid butterflies" by C.J. Smith (*Ent. Rec. J. Var.* **107**: 146), who I note is another resident of Sale, and who in particular makes a point that in a local sports field hostplant-habitat of *Aglais urticae* (Linn.) and *Inachis io* (Linn.) has been destroyed.

Close to my home is another sports field, Crossford, where I have done some studies on these species. It is owned by the local authority and is in the Mersey Valley. The eastern section of the field is on a slightly higher level than the western and the two sections are separated by a shallow north-south drain (SJ792930/1) in which, in spite of the grass either side being regularly mown, extensive beds of nettles are normally allowed to grow unhindered. Forming a west-facing bank, in early spring the drain receives the full rays of the afternoon sun, and forms a microclimate considerably warmer than the surrounding area. As a result, every year one or both of these butterfly species congregate here post-hibernation, sometimes in considerable numbers. It is generally accepted that *A. urticae* and *I. io* are highly mobile and do not form permanent breeding populations restricted to a small area, therefore I suggest that each year individuals moving through the Mersey Valley, probably from some distance, are able to single out this small site from the surrounding environment because of its combination of suitable features (chemical/ olfactory cues from the nettles; aspect; insolation level).

I find that this concentration of the butterflies occurs only in the spring – later in the year, when the ambient temperature in the Valley is higher, the need for the butterflies to seek out the warmest spots is less and they are more generally distributed.

Normally the spring sighting of adults is followed by the appearance of larvae on the nettles, though this does not occur every year – sometimes when *A. urticae* imagines have been abundant no larvae have been seen, and

sometimes only *I. io*. This year 1995, however, although in the whole of this area *A. urticae* numbers post-hibernation were very much down on previous years (I only had a couple of sightings in the sports field) and I was unable to locate any broods of larvae elsewhere in the neighbourhood, a very fine brood appeared and fed to pupation on these nettles.

I would suggest that the "scarcity" of the Peacock and Small Tortoiseshell in this area, which Smith mentions as having occurred in recent years, is due more to cyclical fluctuations caused by climatic variations and/or parasite numbers than to habitat destruction; numerous suitable sites exist in the Mersey Valley. In my experience, *I. io* has considerably increased in the last decade, and although *A. urticae* has been quite scarce at times especially this last year, at other times, notably 1989-91, it has been very numerous and much more so than in, say, 1986-7. I would however agree with Smith that there is no room for complacency and that habitat destruction does pose a considerable threat to even the most familiar butterflies: there was a recent plan to remove Crossford sports field from the "green-belt" and offer it for private development, and along with many other sites in the Mersey Valley it stands to be considerably damaged if current proposals to widen the M63 motorway, which runs behind it, go ahead.– PETER B. HARDY, 10 Dudley Road, Sale, Cheshire.

ERIC BRADFORD

We were saddened to hear, as we went to press, of the tragic death of Eric Bradford in a road accident, on 12th August 1995. Although best known as a microlepidopterist, Eric had a deep interest in all forms of wildlife and its conservation – his large garden was converted into a wildlife haven, and he purchased some woodland within the Blean complex in Kent as a reserve. A skilled artist, his paintings of lepidoptera were much admired, and more recently he published a series of papers jointly with the editor of the *Record* illustrating the British Gelechiidae. It gave him considerable pleasure to paint some of his illustrations with brushes acquired from the late Stanley Jacobs, also a well known illustrator. He was amongst the most knowledgeable microlepidopterists in the country, but never considered himself an "expert", even though this was deserved in some areas. Eric was a generous man, freely giving his advice, time and friendship to those who shared his interests, and he will be sorely missed by those who knew him.

Paul Sokoloff

STOLEN

Cabinet Drawers and Antique Books

At times we all experience minor crises with our collections (when the forceps fall into a drawer they invariably land on something worthwhile) but never did I envisage the ransacking of a large quantity of drawers from within the sanctity of ones own home.

Antique books come into another category, although their loss will often be brought to mind for most of them were in the nature of gifts from old friends over many years.

Whereas these books have been very carefully selected by the miscreants the same cannot be said of the cabinet drawers. Those containing my British hawkmoths could be deemed attractive to anybody, but why take five small drawers from a W & D six drawer deal cabinet with specimens going back to schooldays? The same might be said for two drawers of Nymphalids compared with fourteen drawers of micros containing predominantly Gelechiids which are of extreme interest to a small number of entomologists. Unless, and this is possible, a clean sweep had been intended for 24 drawers containing a mixture of families were still stacked up the centre of our sitting room and gratefully found there by ourselves upon return.

This is not the kind of article I ever dreamt of putting in *The Record,* but I thank our editor for giving me space whereby we can draw the attention of all fellow entomologists to the dire things which can happen these days! Lock up your larvae and *check your insurance policies!*

For subsequent sighting of any of the undermentioned items please contact your local police station referring them to WPC Roberts of Reading Police (01734 536000).

Details of drawers of Lepidoptera and Antiquarian Books stolen between 29th July and 3rd July 1995.

Type			Contents
Gurney	18" x 17"	6 drawers black lined	British butterflies
Gurney	18" x 17"	10 drawers black lined	British Lasiocampids and Geometers
Brady	183/4" x 17"	3 drawers black lined	British Sphingids
Hill	18" x 18"	13 drawers white/black	Micros. BRB and Reading Museum labels
Hill	18" x 16"	1 drawer white lined	Micros. Phyllonorycters. J. Newton labels
W & D	123/4" x 73/4"	5 drawers white lined	Beginners material
W & D	18" x 18"	Wallcase	Far Eastern lepidoptera

Large storebox with two large setting boards bearing five Far Eastern Sphingids

Antiquarian Books

Author	Title	Markings
Distant, W.L.	*Rhopalocera Malayana*	Inscribed L.M. Parlett
Frohawk, F.W.	*Complete Book of British Butterflies* 1934	Inscribed "To Bri from Dad Xmas 1936"

Frohawk, F.W.	*Natural History of British Butterflies* 2 vols. 1924	Inscribed with Reading Mus. Acc. Nos.
Barrett, C.G.	*Lepidoptera of the British Islands* 1893-1907 11 vols.	Inscribed Craske and separately WLR
Buckler, W.	*Larvae of the British Butterflies and Moths* 8 of the 9 vols	No markings
Lang, H.C.	*Butterflies of Europe* 2 vols	Inscribed L.M. Parlett
Morris, F.O.	*A History of British Butterflies* 1865	Inscribed L.M. Parlett
Morris, F.O.	*A Natural History of British Moths* 1872 4 vols	Inscribed L.M. Parlett
Tutt, J.W.	*Practical Hints for the Field Lepidopterist*	Inscribed C. Runge
Bright, P.M. & Leeds, H.A.	*A Monograph of the Chalkhill Blue Butterfly* 1938	No markings

Brian Baker, 25 Matlock Road, Reading, Berkshire

REAR-ADMIRAL DAVID TORLESSE, 1902-1995

We were sad to hear of the death of Rear-Admiral David Torlesse, CB, DSO on 19th July at the age of 93. A distinguished naval aviator, his career began with service in the Dreadnoughts during the First World War, subsequently serving both at sea and on land bases. After serving before the Second World War on the ill-fated *Hood* he was appointed second-in-command of the heavy cruiser *Suffolk* in 1939, seeing action in the Norwegian campaign. Then, after a spell at the naval air station at Lee-on-the-Solent and the Admiralty, he took command of the escort carrier *Hunter* initially in the Aegean and then the Far East towards the end of the war. Later he commanded the fleet aircraft carrier *Triumph* which joined the US Seventh Fleet during the Korean conflict. His final tour in the early 1950s saw him as Flag officer responsible for all Fleet Air Arm Training.

Despite the intense demands of a naval career, he had a lifelong interest in entomology. He lived for many years in the Hampshire area, subscribing to the *Record* for over 40 years. He began contributing to the *Journal* in 1954, recording a capture of the Lunar Double-stripe, *Minucia lunaris* from his garden trap. He published a number of accounts of collecting trips in the Midlands, on Mull and in Western Ireland. Modern-day moth collectors would no doubt raise an eyebrow at his account (*Ent. Rec. J. Var.* **74**: 19) of experiences operating an 80W m.v. trap from his car battery through a rotary convertor, and managing to achieve some three hours of collecting before the battery gave out. His last contribution to the *Record* was in 1980, when he captured the first authentic specimen this century of the plusiid *Syngrapha circumflexa*.

Paul Sokoloff

THE ENTOMOLOGIST'S RECORD

AND JOURNAL OF VARIATION

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

Contents

Notes and observations

SPECIAL NOTICE.

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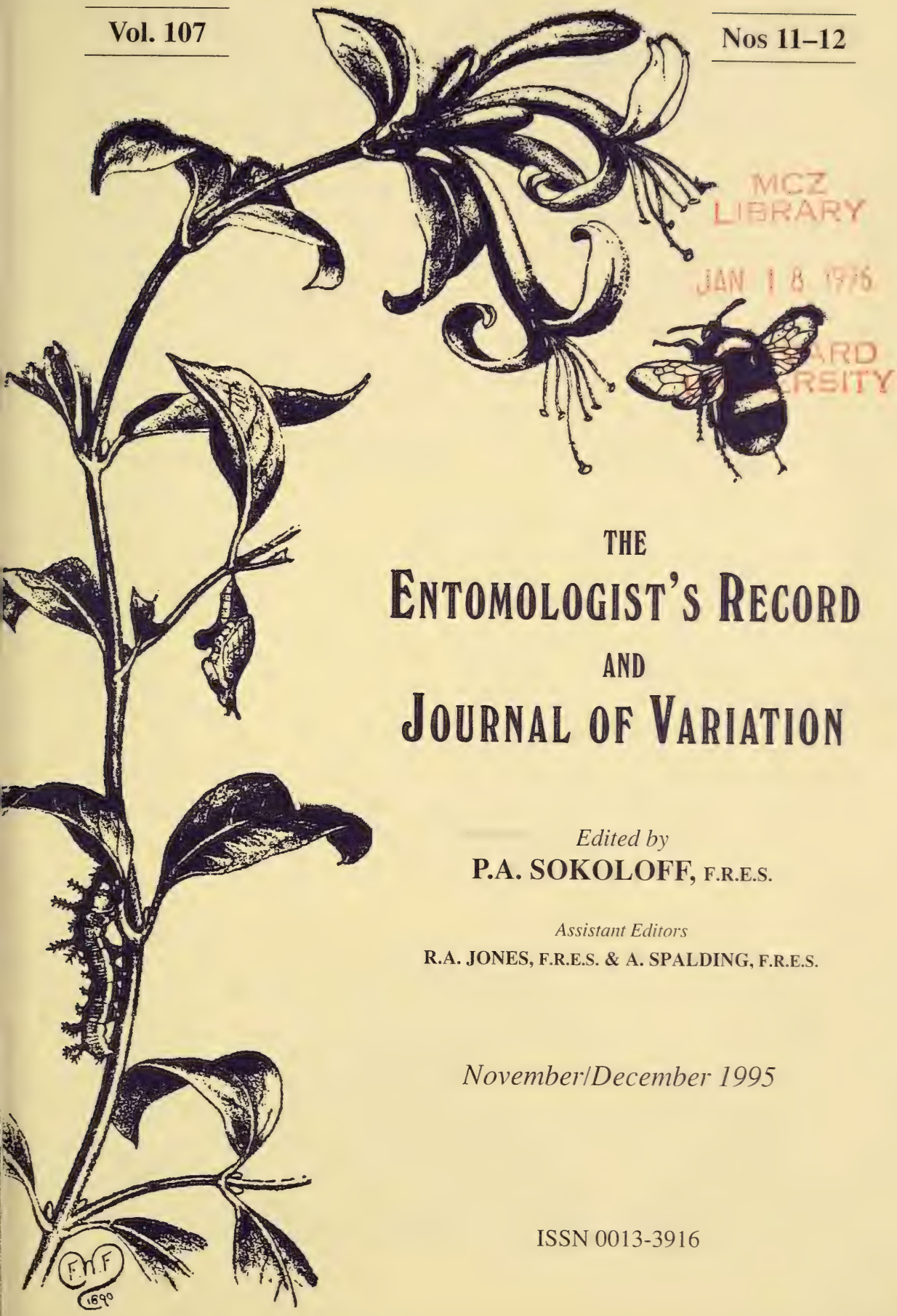

THE ENTOMOLOGIST'S RECORD AND JOURNAL OF VARIATION

Edited by

P.A. SOKOLOFF, F.R.E.S.

Assistant Editors

R.A. JONES, F.R.E.S. & A. SPALDING, F.R.E.S.

November/December 1995

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THE ENTOMOLOGIST'S RECORD AND JOURNAL OF VARIATION

WHERE TO WRITE

EDITOR: All material for publication and books for review.
REGISTRAR: Subscription changes of address and non-arrival of the Journal.
HON. TREASURER: Advertisements and subscribers' notices.

Notes for Contributors

It would greatly help the Editor if material submitted for publication were typed and double spaced. Two copies are preferred. Please DO NOT use block capitals and DO NOT underline anything except scientific names. Word-processed text should not use italic, bold or compressed typeface. References quoted within the text can be abbreviated (eg Ent. Rec.), but those collected at the end of a paper should follow the standard *World List* abbreviations (eg Entomologist's Rec. J. Var.). When in doubt try to follow the style and format of material found in a current issue of the *Record.*

Illustrations must be the original (not a photocopy) without legend which should be typed on a separate copy. Photographs should be glossy, positive prints. Authors of long papers, or submitting valuable originals are advised to contact the Editor first.

Contributors are requested not to send us notes or articles which they are sending to other magazines.

Whilst all reasonable care is taken of manuscripts, illustrations etc, the Editor and his staff cannot hold themselves responsible for any loss or damage.

Readers are respectfully advised that the publication of material in this Journal does not imply that the views and opinions expressed therein are shared by the Editor, the Editorial Board or the publisher.

A Change of editor

With this issue, the current editor is standing down to make way for new blood in the editorial chair. After ten years of editing *The Entomologist's Record* it is time for the "mantle of Tutt" to fall on other shoulders, and we have been very fortunate in securing the services of Colin Plant as the new editor. A well-known entomologist, he is the author of, amongst others, *The Butterflies of the London Area, Provisional atlas of Lacewings* and the seminal work, *Larger moths of the London area.*

I would like to take this opportunity to thank all the friends and correspondents of the *Record* for their support and forbearance over the years, and remind them that we always need your notes and papers for publication. All material in the pipeline, or in the post to me will find its way to the new editor!

Paul Sokoloff

Butterflies of Lanzerote – April 1995. An update – two further species recorded

It had been six years since I was last in Lanzerote. During this time our friends with the Time-Share there have continued their annual April visit to the island and I have regularly asked them if there have been many butterflies. They are not specialists but they know how it was in 1988 when one could not drive on the inland roads without passing through clouds of Clouded Yellow *Colias croceus* Geoff. and Painted Lady *Vanessa cardui* Linn. and when the heights at Mirador del Rio were alive with thousands of Common Blue *Polyommatus icarus* Rott. (*Entomologist's Rec. J. Var.* **103**: 79-81). Each year, since 1989, the answer has been that there had not been many butterflies about.

With a further invitation from our friends to join them this year, there has been opportunity to check in person on the situation. We were there from 13th to 27th April and during that time I was able to visit the known haunts that had shown good numbers of butterflies in 1988. The weather was mixed – through the first week the mornings generally started overcast, with fairly strong winds, then coming out by midday to hot sun. Most of the time there was the stiff breeze associated with the island.

The season bore out our friends' assessments of recent years – there were very few butterflies about. In our drives to various parts of the island, I do not recall seeing from the car a single butterfly of any species. There was just one occasion when my wife said she had seen a "brown" butterfly – I stopped the car and hunted around but I could find no trace of it. At the

Mirador fel Rio (16th April), on a rather cool day, there were some Blues (*P. icarus*) on the low vegetation at the side of the road, but only in small numbers – I saw perhaps twenty or so, mostly males. Later the same day, in some fallow-field site near Maguez – good for several species in 1988 – this year I saw only three Blues.

Altogether, we saw, in different locations, perhaps half a dozen *C. croceus* but nor a single *V. cardui* throughout our visit. However, there were occasional moments of excitement – on the 17th, a Red Admiral settled on the outer wall of our neighbour's villa and sat sunning itself long enough to be clearly identified as *Vanessa indica vulcania* God. Then, on another occasion (25th April) in the dry gully of the Barranca de Manguia (again, a good spot in 1988) there was one (and possibly a second, seen by friends) of what I identified as *Pontia daplidice* Linn. One of these was very kind and perched long enough on a flower stem for me to get quite a decent close-up shot of it on the video camera. However, besides the Whites, all we saw, during an hour walking in the gully, were four *C. croceus* and one *P. icarus*.

All-in-all, it does look as though 1988 was a unique year for the number of butterflies about in Lanzerote.– G.G. BALDWIN, 22 Edgerton Grove Road, Huddersfield, West Yorkshire HD1 5QX.

Strangalia maculata (Poda) var. *gibberdi* nov., (Col.: Cerambycidae)

During the hot and sultry weather experienced towards the end of June, a small number of *Strangalia maculata* (Poda) were taken in flight and settling on *Heracleum* in a woodland glade adjoining the Gibberd estate: 26.vi.1995, near Sheering, north Essex (Mrs Elizabeth Uhthoff-Kaufmann). They included a small male, clearly maculated as follows:

Upper half of right-hand elytron of *Strangalia maculata* (Poda) var. *gibberdi* **nov**.

The anterior band at the elytral margin vestigial, faintly tinted brown; medianly, with three spots forming the apices of an equilateral triangle, slightly tilted towards the elytral suture but not contiguous with it, of which the uppermost is the largest and ovoid. Above this triangulation, placed equi-distantly between the elytral boss and scutellum, is a very distinct micro-maculation. The remaining fasciae are normal as in the type form.

This new variety is named after the late Sir Frederick Gibberd, architect of Harlow New Town.

– RAYMOND R. UHTHOFF-KAUFMANN, 13 Old Road, Old Harlow, Essex CM17 0HB.

A LARGE-SCALE MIGRATION OF THE AFRICAN SKIPPER *ANDRONYMUS GANDER* EVANS, 1946 NEAR CALABAR, NIGERIA (LEPIDOPTERA: HESPERIIDAE)

TORBEN B. LARSEN

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Introduction

I SPENT ALL OF MARCH, 1995 surveying the butterflies of the Oban Hills Cross River National Park, Nigeria. The Park lies just north of Calabar, the type locality of numerous African butterflies from the past hundred years and more. The Park is by far the largest forest area in Nigeria and one of the largest in West Africa. The habitat is wet evergreen forest in good shape and the park is being conserved and developed by grants from the European Union and Germany, with technical assistance from, among others, the Worldwide Fund for Nature (WWF).

It is one of the centres of biodiversity in Africa. I recorded about 430 butterfly species during my own trip. However, many other collectors have been active in the area, so the total confirmed checklist stands at almost 650. My own "discovery curve", my knowledge of the habitat, and the distribution of other butterflies both east and west of the Park make the prediction that at least 950 species are found in the Park area quite safe.

The lowland wet evergreen forest of the southern Nigeria/Cameroun border is almost certainly the richest habitat anywhere in Africa for butterflies – and by implication other arthropods as well. Nowhere in Asia are as many butterflies found in one locality, but in the Neotropical Region up to 1300 may be found in some localities (Beccaloni & Gaston 1995).

Migration observation at Mkpot 1

At 15.30 on 13th March I was heading my team back to the village of Mkpot 1 in the centre of the park after an excellent, though exhausting day of collecting, having covered nearly 20km. We were walking along a fairly broad, cleared forest path, but one wholly covered by the canopy. Just as we came into the first small open clearing at the edge of the village, hordes of small insects came straight at us with the speed of bullets. They emerged from the continuation of the path on the other side of the clearing and continued along the path we had just walked. They were medium-sized brown Hesperiidae, though only just recognisable as such since I have seen migrating *Borbo* in southern India (Larsen 1988).

"Catch as many as you can!", I shouted to my team, as I began to collect a sample. This was no easy task. The speed was more rapid than anything I have seen before. However, so dense was the swarm that backswipes with the net would usually land a few specimens.

After a while, I looked back at my team – a local guide, a research assistant and two park rangers, all equipped with nets – to see how they were getting on. They were not. They were prostrate on the ground with butterfly

nets over their heads. Rather sheepishly they confessed they thought we had met a swarm of aggressive bees! Back in camp, I found the following quotation in respect of the almost identical *A. neander* Plötz, 1884 from Tanzania on the computer: "In February, 1984 I watched swarms continually flying over the Mafwemiru Forest in the Rubehos for two days. Sometimes so thick that they reminded me of swarming bees." (Kielland 1990). My team felt somewhat exculpated!

The entire event lasted only six minutes. As far as I could make out, the butterflies were limited to the width of the path. I saw none flying high. They came at us at a density of 10-15 a second, for a total of 3,600 to 5,400 on the 1.5 metre-wide path.

Sex and condition of migrants at Mkpot 1

The sample collected consisted of 14 males and nine females, indicating a normal sex ratio. This is interesting since collections of *Andronymus* usually contain many more females than males (Evans 1937; Fox *et al.* 1965; Usher 1980).

Of the sample taken six were perfect, 12 worn, and five in very poor condition. This is also interesting, since migrations usually consist of freshly hatched individuals.

Other observations

That afternoon, as I was entering the day's field notes, another flight overflew Mkpot 1, this time quite high, several metres above the ground. The front was only about 40 metres wide, and it lasted only from 17.36 to 17.42. The butterflies were more dispersed than on the path and must have contained another 5,000 to 10,000 individuals.

Three days later we trekked the 22km north to the friendly little village of Itaka. Here we were told that a huge migration of "bee-like" butterflies had been flying towards the north-east on the 13th. It was not possible to get very precise details, but evidentially it was a larger, wider, and more long-lasting event than at Mkpot 1.

Back in Calabar, 35km to the south of Mkpot 1, I was told of a north-easterly migration by four independent observers ("so you saw it too"). Some talked of rather broad-based migration several metres above ground, others emphasised that the migration had snaked through a narrow gap between two houses. Again, the width and duration of the migration appeared wider and longer than that at Mkpot 1.

Discussion

During the ten days preceding the migration, I had collected just four or five individuals of the migrating species. I saw none on the ten-hour walk north from Mkpot 1 to Itaka. I was very interested in them, since they did not quite seem to be the expected species, *A. neander,* a known migrant. They turned

out all to be *A. gander*, a species not previously recorded from Nigeria (mainly known from Congo, Zaïre and western Tanzania). Recording a species new to any country is nice, doing it by the million must be rather unusual!

The migration obviously took place over a large front – at least 50km across, judging from the observations at Calabar and Itaka. Millions must have been involved (though not billions as I saw with *Catopsilia florella* Fabricius, 1793 in Botswana (Larsen 1992)). The comportment of the migrants was not quite typical; sometimes they flew quite high, over broader fronts, sometimes they flew low and adapted to local contours such as paths and houses.

There are a number of records of migrating *Andronymus* from Cameroun (Fox *et al.* 1965) and the Calabar area (Ried, Kunzel, & Kunzel 1990) (almost certainly *A. neander* in Cameroun, possibly *A. gander* in Calabar), but especially from East Africa (Kielland 1990; Williams 1976). The only other rainforest butterfly that is a regular migrant is *Libythea labdaca* Westwood, 1851. There are similarities. *L. labdaca* sometimes migrates over a wide front, sometimes adapts to local contours. Also, many *L. labdaca* migrations take place just before the rains, which is when the current observations were made (Larsen 1977, 1981).

The main remaining impression is the usual one. What happened was phenomenal, and obviously important to the species in question. Being privileged to observe such a migration was gratifying. Being unable to explain where and why was the origin, where and why was the destination, and what were the underlying causes remains deeply frustrating.

Acknowledgements

This is the 16th paper in preparation of my book on the *Butterflies of West Africa – origins, natural history, diversity and conservation*. My field work benefits greatly from grants from the Carlsberg Foundation and the National Research Councils in Denmark, for which I am most grateful. My thanks to staff of the Oban Hills National Park project, especially Clive Williams, Klaus Schmitt and Emmanuel Bebiem are deepfelt.

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Evidence of White Admiral butterfly (*Limenitis camilla* L.) larvae feeding on Aspen (*Populus tremula*)

Whilst searching honeysuckle (*Lonicera periclymenum*) leaves in a well-known Surrey locality, following up resulting larvae of the White Admiral (*Limenitis camilla*) from hatched eggs located on 17th July 1995, I noticed two nearby leaves of Aspen (*Populus tremula*) with feeding damage of exactly the same nature as on the honeysuckle leaves – a long exposed bare midrib with leaf eaten well down either side. The classic and unmistakable feeding pattern of the White Admiral. Unfortunately both larvae were absent from their midrib "seats", as indeed were three out of four known larvae in similar situations on the honeysuckle which was in close proximity to the aspen. The White Admiral suffers high mortality as a first instar larva, as I have ascertained from regularly searching for larvae in July and August prior to their hibernation in September.

It is interesting to note here that the larval foodplant of the European Poplar Admiral (*Limentis populi*) is most commonly aspen and there is an illustration in the excellent Swiss book *Tagfalter und ihre Lebensraume* (Arten, Gefahrdung, Schutz 1987) of an aspen leaf damaged by the larva of this species. It is identical to the leaves located by myself in Surrey and I am certain that they were utilised by the larvae of the White Admiral.

An extensive search of the surrounding aspen growth was undertaken without finding similar feeding damage or an extant larva. There was a wide variety of feeding patterns on the leaves, ranging from mere holes, edge of leaf, to a complete strip bar leaf veins, leaving a skeletal appearance. There was no comparison on the aspen leaves to the unmistakable feeding pattern of the early instar White Admiral larva. It is important to note that the aspen leaves were in such a highly suited position for ovipositing White Admirals – dappled shade, next to an already well utilised spray of honeysuckle leaves. A rarely found combination which perhaps led to this unusual ovipositing choice?

Are there any other records of White Admiral larvae being found or suspected of feeding on aspen? Initial literature searches by myself have yet to reveal any. The aspen leaves were photographed and then pressed for a permanent record. The same site will be visited a little earlier next year with the hope of finding an actual deposited egg or feeding larva.

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BUTTERFLIES IN NORTH-EAST GREECE (28th JULY – 4th AUGUST 1994)

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Introduction

GREECE has an interesting butterfly fauna which includes (1) representatives of the European sub-continent's fauna, (2) representatives of Asia-Minor's fauna and (3) endemic mountain species (Brown & Coutsis, 1978). The present paper lists the 84 species of butterfly found on three mountains in north-east Greece between 28th July and 4th August 1994. Of these, two species are not recorded on the lists of Bretherton (1967, 1968, 1970), Coutsis (1969, 1972, 1973), Dacie *et al.* (1970, 1972, 1979, 1982), Koutsaftikis (1974) and de Worms & Bretherton (1975). These are *Lycaena dispar rutila* Werneberg and the more recently described *Pseudochazara orestes* de Prins & van der Poorten.

List of species

Key to symbols used in this list:

*, identification confirmed by examination of male genitalia

CW, common with widespread distribution
CL, common with localised distribution
UL, uncommon with localised distribution

F, Mount Falakro near Drama
O, foothills of Mount Orvilos on the Greek-Bulgarian border
V, Mount Vrontous near Seres

D, deciduous woods, 500-1200m
M, maquis (arid scrub), 500-1000m
P, road through pine woods, c600m
R, flower-rich roadside in pine zone, 1700m
S1, lush stream valley, c800m
S2, lush stream valley through pine zone, 1600m
SA, sub-alpine pasture, 1700-2200m
SKI, ski-slope through pines to pasture, 1700-1800m
SP, stony pasture above tree-line, 1200-1400m

Aglais urticae L. – UL, F, V, SA, SKI.
Agrodiaetus amanda Schneider – A single male, F, D.
A. escheri Hübner – A single female, F, S1.
A. thersites Cantener – CL, F. M.
Aphantopus hyperantus L. – UL, F, S1.
Arethusana arethusa D. & S. – UL, V, M.

Argynnis paphia L. – Including female f. *valesina* Esper, CW, F, V, D, R, S1.
Aricia agestis D. & S. – *, CW, F, O, V, D, M, S1.
A. anteros Freyer – CL, F, M, P, S1.
Artogeia mannii Mayer – *, CL, F, M, S1.
A. rapae L. – CL, F, M, S1.
Boloria graeca Staudinger – UL, F, SA (1700m-1900m).
Carcharodus alceae Esper – *, CL, F, M, S1.
Celastrina argiolus L. – CL, F, M, SP.
Chazara briseis L. – CW, F, V, D, M, S1, SKI.
Clossiana dia L. – UL, F, S1.
Coenonympha arcania L. – UL, V, M, SKI.
C. pamphilus L. – CW, F, V, D, M, S1.
C. rhodopensis Elwes – *, UL, F, SA (1750-1900m).
Colias australis Verity – UL, F, S1.
Colias crocea Geoffroy – Including female f. *helice* Hübner, CW, F, V, M, R, S1.
Cupido minimus Fuessly – CW, F, V, D, M, S1, SP.
Cyaniris semiargus Rottemburg – UL, V, S2.
Cynthia cardui L. – CW, F, M, S1, SA.
Erebia euryale Esper – Males only, *, UL, F, SA (1750m).
E. melas Herbst. – Females rare, CL, F, SA (1700-1800m).
Erynnis tages L. – CW, F, S1, D.
Eumedonia eumedon Esper – UL, F, SA (1800m).
Everes alcetas Hoffmannsegg – *, UL, F, S1.
Fabriciana adippe f. *cleodoxa* Ochsenheimer – UL, V, S2.
Heodes alciphron Rottemburg – *, UL, V, R, S2.
H. tityrus Poda – CL, O, V, D, M.
H. virgaureae L. – CL, V, R, S2.
Hipparchia aristaeus senthes Fruhstorfer *, CW, F, O, V, D, SKI.
H. fagi Scopoli – *, UL, F, P.
Hyponephele lycaon Kühn. – *, CL, F, SA, SP.
Inachis io L. – UL, F, V, S1, SKI.
Iphiclides podalirius L. – CW, F, V, D, M, S1.
Issoria lathonia L. – CW, F, O, V, D, R, S2, SA, SKI.
Lampides boeticus L. – UL, F, S1.
Lasiommata maera L. – *, UL, V, D.
L. megera L. – CW, F, D, S1.
Leptidea sinapis L. – CW, F, O, M, D.
Libythea celtis Laicharting – CL, F, O, D, S1.
Limenitis reducta Staudinger – CW, F, V, D, M.
Lycaeides idas L. – *, UL, V, SKI.
Lycaena dispar rutila Werneburg – UL (probably second brood), F, S1. The male genitalia of this species are illustrated in Fig. 1a.
L. phlaeas L. – CL, F, M, SA.

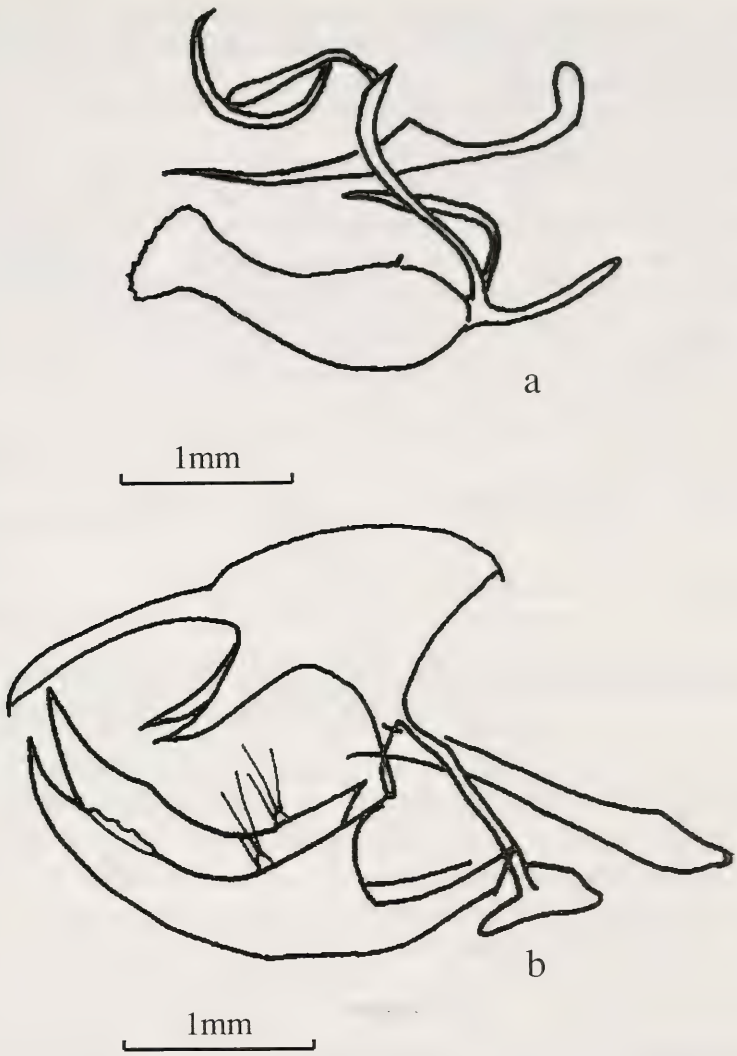

Fig. 1. (a) The male genitalia of *Lycaena dispar rutila* Werneberg, from north-east Greece in July/August 1994.
(b) The male genitalia of *Pseudochazara orestes* de Prins & van der Poorten, from north-east Greece in July/August 1994.

Lysandra bellargus Rottemburg – UL, F, M, S1.
L. coridon Poda – *, CW, F, O, V, D, S1, SA.
Maniola jurtina jurtina L. – Females brightly coloured like *M. jurtina hispulla* Esper females, *, CW, F, O, V, D, M, R, S1.
Melanargia galathea L. – Including f. *procida* Herbst, CW, F, V, D, SKI.
M. larissa Geyer – CL, F, M, SP.
Meleageria daphnis D. & S. – Including female f. *steeveni* Treitschke, CW, F, V, D, P, S1.
Melitaea phoebe D. & S. – UL, F, S1.
M. didyma Esper – A small race, *, CL, F, M, S1.

M. trivia D. & S. – *, CL, V, M.
Mesoacidalia aglaja L. – CW, F, V, D, R, S1, SA.
Neohipparchia fatua Freyer – *, UL, F, M.
N. statilinus Hufnagel – *, UL, V, O, D.
Nordmannia ilicis Esper – CL, F, P.
Nymphalis antiopa L. – UL, V, SKI.
Ochlodes venatus Turati – CL, F, M, S1, SP.
Palaeochrysophanus hippothoe leonhardi Fruhstorfer – *, a single male, V, R.
Pandoriana pandora D. & S. – CW, F, V, R, S1, S2.
Pieris brassicae L. – CW, F, V, M, S1, SA, SKI.
Plebejus argus L. – *, CW, F, V, M, S1, SA, SKI.
Plebicula dorylas D. & S. – CL, F, M, S1, SA.
Polygonia c-album L. – CW, F, V, D, R, S1.
P. egea Cramer – UL, F, S1.
Polyommatus eroides Frivaldski – CL, V, SKI.
P. icarus Rottemburg – *, CW, F, V, D, M, S1.
Pontia daplidice L. – CL, F, M.
Pseudochazara orestes de Prins & van der Poorten – *, CL, F, D, SP. The male genitalia of this species are illustrated in Fig. 1b.
Pseudophilotes baton schiffermuelleri Hemming – *, CL, F, M.
Pyrgus armoricanus Oberthür – *, CW, F, V, M, P, S1, S2, SA (1700-1800m).
Pyronia tithonus L. – CW, F, V, M, S1.
Satyrus ferula F. – CL, F, V, SA (1700m), SKI.
Spialia orbifer Hübner – *, CL, F, S1.
Tarucus balkanicus Freyer – UL, F, M.
Thymelicus acteon Rottemburg – *, UL, F, M.
T. flavus Brünnich – UL, V, M.
T. lineola Ochsenheimer – UL, V, SKI.
Vanessa atalanta L. – CW, F, V, R, S1, SA.

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Acontia lucida Hufn. (Lep.: Noctuidae), the Pale Shoulder new to the Isles of Scilly and third record for British Isles.

Following a period of gently south-easterly winds during the previous two days, we successfully recorded an interesting variety of migrants on the night of 5/6th August 1995. Included in our trap were *Palpita unionalis* Hbn. (Pyralidae), two *Rhodometra sacraria* Linn., the Vestal (Geometridae) and singletons of the noctuids *Mythimna albipuncta* D. & S., the White Point and *Heliothis peltigera* D. & D., the Bordered Straw. At the same time both Icterine and Melodious Warblers were recorded on the island together with many more common migrant birds.

It was not until the night of 10/11th August that we were able to operate the trap again but the wait was worthwhile. The catch included another White Point, The Cosmopolitan (*Mythimna loreyi* Dup.) and an unfamiliar noctuid. We sent this specimen to Dr Frank Smith who, together with Adrian Spalding, determined it as the Pale Shoulder, *Aconita lucida*. Subsequent communications with Bernard Skinner revealed that not only was this the first record for the Isles of Scilly but only the third British record this century, the others being at West Bexington, Dorset on 5.viii.1994 and Dymchurch, Kent on the same date.

The moth has since been sent to Mr David Carter at the Natural History Museum. An examination of our mid-July to mid-August data for migrant species such as the Silver Y (*Autographa gamma* L.) and the Diamond-backed Moth (*Plutella xylostella* L.) (Figures 1 and 2) clearly indicate a large influx of moths during that period. This rise in numbers was not due to freak catching conditions as the almost uniform catches of our residents

clearly shows. Once again the incidence of large numbers of migrant moths coincided with the appearance of a variety if interesting birds. Long may it continue!– JOHN HALE and MIKE HICKS, St. Agnes, Isles of Scilly TR22 0PL.

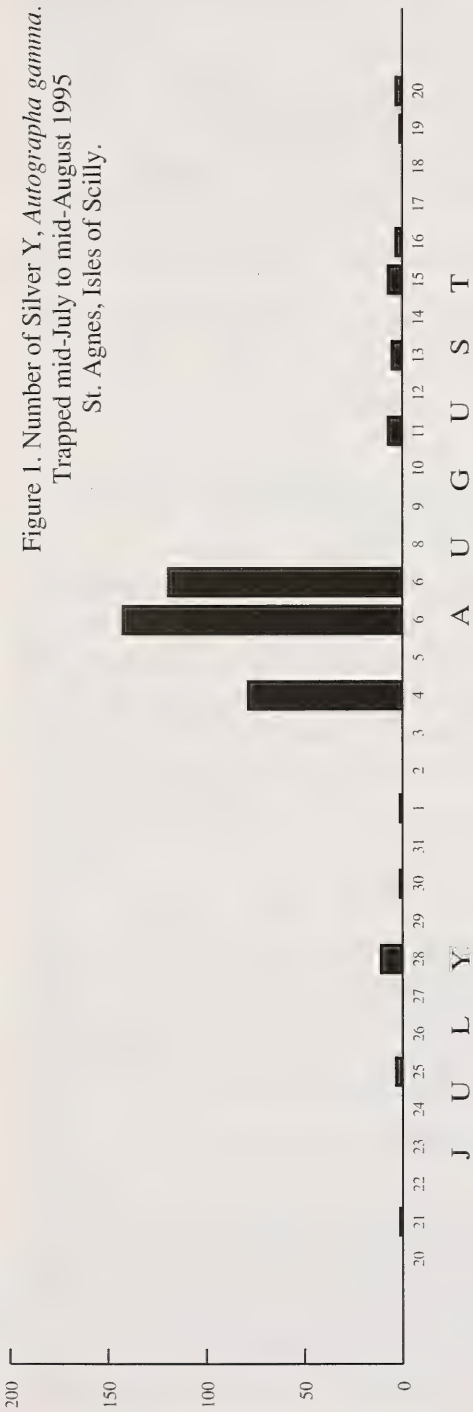

Figure 1. Number of Silver Y, *Autographa gamma*. Trapped mid-July to mid-August 1995 St. Agnes, Isles of Scilly.

Figure 2. Number of Diamond-back, *Plutella xylostella*. Trapped mid-July to mid-August 1995 St. Agnes, Isles of Scilly.

NOTHRIS CONGRESSARIELLA (BRAUND, 1858) (LEPIDOPTERA: GELECHIIDAE) REARED FROM LUNDY.

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BALM-LEAVED FIGWORT, *Scrophularia scorodonia,* is listed in the Vascular Plant Red Data Book (Perring & Farrell, 1983) and is a coastal "Lusitanean" species, occurring on the coasts of Portugal, Spain, western France and the south-west of Britain. In Britain it is found in the Scilly Islands, parts of Cornwall and Devon, Lundy, on one island off the Pembrokeshire coast and on the Channel Islands. On Lundy it is common on the eastern "Sidelands" (undercliffs), growing in areas of disturbance, usually cliff slippages, and also in wet flushes.

The gelechiid moth *Nothris congressariella* is specific to this foodplant in Britain, making larval spinnings in terminal and lateral shoots of the plant. Its distribution and ecology is summarised by Parsons (in press) who describes it from several of the Scillys, as well as from three sites in Cornwall and from Herm and Guernsey in the Channel Isles and includes the Lundy record described here. It is classed as Red Data Book category 3 – Rare.

In May 1986 Dr Keith Alexander of the National Trust's Biological Survey Team noted that a high proportion of the plants of *Scrophularia scorodonia* on Lundy had terminal shoots spun together, each containing a micro-moth larva (National Trust, 1986). At the time, *Nothris congressariella* was known only from the Scilly Isles and Channel Islands and Alexander speculated that these larvae might be of that species or of a polyphagous other species but no attempt was made to try and rear the larvae.

On 22nd - 26th May 1993, I visited Lundy with Dr Stephen Compton of Leeds University, Miss Lynne Farrell and Mrs Rosy Key, both of English Nature, in order to monitor the populations of protected plants on Lundy, and to initiate an investigation into the interaction of Lundy Cabbage, *Coincya wrightii,* with its insect fauna. Keith Alexander recommended that lepidopterist Robert Heckford accompany us to search for larval spinnings on *Scrophularia scorodonia* and attempt to determine their identity but unfortunately he was unable to come and the task fell to us.

We similarly noted larval spinnings on a very high proportion, perhaps 70%, of the plants of *Scrophularia scorodonia,* many plants supporting between one and five young larvae, which were photographed. Fortunately, English Nature's main office at Peterborough maintains a display collection of scarce British plants in its forecourt, including one specimen of *Scrophularia scorodonia.*

On leaving the island, six specimens of larvae were collected and taken to Peterborough, where they were reared on cut shoots in water of *Scrophularia*

Fig. 1. *Nothris congressariella* – adult.

Fig. 2. *Nothris congressariella* – larvae.

scorodonia, sleeving on the live plant being impossible owing to the continual public access to the forecourt display plant. The larvae successfully created new spinnings on the soft young shoots, but these had to be frequently changed as they deteriorated rapidly once removed from the plant. Only one larva was eventually successfully reared, pupating on 3rd June within the larval spinning and the pupa was removed to prevent fungal

infection from the deteriorating foodplant. It emerged on 14th June, was photographed and its identity was confirmed as *Nothis congressariella* by Mr Mark Parsons of the Joint Nature Conservation Committee.

Mere (1959) describes the larvae leaving the foodplant and pupating near the soil surface. In the artificial conditions in which I reared it, no conclusion can be made concerning its pupation in the larval spinnings.

I returned to the island in July 1993 with Robert Heckford and in June 1994 and on both occasions found abundant larval spinnings, although in 1994 the number of plants present was significantly lower than in the previous year, especially in the populations on the flushes. Such variations in numbers are not an uncommon feature of plant species dependent on soil disturbance.

On a holiday to Brittany in August 1993 I found *Scrophularia scorodonia* was abundant around the Golfe de Morbihan and most plants there had larval spinnings with larvae apparently identical to those of *Nothris congressariella*. On a visit to Lundy in late September 1994, no trace of spinnings or larvae could be found, nearly all of the plants of *Scrophularia scorodonia* having been reduced to the loose rosette of older leaves in which form it overwinters.

I am indebted to Keith Alexander for the suggestion to look on Lundy for the species and to Mark Parsons for the confirming the identity of the specimen.

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Eupithecia abietaria Goeze (Lep.: Geometridae) in Devon

During an examination of a collection of a local collector, Mr Peter Franghiada, I discovered three specimens of *E. abietaria* taken at Haldon, a Forestry Commission (Forest Enterprise) site. Dates were 24.vi.1985, 7.vii.1986 and 12.vii.1986. He kindly donated one of the specimens to me, as Devonshire recorder. I visited the site on 10.vii.1995, but although over 170 species of Lepidoptera were seen, *albietaria* was not amongst them. I did, however, take a worn example of this species at Bellever Forest, Dartmoor, on 18.vii.1995.– R. McCormick, 36 Paradise Road, Teignmouth, Devon TQ14 8NR.

Two new foodplants for *Euproctis chrysorrhoea* L. (Lep.: Lymantridae) noted in east London, March/April 1995.

The winter and early spring of 1995 were spent gathering data for my MSc study on the factors responsible for the distribution of this infamous Lymantrid pest species in east London. Between January and March of this year, data collated on a total of 1,637 hibernacula found throughout the London borough of Newham, gave eighteen plant species suffering from the ravages of this insect. Nine of these plants were rosaceous. Two other shrubs are not known as hostplants for this moth; these being *Cornus sanguinea* and *Laurus* sp. Two small "webs" were seen on *Cornus* in late March in the Canning Town area, their presence being confirmed a month later. More surprisingly still, was the sight of a small "nest" on *Laurus*, again in Canning Town in March. An undersized hibernaculum might be regarded as an aberration, however, its status as an unrecorded larval foodplant should be taken much more seriously with the finding of several hundred larvae on a laurel hedge on 25th April, not so very far from the original record. A subsequent 76 fully-grown larvae, in addition to 14 "pupal webs" were also noted on this plant on 9th June in the same London area on Silvertown Way. *Laurus* is a member of a principally tropical family, the *Lauraceae*, none of which are known to be attacked by *E. chrysorrhoea*.

Of other unusual foodplants of this species, West (1992) mentions larvae being seen on *Buddleia davidii* at Barking in 1977. I have never noted the moth on this plant in east London despite the latter's abundance. Plant (1993) does not include either *Laurus* or *Cornus* in his resumé of Brown tail moth hostplants, neither do Gomez Bustillo (1978) nor Gomez de Aizpurua (1986). The latter author does mention another unfamiliar foodplant, that of *Ligustrum*. The only experience I have of this as a possible hostplant is an encounter with three females on privet in Granville, northern France, in July 1994. Although the females had already oviposited on the leaves, the neonates refused to eat it. I have certainly never come across it in London on privet. Carter (1984) cites *Forsythia*, which is in the same family, that of *Oleaceae*.

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– G. King, 22 Stoney Mead, Slough SL1 2YL.

ONE AND A HALF YEARS OF KENYAN ORTHOPTERA
1. INTRODUCTION AND TETTIGONIIDAE

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WHILST RESIDENT in Nairobi from 1991 to 1993 I was able to study the Orthoptera of Kenya. A representative collection was assembled despite pressure of work and other commitments which limited entomology to occasional weekends and holidays. I had previously entomologised in Kenya during short visits in 1985 and earlier in 1991 before taking up residence. I concentrated on the Acridoidea as these were conspicuous members of the fauna in virtually all habitats during all seasons but other orthopteroids were not neglected and it was impossible to ignore the other vibrant insect life, especially the butterflies.

Kenya is an equatorial country with an enormous variety of environmental conditions ranging from the humid tropical torpor of the coast to grassland, thorn scrub, semi-desert, forest, upland pasture and snows of Mount Kenya. Nairobi, at 5,500 feet on the edge of the Central Highlands, has two wet seasons – the "short rains" around November and the "long rains" from March to May. It is cool and overcast in July and August whilst from January until the start of the long rains it is sunny, hot and dry. In the west it is warm and wet all year round, whilst on the Indian Ocean, the long rains may be torrential but the rest of the year dry. Parts of the Rift Valley, whose axis transects the whole country, are inhospitable semi-deserts. Transport is a major consideration when planning a collecting trip. A four-wheel-drive vehicle is necessary to reach many of the areas of special entomological interest. Two guidebooks (Moore, 1982; Oberlé. 1991) available in Nairobi bookshops, are excellent sources of information on localities outside the usual tourist areas. The 50,000 scale Survey of Kenya maps should reward anyone with the time, patience and diplomatic skills needed to obtain them, which in my case involved a Kafkaesque visit to the Survey headquarters, making enquiries in its numerous offices, presentation of letters in request of maps and an interview with the Deputy Director, during which time I was not allowed to see any maps for security reasons. Two weeks later, I was given permission to collect half the sheets I had requested and at a very reasonable price. Other problems for the entomologist include potentially irritating or dangerous wildlife and humans. Mosquitoes, with the threat of malaria, and tsetse flies may be a nuisance. Outside the game parks dangerous mammals are seldom encountered but snakes are a hazard when entomologising. Even in the remotest places, entomological activities often attract human attention, generally good-natured but inhibiting to the collector.

Identifying Kenyan Orthoptera is daunting to the amateur, requiring reference to scores of papers and access to museum specimens. Many groups

Fig. 1. Highland forest at Eburru, 8,800 feet, home to *Horatosphaga longipes*.

are unrevised, rendering accurate speciation impossible. The National Museum in Nairobi houses a superb entomological collection which is in good order and is actively used by a group of dedicated Kenyan entomologists on the museum staff. I am especially grateful to Mr Michael Mungai for sharing his expertise and I regret that I was unable to collect with him in the field.

Tettigoniidae (bush-crickets)

The Conocephalinae and Phaneropterinae are well-represented in Kenya but the Tettigoniinae (including the former Dectiinae), which dominate the British and European fauna are quite absent.

Conocephalinae

Conehead bush-crickets are locally and seasonally abundant in Kenya wherever there is grassland. A small representative sample of specimens was collected.

Conocephalus conocephalus (L.)

Sokoke Forest, Kenya Glass Track, 1.xii.1991, in long grass, two males, one female. Tumu Tumu, near Karatina, 27.ix.1992, in long grass, two males, three females.

C. iris (Serville)

Malindi, vii.1985, one female.

C. maculatus (Le Guillou)
Masai Mara, vii. 1985, one female. Kakamega Forest, 11.x.1991, one female; 7-9.ii.1992, one male, three females. Malindi, vii.1985, one female.

Phlesirtes merumontanus Sjöstedt
Ngong Hills, on pasture, 19.i.1992, two males, one female.
Gatamayu Forest, 8,000 feet, on pasture, 13.ix.1992, one male.
These examples are indistinguishable from specimens in BM(NH) labelled *Phlesirtes merumontanus* Sjöstedt, from Limuru in the Kenya highlands. A number of species of this unrevised genus have been described from East Africa, some of which may be synonyms.

Ruspolia sp.
Masai Mara, vii.1985, one female.
Ol Doinyo Sabuk, in long grass, 25.i.1992, one female.
This difficult genus is seasonally abundant in grassland. After the rains they can be heard from moving traffic on the road to Nairobi airport.

Phaneropterinae

Phaneropterines do not generally draw attention to themselves, either by their calling songs or by their activity. Several species were collected, mostly through chance finds on shrubs where they often sit motionless, relying on their green colouring for camouflage. The genus *Horatosphaga* Schaum in the group Acrometopae is of special interest because of its marked sexual dimorphism and East African endemism. Identification of most of the material was rendered relatively straightforward by the clearly presented revisionary works of Ragge (1960, 1964, 1980) and by reference to material in BM(NH). I am grateful to Dr David Ragge for identifying some of the more difficult specimens.

Catoptropteryx aurita Huxley
Kilifi, in tree, xi-xii,1991, one male.

Dionconema ornata Brunner
Sokoke Forest, Jilore Track, on shrubs, 16.v.1992, one female. Known from Tanzania and the Kenya coast, this insect has distinctive dark and blue-green markings.

Horatosphaga gracilis (Sjöstedt)
Tigoni Falls, on shrubs, 29.xii.1991, one male. Endemic to the central highlands of Kenya.

H. leggei (Kirby)
Ngong Hills, on nettles, 19.i.1992, one female, one nymph. Widespread in the highlands of east and central Africa.

H. longipes (Bolivar)
Eburru (Doinyo Buru), near Naivasha, on shrubs, 6.xii.1992, one male. Endemic to the Kenya highlands.

Lamecosoma inerme Ragge
Makuyu, near Thika, grassy roadside ditch, 5.vii.1992, one male. This species was collected alongside *Tylopsis rubrescens,* which it superficially resembles on account of its attenuated form and colour pattern of green with a reddish-brown dorsal stripe.

Peronura clavigera Karsch
Makuyu, near Thika, grassy roadside ditch, 5.vii.1992, one nymph. Peponi Road, Nairobi, on shrubs, 19.i.1992, one female. Ol Doinyo Sabuk, on shrubs, 25.i.1992, one female.

Phaneroptera sparsa Stål
Peponi Road, Nairobi. on shrubs, 19.i.1992, one female. Kakamega forest , at light, 7-9.ii.1992, one female. Saiwa Swamp, at light, 12.x.1991, one male. Ngerenya, Kilifi, in dry grass, 21.iii.1992, one male. Nguruman Escarpment, on shrubs, 11.x.1992, one male. Widespread in Africa northward to the Iberian peninsula.

Terpnistria sp.
Samburu National Reserve, attracted to light of camp fire, vii.1985, one nymph. This extends the recorded distribution of this otherwise southern genus north of the equator. The distinctive broad spines on the legs and keeled and patterned pronotum place the specimen in *Terpnistria* Stål but being a nymph it is not possible to determine the species.

Tylopsis rubrescens Kirby
Makuyu, near Thika, grassy roadside ditch, 5.vii.1992, one male. Widespread in Africa.

T. irregularis Karsch
Split Crater, near Lake Elmenteita, in long grass, 13.xii.1992, one male. Widespread in Africa.

Localities: 1. The Central Highlands
The Central Highlands are a land of red volcanic soils, tea plantations, upland pasture and forest. Nairobi at 5,500 feet sits at the interface of the highlands and the plains. Within Nairobi itself Orthoptera occur in suburban gardens and on wasteland. From my own small garden in Hurlingham the following grasshoppers were recorded: *Thericles* sp., *Heteracris brevipennis, Parepistaurus* sp., *Morphacris fasciata, Trilophidia conturbata, Aiolopus thalassinus, Gastrimargus verticalis, Gymnobothrus* sp., *Gymnobothroides* sp. Nearby, along the Kirichwa Kabwa River, *Catantops curvicercus, Paracinema tricolor, Paratettix* sp. and the phaneropterine *Peronura clavigera* were found. Orthoptera found at other sites in the city include *Cyrtacanthacris tatarica, Acanthacris ruficornis, Heteropternis couloniana, Cataloipus* sp., *Acrida sulphuripennis, Acrotylus patruelis.* These species are typical of disturbed and degraded habitat in the Central Highlands. The

Ololua Forest at Karen (6,000ft) is a precious remnant of the original Nairobi forest. I was able to visit the area regularly under permit from the Director of the Institute of Primate Research and access to this superb locality helped to make city life more tolerable. During the rains, clouds of butterflies including *Papilio mackinnoni, P. nobilis, P. jacksoni, P. phorcas, Charaxes candiope* and *Tirumala formosa* glide along the forest trails. Notable forest grasshoppers include the coptacridines *Paracoptacris cauta* and *Parepistaurus* sp. and the impressive catantopid *Pseudopropacris vana* which is metallic olive green in colour with bright red wings.

Well north of the city at Tigoni Falls (7,000ft) relict riverine forest has highland endemics, the attractive grasshopper *Aresceutica vansomereni* and the phaneropterine *Horatosphaga gracilis*. The glossy green pyrgomorphid grasshopper, *Parasphena kinangopa* is abundant on adjacent pasture. Further north is Gatamayu (Katamayu) Forest (8,000ft), a wonderful slab of submontane forest with streams and tree-ferns. Two highland forest grasshoppers, *Aresceutica vansomereni* and the sexually dimorphic *Kinangopa jeanneli* are present. Continuing westwards across the Rift Valley, another outstanding highland locality is Eburru (8,800ft). Here, the butterflies *Lycaena phlaeas* and *Pontia helice* add a hint of the distant Palaearctic to the local fauna. The Kenyan endemic *Horatosphaga longipes* occurs on bushes and the rich grasshopper fauna includes *Parasphena* sp., *Phymeurus naivashensis, Acorypha granulatus, Gastrimargus verticalis* and *Acrotylus patruelis*.

To the south and east of Nairobi, two important highland outliers, the Ngong Hills and Ol Doinyo Sabuk rise from the plains. The upland pasture along the Ngong ridge (8,000ft) holds large populations of grasshoppers including two local endemics, *Pezocatantops ngongi* and *Parasphena ngongensis,* whilst the phaneropterine *Horatosphaga leggei* was collected from woodland on the northern slopes. The summit of Ol Doinyo Sabuk (7,000ft) is alive with Clouded Yellows, *Colias electo*. Interesting grasshoppers include *Heteracris brevipennis, Aiolopus longicornis* and *Acrotylus somaliensis*. The phaneropterine *Peronura clavigera* occurs in the scrub zone lower down.

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The White Admiral, *Limenitis camilla* L. (Lep.: Nymphalidae) still present near Bexley, north-west Kent

My correspondent Keith C. Lewis mentioned (*in litt.*) his sighting of a female of this butterfly on 6th July last at the edge of Chalk Wood in the above district; he was able to watch it ovipositing on honeysuckle. Had it been (say) 1947, there would have been nothing remarkable in this, for in that year it was seen in scores in the neighbouring Joydens Wood by D.F. Owen (Chalmers-Hunt, 1960, *The Butterflies and Moths of Kent, Ent. Rec.* **72**, Supplement: (57)). I do not know what is the present status of *camilla* in north-west Kent, but 1995 is half-a-century on and it seems unlikely that the butterfly's large increase during the 1940s has held steady ever since, at least in that part of the county where it was previously very rare or absent. Mr Lewis added that it was the first time he had seen the White Admiral in his many visits to the locality.– A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

The Waved Black, *Parascotia fuliginaria* L. (Lep.: Noctuidae) in Lancashire

I was pleased to note a single specimen of the Waved Black moth in my garden m.v. light-trap on 5.viii.1995. The only place I have seen this moth before was at Wixall Moss, Shropshire on 12.viii.1979. I am not aware of any other Lancashire records, and other records of its occurrence in more northern counties would suggest the species is a migrant here.
– J.G. WHITSIDE, Dover Farm, Blackburn Old Road, Hoghton, Preston, Lancashire.

Unusual variation in the Light Emerald, *Campaea margaritata* L. (Lep.: Geometridae)

On the night of 17th August last a fresh and rather small male of what appeared to be the above moth was boxed from a lighted window of my study, the first I have encountered in this way (I have not had the species at m.v. light). Examining it while it was still alive, I was struck by the colour of the fringes – a pronounced coral-red throughout; but thinking it must be normal, though previously overlooked by me, I duly released the moth. However, the point seemed worth following up, especially when a large female from this district that I happened to have kept was found to have fringes of the expected whitish tint. Barrett (*Lep. Brit. Isl.* **7**: 112), whose accuracy and attention to detail is well known, says that, apart from a chestnut spot at tip of forewing, the cilia are silky white; and mentions no sexual difference in this feature. I now regret not having kept the red-fringed male – was it an aberration, or even a different species from *margaritata*? I would be very interested if some lepidopterist reader can throw light on the matter.– A.A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

Records from Dawlish Warren based upon confirmed sightings in the period from 1982-1995 *continued.*

GEOMETRIDAE

1663 *Alsophila aescularia* D. & S. March Moth
Common resident; larva feeds on a wide variety of deciduous trees.

1665 *Pseudoterpna pruinata* Hufn. Grass Emerald
Common resident; larva feeds on Gorse, Broom and Petty-whin.

1666 *Geometra papilionaria* Linn. Large Emerald
Common resident; larva feeds on Birch and occasionally other trees.

1669 *Hemithea aestivaria* Hb. Common Emerald
Common resident; larva feeds on a variety of trees and shrubs including Hawthorn, Blackthorn, Birch and Sallow.

1673 *Hemistola chrysoprasaria* Esp. Small Emerald
Common resident; larva feeds on Travellers Joy.

1674 *Jodis lactearia* Linn. Little Emerald
Common resident; larva feeds on Birch, Hawthorn and Bilberry.

1679 *Cyclophora porata* Linn. False Mocha

1682 *Timandra griseata* Peters. Blood Vein
Common resident; larva feeds on Dock, Sorrel and Knotgrass.

1689 *Scopula marginepunctata* Goeze, Mullein Wave
Occurring throughout southern England. Recorded by David C.G. Brown in July 1989; larva feeds on Mugwort, Yarrow, Plantain and other low-growing plants.

1690 *S. imitaria* Hb. Small Blood-vein
Common resident; larva feeds on Privet and a variety of low-growing plants.

1692 *S. immutata* Linn. Lesser Cream Wave
Widespread, but local, throughout the British Isles; larva feeds on Meadowsweet and Common Valerian.

1702 *Idaea biselata* Hufn. Small Fan-footed Wave
Common resident; larva feeds on Bramble, Dandelion and a variety of low-growing plants; prefers shrivelled foliage.

1705 *I. fuscovenosa* Goeze, Dwarf-cream Wave
Common resident; larva feeds on Bramble and Dandelion.

1708 *I. dimidiata* Hufn. Single-dotted Wave
Local in south-west England and several seen on the Warren; larva feeds on Cow Parsley and Burnet Saxifrage.

1709 *I. subsericeata* Haw. Satin Wave
Moderately common resident: larva feeds on Dandelion, Knotgrass and Plantain.

1712 *I. emarginata* Linn. Small Scallop
Locally widespread but few seen on the Warren; larva feeds on Bedstraw and other low-growing plants; prefers shrivelled foliage.

1713 *I. aversata* Linn. Riband Wave
Common resident; larva feeds on Bedstraw, Chickweed and Knotgrass.

1716 *Rhodometra sacraria* Linn. The Vestal
A regular migrant species which breeds when conditions permit; larva feeds on Dock and Knotgrass.

1719 *Orthonama obstipata* Fab. The Gem
A migrant species which breeds when conditions permit; larva feeds on a variety of garden weeds.

1722 *Xanthorhoe designata* Hufn. Flame Carpet
Found, not uncommonly, throughout the British Isles; larva feeds on Cruciferae.

1724 *X. spadicearia* D. & S. Red Twin-spot Carpet
Common resident; larva feeds on Bedstraw and other low plants.

1725 *X. ferrugata* Cl. Dark-barred Twin-spot Carpet
Generally distributed and several seen on the Warren; larva feeds on unspecified low-growing plants.

1727 *X. montanata* D. & S. Silver-ground Carpet
Common resident; larva feeds on Bedstraw and *Primula* ssp.

1728 *X. fluctuata* Linn. Garden Carpet
Common resident; larva feeds on Cruciferae ssp.

1732 *Scotopteryx chenopodiata* Linn. Shaded Broad-bar
Moderately common throughout the British Isles; larva feeds on vetches and clovers.

1735 *Catarhoe rubidata* D. & S. Ruddy Carpet
A thinly spread species that has occurred in Teignmouth; larva feeds on Hedge and Lady's Bedstraw. Recorded 28.6.1995.

1736 *C. cuculata* Hufn. Royal Mantle
Locally common but few seen on the Warren; larva feeds on Bedstraws.

1738 *Epirrhoe alternata* Mull. Common Carpet
Common resident; larva feeds on Bedstraws including Cleavers.

1740 *Epirrhoe galiata* D. & S. Galium Carpet
Locally common resident and several seen on the Warren; larva feeds on Bedstraws.

1742 *Camptogramma bilineata* Linn. Yellow Shell
Common resident; larva feeds on Dock, Chickweed, and other low-growing plants.

1746 *Anticlea badiata* D. & S. Shoulder Stripe
Found most frequently in the southern half of England; larva feeds on Wild Rose.

1747 *A. derivata* D. & S. The Streamer
Widespread southern England resident, a single specimen only seen of the Warren; larva feeds on Wild Rose.

1752 *Cosmorhoe ocellata* Linn. Purple Bar
Common resident; larva feeds on Bedstraws.

1754 *Eulithis prunata* Linn. The Phoenix
Local species but found in good numbers on the Warren; larva feeds on Black and Red Currant, also Gooseberry.

1758 *E. pyraliata* D. & S. Barred Straw
Moderately common resident and several seen on the Warren; larva feeds on Sallow, Creeping Willow and Birch.

1759 *Ecliptopera silaceata* D. & S. Small Phoenix
Found commonly throughout England and Wales; larva feeds on various species of Willowherb.

1760 *Chloroclysta siterata* Hufn. Red-green Carpet
Local species and few seen on the Warren; larva feeds on Oak, Rowan and other deciduous trees.

1762 *C. citrata* Linn. Dark Marbled Carpet
Rather local in southern England, otherwise widespread and moderately common throughout the British Isles. Recorded by Mr & Mrs Normand in June 1984 with a voucher specimen to support; larva found on Sallow, Birch, Bilberry and Wild Strawberry.

1764 *C. truncata* Hufn. Common-marbled Carpet
Common resident; larva feeds on a variety of trees and shrubs.

1765 *Cidaria fulvata* Forst. Barred Yellow
Common resident; larva feeds on Wild Rose.

1766 *Pleymria rubiginata* D. & S. Blue-bordered carpet
Widespread and locally common throughout England, Wales and Ireland; larva feeds on Alder and Blackthorn. Recorded 4.7.1995.

1768 *Thera obeliscata* Hb. Grey-pine Carpet
Common resident and several seen on the Warren; larva feeds on Pine and other conifers.

1769 *T. britannica* Turn. Spruce Carpet
Common resident and several seen on the Warren; larva feeds on Spruce and other species of Picea.

1774 *Colostygia olivata* D. & S. Beech-green Carpet
Recorded by Mr & Mrs Normand in August 1992. Very local in southern England and most frequently seen along the coast of Devon and Dorset; larva feeds on Bedstraw.

1776 *C. pectinataria* Knoch, Green Carpet
Common resident; larva feeds on Bedstraws.

1777 *Hydriomena furcata* Thunb. July Highflyer
Common resident; larva feeds on Sallows.

1778 *H. impluviata* D. & S. May Highflyer
Locally widespread; larva feeds on Alder.

1779 *H. ruberata* Freyer, Ruddy Highflyer
Local and infrequent in south-west, one seen on the Warren, and specimen taken for identification; larva feeds on Sallows especially *S. aurita*.

1781 *Horisme vitalbata* D. & S. Small Waved Umber
Mostly found on chalky soils but suspected to be breeding on the Warren; larva feeds on Travellers Joy.

1789 *Hydriomena undulata* Linn. Scallop Shell
Locally widespread in England, Wales and southern Scotland, has been taken in Devon. specimen recorded by Mr & Mrs Normand; larva feeds on Sallow, Aspen and Bilberry.

1792 *Philemera transversata* Hufn. Dark Umber
Widespread and generally common in the southern half of England. Recorded by Mr D. Brown in August 1982, although the specimen was not retained; larva feeds on Buckthorn.

1796 *Epirrita christyi* Allen. Pale November Moth
Widespread and locally common resident; adults can only be reliably identified by examination of the genitalia, but larvae of this species have been taken on the Warren; larva feeds on Maple, Blackthorn, Hawthorn and several other species.

1799 *Operophtera brumata* Linn. Winter Moth
Common resident which was at pest proportions during 1994; larva feeds on a wide variety of trees and shrubs; on the Warren it feeds mainly on the Sallows.

1803 *Perizoma alchemillata* Linn. Small Rivulet
Generally distributed and moderately common throughout the British Isles; larva feeds on the flowers and seeds of Hemp Nettle.

1808 *P. flavofasciata* Thunb. Sandy Carpet
Generally distributed resident although not many seen; larva feeds on seed pods of Campions.

1811 *Eupithecia tenuiata* Hb. Slender Pug
Locally common and a few seen on the Warren; larva feeds on Sallow catkins.

1813 *E. haworthiata* Doubl. Haworth's Pug
Locally widespread and breeding on the Warren; larva feeds on Travellers Joy.

1816 *E. linariata* D. & S. Toadflax Pug
Widely distributed and locally common in England and Wales; larva feeds on Common Toadflax.

1825 *E. centaureata* D. & S. Lime-speck Pug
Common resident; larva feeds on the flowers of many herbaceous plants.

1830 *E. absinthiata* Cl. Wormwood Pug
Widespread resident but few specimens seen at the Warren; larva feeds on flowers of Mugwort, Golden-rod, Ragwort and many others.

1833 *E. expallidata* Doubl. Bleached Pug
Local in southern England and only one seen on the Warren; larva feeds on the flowers of Golden-rod.

1834 *E. vulgata* Haw. Common Pug
Common resident; larva feeds on Sallow, Hawthorn, Yarrow and Bilberry.

1837 *E. subfuscata* Haw. Grey Pug
Common resident; larva feeds on the flowers and leaves of a wide variety of trees and shrubs.

1838 *E. icterata* Vill. Tawny-speck Pug
Common resident although not many seen; larva feeds on the leaves and flowers of Yarrow.

1839 *E. succenturiata* Linn. Bordered Pug
Widespread and common in the southern half of England; larva feeds on Mugwort.

1846 *E. nanata* ssp. *angusta* Prout. Narrow-wing Pug
Common resident; larva feeds on flowers of Heather.

1855 *E. phoeniceata* Ramb. Cypress Pug
This species first appeared in Cornwall in 1959 and has since spread eastwards along the coast; larva feeds on Cypress.

1858 *Chloroclystis v-ata* Haw. V-Pug
Common resident; larva feeds on the flowers of a wide variety of plants.

1860 *C. rectangulata* Linn. Green Pug
Common resident; larva feeds on the flowers of wild and cultivated Apple and Pear.

1862 *Gymnoscelis rufifasciata* Haw. Double-striped Pug
Common resident; larva feeds on the flowers of a wide variety of plants including Gorse, Broom, Ragwort and Heathers.

1866 *Chesias legatella* D. & S. The Streak
Generally distributed but only one confirmed specimen seen on the Warren in 1994; larva feeds on Broom and Tree Lupin.

1874 *Euchoeca nebulata* Scop. Dingy Shell
Locally widespread and only a few seen on the Warren; larva feeds on Alder.

1879 *Lobophora halterata* Hufn. The Seraphim
Well established in the southern half of Britain; larva feeds on Aspen and, occasionally, Poplar.

1881 *Trichopteryx carpinata* Borkh. Early Tooth-striped
Common resident; larva feeds on Honeysuckle, Sallow, Birch and Alder.

1882 *Pterapherapteryx sexalata* Retz. Small Seraphim
Common resident; larva feeds on Sallow.

1883 *Acasis viretata* Hb. Yellow-barred Brindle
Widespread but not common, few seen on the Warren; larva feeds on the flowers and leaves of Holly, Ivy, Wild Privet and Dogwood.

1884 *Abraxas grossulariata* Linn. The Magpie
Common resident, larva feeds on Currant, Gooseberry, Hawthorn and other plants and shrubs.

1887 *Lomaspilis marginata* Linn. Clouded Border
Common resident; larva feeds on Sallow and Aspen.

1890 *Semiothisa alternaria* Hb. Sharp-angled Peacock
Common resident; larva feeds on Sallow, Blackthorn, Alder and Sea Buckthorn.

1893 *S. liturata* Cl. Tawny-barred Angle
Common resident although usually in conifer areas; only one or two seen at the Warren; larva feeds on Scots Pine and Spruce.

1902 *Petrophora chlorosata* Scop. Brown Silver-lines
Common resident; larva feeds on Bracken.

1906 *Opisthograptis luteolata* Linn. Brimstone Moth
Common resident; larva feeds on a variety of trees and bushes.

1907 *Epione repandaria* Hufn. Bordered Beauty
Widespread and locally common; only two or three seen at the Warren; larva feeds on Sallow.

1910 *Apeira syringaria* Linn. Lilac Beauty
Locally widespread but only one seen at the Warren; Larva feeds on Honeysuckle and Wild Privet.

1912 *Ennomos quercinaria* Hufn. August Thorn
Locally widespread in England. Identified by Mr & Mrs Normand in July 1983 and by other recorders in 1982 and 1986; larva feeds on a variety of trees and shrubs.

1913 *E. alniaria* Linn. Canary-shouldered Thorn
Common resident; larva feeds on Birch and other trees.

1915 *E. erosaria* D. & S. September Thorn
Generally distributed and moderately common in the southern half of England and Wales. Identified by Mr D. Brown in July 1989 and by other recorders in 1983; larva feeds on Oak, Lime and Birch.

1917 *Selenia dentaria* Fabr. Early Thorn
Common resident; larva feeds on a variety of trees and shrubs.

1919 *S. tetralunaria* Hufn. Purple Thorn
Usually common but only two seen on the Warren; larva feeds on Birch, Oak, Alder and other trees.

1920 *Odontopera bidentata* Cl. Scalloped Hazel
Common resident although few recorded at the Warren; larva feeds on Oak, Birch, Garden Privet and other trees including conifers.

1921 *Crocallis elinguaria* Linn. Scalloped Oak
Common resident although few recorded at the Warren; larva feeds on a wide variety of trees and shrubs.

1922 *Ourapteryx sambucaria* Linn. Swallow-tailed Moth
Common resident; larva feeds on Ivy and a variety of trees and shrubs.

1923 *Colotois pennaria* Linn. Feathered Thorn
Common resident but one female seen on the the Warren; larva feeds on various trees and shrubs including Hawthorn, Birch and Blackthorn.

1931 *Biston betularia* Linn. Peppered Moth
Common resident; larva feeds on a wide variety of trees, shrubs and plants.

1933 *Agriopis aurantiaria* Hb. Scarce Umber
Generally distributed and moderately common in England and Wales; larva feeds on a variety of trees.

1936 *Menophora abruptaria* Thunb. Waved Umber
Widespread and not uncommon in the southern half of England and Wales; larva feeds on garden Privet and Lilac.

1937 *Peribatodes rhomboidaria* D. & S. Willow Beauty
Common resident; larva feeds on a wide variety of trees and shrubs including Gorse, Hawthorn and Birch.

1941 *Alcis repandata* Linn. Mottled Beauty
Common resident; larva feeds on Birch, Bilberry, Bramble and many other plants.

1945 *Cleorodes lichenaria* Hufn. Brussels Lace
Widespread and locally common in south-west England; two or three seen on the Warren; larva feeds on Lichens growing on Oak, Blackthorn and old fences.

1947 *Ectropis bistortata* Goeze, Engrailed
Found more or less commonly throughout the British Isles. Recorded by Mr & Mrs Normand in July 1982 and 1984, and also by other recorders; larva feeds on a variety of trees and shrubs.

1948 *E. crepuscularia* D. & S. Small Engrailed
Locally widespread in England, Wales and Ireland. Recorded by Mr & Mrs Normand in June 1984 and also by other recorders; larva feeds on a variety of trees and shrubs.

1955 *Cabera pusaria* Linn. Common White-wave
Common resident; larva feeds on Birch, Sallow, Alder, Oak and other trees and shrubs.

1956 *C. exanthemata* Scop. Common Wave
Common resident; larva feeds on Sallow and Aspen.

1958 *Lomographa temerata* D. & S. Clouded Silver
Common resident; larva feeds on Hawthorn, Blackthorn and other *Prunus* ssp.

1961 *Campaea margaritata* Linn. Light Emerald
Common resident; larva feeds on Oak, Birch and many other trees and shrubs.

1962 *Hylaea fasciaria* Linn. Barred Red
Widespread and not uncommon throughout the British Isles. Identified by Mr & Mrs Normand in July 1983; larva feeds on Scots Pine, Norway Spruce and probably other Conifers.

1968 *Aspitates ochrearia* Rossi, Yellow Belle
Widespread and locally common, few found on the Warren; larva feeds on Wild Carrot, Buck's-horn Plantain and probably other low plants.

SPHINGIDAE

1972 *Agrius convolvuli* Linn. Convolvulous Hawk
A migrant species which occasionally arrives in some numbers; a specimen found dead in 1990 at the Warren; larva feeds on Convolvulaceae and Field Bindweed.

1980 *Smerinthus ocellata* Linn. Eyed Hawk
Common resident; larva feeds on Willows and Sallows.

1981 *Laothoe populi* Linn. Poplar Hawk
Common resident; larva feeds on Poplar, Sallow and Willow.

1984 *Macroglossum stellatarum* Linn. Humming-bird Hawk
A migrant species which flies by day feeding in brilliant sunlight; seen on the Warren in 1994 by the Wardens; larva feeds on Hedge and Lady's Bedstraw.

1991 *Deilephila elpenor* Linn. Elephant Hawk
Common resident; larva feeds on Willow Herb and Bedstraw.

1992 *D. porcellus* Linn. Small Elephant Hawk
Widely distributed but rarely common; only two seen on the Warren; larva feeds on Bedstraw.

NOTODONTIDAE

1994 *Phalara bucephala* Linn. Buff Tip
Common resident; larva feeds on Sycamore, Sallow, Oak and many other deciduous trees.

1997 *Furcula furcula* Cl. Sallow Kitten
Generally common resident but only a few seen on the Warren; larva feeds on Sallow, Aspen and occasionally Poplar.

2000 *Notodonta dromedarius* Linn. Iron Prominent
Common Resident; larva feeds on Birch, Alder, Hazel and Oak.

2003 *Eligmodonta ziczac* Linn. Pebble Prominent
Common resident; larva feeds on Sallow, Willow, Aspen and Poplar.

2005 *Peridea anceps* Goeze. Great Prominent
Widely distributed in the southern half of England. Recorded by Mr and Mrs Normand in May 1983; larva feeds on Oak and occasionally Beech.

A THIRD BRITISH RECORD OF *ETIELLA ZINCKENELLA* TREITSCHKE (1832) (LEPIDOPTERA: PYRALIDAE) AND OTHER MIGRANTS FROM VC11.

M. JEFFES

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WINDSOR ROAD is situated some 100 metres from the River Stour and approximately 3km from the Stour and Avon estuary. A small and rather worn specimen of *Etiella zinckenella* was found on the morning of 11th August 1995 in a Robinson light trap. The first recorded British specimen was captured on 23rd October 1989 in Essex (Bretherton & Chalmers-Hunt, 1989) by A.J. Dewick whilst the second was caught on 2nd October 1990 in Warsash, Hampshire by P.M. Potts (Potts, 1992).

This came at the end of a period of migrant activity, amongst which was a single specimen of *Trachea atriplicis* (Linnaeus 1758) on 31st July 1995. Earlier in the year another new record for VC11 turned up, namely *Hypena obsitalis* (Hübner 1813) on 2nd May. During 1994 a single *Scopula rubiginata* Hufnagel (1767) occurred on 5th August and another singleton, this time of *Heliothis armigera* (Hübner 1803), on the 27th September.

A Robinson trap has been run regularly at nearby Hengistbury Head for about four years and as well as the annual regular migrants, possibly the most interesting records are of *Mythimna vitellina* (Hübner 1808) from the period September 1992 to November 1993. As well as fairly large numbers in the autumn of 1992 several were also noted in June 1993 and again many from September to November 1993. Coupled to that there have been none before or since, could this have represented an overwintering population? Another home-bred migrant could have been an unusually dark chocolate coloured *Heliothis peltigera* (Denis & Schiffermüller 1755) found on 29th September 1994.

From 1989 to 1993 I lived in Totton, near Southampton and some of the more unusual migrants that occurred there, near the Test Valley were:

Idaea degeneraria (Hübner 1799)	26th August 1990.
I. vulpinaria (Herriich-Schaffer 1851)	14th August 1991.
Drepana curvatula (Borkhausen 1790)	22nd August 1994.
Euplagia quadripunctaria (Poda 1761)	6th September 1991.
Trichoplusia ni (Hübner 1803)	25th July 1992.
Pericallia ricinii (Fabricius)	31st July 1992.

The record of the Indian tiger, *P. ricinii* is most interesting as the probable origin is via Southampton docks, some three miles away. This species apparently is not a known pest on foodstuffs from the Indian subcontinent so on what import it came over will remain a mystery.

Acknowledgements

I am grateful to Mr Barry Goater for his regular help with the positive identification of many specimens, not just the ones mentioned above. I would also like to thank Mr David Goodger at The Natural History Museum for supplying extra information concerning *P. ricinii* after the Entomology Department had positively identified the specimen.

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An unusual form of *Aglias urticae* L. (Lep.: Nymphalidae) from Devon

On 15th August 1995 I noticed a very distinctive variety of *Aglias urticae* L. (Small Tortoiseshell), flying in the company of numerous typical examples around a buddleia bush at my home in Devon. The butterfly was a fresh female and featured a continuous black band linking the central costal black mark to the spot in space 1b. It appears to be the form referred to in Emmet: *Moths and Butterflies of Great Britain and Ireland* Vol. 7 (1) as ab. *connexa* Cabeau.– R.W. Bogue, Kingston House, Tuckermarsh, Bere Alston, Devon PL20 7HB.

Sphinx ligustri L. f. *albescens* Tutt (Lep.: Sphingidae) in Hampshire

A specimen of this rare form in which the pink colour is replaced by white on the hindwings and abdomen only was taken on 21st June 1995 whilst running a mercury vapour trap with J. Chainey near Emery Down, Hampshire. Another specimen was taken this year on 22nd June at Brockenhurst by M. Middleton and D. Russwurm who tell me that his is the fourth example they have seen there since 1976.– R. Cook, 11 Greensome Drive, Ferndown, Dorset BH22 8BE.

Ancylosis oblitella Zell. (Lep.: Pyralidae) in Kent

I was rather surprised to find a fresh specimen of *A. oblitella* in my garden trap on the morning of 2nd September 1995. I have not seen this species in the garden since it became temporarily abundant all over southern England in 1976 (*Ent. Rec.* **88**: 318). It is mildly interesting that 1995 has been compared frequently, though not always accurately, with 1976 for its pattern of prolonged hot, dry weather.

In recent years, this species has been rather scarce with small numbers being noted along the Thames estuary.– Paul Sokoloff, 4 Steep Close, Green Street Green, Orpington, Kent BR6 6DS.

IT WAS MIGRATION – THE EXCEPTIONAL ABUNDANCE OF THE LARGE WHITE BUTTERFLY *PIERIS BRASSICAE* (L.) IN 1992

HOWARD MENDEL

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IN CONSIDERING the exceptional abundance in Britain of the Large White Butterfly *Pieris brassicae* (L.) in 1992, Pollard (1994) asked, "Was it migration?" He concluded that "The question posed . . . has not been resolved conclusively" but suggested that "the similarity and regularity of the pattern of counts over wide areas of southern England suggest emergence within the country rather than immigration from abroad". In his paper Pollard treats naturalists' observations and reports from other interested members of the general public as "anecdotal". A growing number of professional entomologists give undue weight to mathematics and statistics, preferring numbers to less easily quantified first-hand observations.

What is the evidence for a massive immigration of *P. brassicae* from the Continent in 1992? I first became aware of a sudden, unusual abundance of *P. brassicae* around the middle of July when, on leaving my house at Martlesham Heath (about ten miles from the Suffolk coast) one morning, I noticed that the large bed of lavender in my front garden was covered with them. A telephone call to Mr S.H. Piotrowski (then Suffolk Butterfly Recorder) confirmed that this sudden appearance of butterflies was not confined to my garden. He had seen similar large concentrations along the Suffolk coast and had heard reports of others both within and outside Suffolk. For example, on the 18th July Mrs E.M. Parsons reported "huge and extra-ordinary numbers of *P. brassicae*" feeding on sea lavender on the saltings adjoining Hamford Water, Little Oakley, North Essex. On the very same day, Mr J.P. Bowdrey (*in litt.*) at Dunwich in Suffolk witnessed "hundreds of *brassicae* coming in off the sea, flying up the cliff and then crowding onto any available flower to feed. Weather conditions were sunny and warm with only a slight breeze from the sea". There were numerous similar reports and the build-up of interest prompted the Suffolk Naturalists' Society to issue a press release, "Invasion of Cabbage Butterflies", on 20th July.

The press release generated a tremendous response, both locally and nationally. Records came in to Ipswich Museum, to the Suffolk Biological Records Centre and to Butterfly Conservation who, by that time, realised something unusual was happening. Most of the reports referred to large concentrations of butterflies along the Suffolk coast but detailed information supplied by Mrs J.M. Hannaford (*pers. comm.*) was more enlightening. On 14th July she was on a yacht, sailing with friends from Woolverstone, via Harwich Harbour, to Holland. Between 6pm and 7pm they were about half a mile past the Sunk Light Vessel (located 14 miles south-east of Harwich at 51°51'N 1°35'E). For two to three miles they sailed through a huge swarm of *P. brassicae* heading towards the east coast of Britain. Some of the butterflies were floating on the water, others touched down but managed to

take off again. Interestingly, some of the butterflies were *in cop* and others were attempting to copulate. Most of the butterflies were in flight six to ten feet above the water. The wind was from the south-west, force 2-3.

Nigel Odin (*in litt.*) of Landguard Bird Observatory, near Felixstowe on the Suffolk coast, recorded "probably thousands" of *P. brassicae* at Landguard on dates in July. "Large numbers were seen flying over the sea" and he is in no doubt "that a vast migration of Large Whites took place". The report of Sandwich Bay Bird Observatory (Batchelor, 1994) on the south Kent coast is both detailed and fascinating – "15th July heralded the start of an immense immigration of these butterflies . . . many thousands were observed flying in off the sea from the E.N.E. and continuing inland to the west-south-west . . . With no sign of diminution in numbers the next day, a series of one-minute spot counts was made over a 200 yard stretch of beach at Princes which resulted in an average passage of 362 insects per minute . . . The movement continued apparently unabated for the next ten days". Clearly the network of Bird Observatories in Britain has a valuable part to play in monitoring butterfly migration as well as bird migration.

It is not my intention to comprehensively review the evidence for a massive immigration of *P. brassicae* in July 1992, although that would certainly be worth doing. I merely want to make the point that there is ample evidence that there *was* a massive immigration of *P. brassicae* from the Continent (quite likely originating in France) in July 1992 – in spite of Pollard's analysis of data from the Butterfly Monitoring Scheme and the counts made through an office window on Felixstowe Docks that he uses. Neither is it my intention to diminish the value of the Butterfly Monitoring Scheme. It records numbers not origins and simply was not designed to "recognise" immigration. The Butterfly Monitoring Scheme is very useful in many ways but does not replace the data provided by the army of amateur recorders and observers who still have a most valuable part to play in the study of our insect fauna. The information that they supply augments and tests the work of that scarce species, the professional entomologist. With a little effort it is not difficult to substantiate much of their data which might otherwise be condemned as "anecdotal".

Acknowledgements

My thanks to Mr J.P. Bowdrey (Assistant Curator of Natural History, Colchester Museums), Mrs J.M. Hannaford, Nigel Odin (Landguard Bird Observatory Warden), Mr E. Parsons (then Suffolk Naturalists' Society Press Officer) and Mr R. Stewart (Suffolk Butterfly Recorder) for supplying me with information for this note.

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TWO SPECIES OF SPHINGIDAE (LEPIDOPTERA) NEW TO FIJI

JOHN CLAYTON

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TWO ADDITIONAL SPECIES of Sphingidae (*Hippotion scropha* (Linnaeus) and *Theretra nessus* (Drury)) have been recorded from Fiji. The level of previous recording in Fiji makes it difficult to assert positively that these have recently arrived in the country, but the frequency and/or ease with which they were taken suggests that this is probably the case.

Previous systematic recording of Lepidoptera in Fiji has been limited. In the last 20 years, the only substantial published work has been that of Robinson (1975). In this, he records ten species of Sphingidae. Earlier, Phillips (1930), published a list of species of Lepidoptera occurring in Fiji. The Fijian word *ruru* is used to refer generically to all night-flying species of Sphingidae, and no information concerning the occurrence of individual species has been available from local knowledge. However, it is difficult to believe that neither Phillips nor Robinson would have recorded these species if they had occurred in their present numbers.

Since early 1991, light-trapping has been carried out in areas easily accessible from Suva. In addition, a small amount of collecting has taken place occasionally in other parts of Fiji and the South Pacific when these were visited. The observations described in the following paragraphs refer to this programme.

Hippotion scropha (Linnaeus). Five specimens of this species were taken at house lights on a single evening at a house at Uciwai Beach, about 15km south of Nadi, grid reference L28/4604 on the night of 23.vii.1994. The area is one of sugar cane fields adjacent to a sandy beach. The surrounding area is cultivated, mostly with sugar cane.

Theretra nessus (Drury). Specimens of this species were taken as follows:

Suburban garden locations in Suva. Six specimens were taken on two occasions during 1991 (31.iii.1991 and 17.xii.1991) at GR O29/7076 and one (24.iv.1995) at GR O29/6772.

Reef Resort, Korotogo, a resort hotel, on the southern coast of Viti Levu (GR L29/7369). A single specimen was taken at a room light on the night of 25.xii.1991. The resort is situated in an area of mixed agriculture, with some sugar cane.

Nukurua Forest Reserve, Tailevu (GR O28/7397). This is an area of extensively modified lowland rain forest. A total of ten specimens were taken (12.ii.1993, 4.xi.1993, 1.iii.1994 and 6.xi.1994).

Galoa Forest Plantation, Serua (GR M29/1867). This is an area of extensively modified rainforest, situated at an altitude of around 500m. Two specimens were taken on each of two occasions (21.iv.1993 and 20.i.94).

Namosi Highlands (N29/3978). Relatively undisturbed rainforest at an altitude of around 600m. Six specimens were taken (28.iv.1995).

In a recent published work (Common, 1990), the following observations are made about the distribution of these species in the South Pacific:

Hippotion scropha is a common species throughout mainland Australia and Tasmania, and also occurs in New Caledonia, the New Hebrides and occasionally on Norfolk Island.
Theretra nessus . . . ranges from India through south-east Asia to New Guinea, eastern Queensland, north-eastern New South Wales, the New Hebrides, the Loyalty Islands and New Caledonia.

The following additional information has been obtained about the distribution of these species in the Pacific. The collection of the Bishop Museum in Honolulu, Hawaii (Miller, *pers. comm.*) contains specimens as follows: *Hippotion scrofa,* New Caledonia and *Theretra nessus,* New Caledonia and New Hebrides (now Vanuatu). *Theretra nessus* appeared in Hawaii for the first time in 1974 (Reimer, *pers. comm.*) and spread rapidly through the group, although it is interesting to note that the species still appeared to be absent from Fiji in 1975 (Robinson, *pers. comm.*). Robinson also recorded *Hippotion scrofa* from Vanuatu in 1971.

When so many species are suffering from reductions in ranges, it is encouraging to find these two species extending their distribution.

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Up in the clouds

In my article some years ago on Butterflies in Lanzerote (*Entomologist's Rec. J. Var.* **103**: 79-81) I remarked on the reaction of a fellow holidaymaker to the statement that a certain species "usually flew at 1500 feet". It became apparent that he took this to mean there was a sort of layer 1500 feet up in which the butterflies generally flew.

Now, I find that I have, myself, once been caught in a similar misunderstanding!

When we were little my father kept what he called a Children's Diary – a little notebook in which he jotted down our sayings and doings. An entry for August 1932 (I would have been seven and we were on holiday at Austwick) reads: "Mr Cheetham, the entomologist, told Geoff that some flies come in clouds. Geoff, in all innocence, enquired 'how he got up there to get them'!"

– G.G. Baldwin, 22 Edgerton Grove Road, Huddersfield, West Yorkshire HD1 5QX.

RHINONCUS ALBICINCTUS GYLL. (COL.: CURCULIONIDAE) IN SOUTH-EAST LONDON, A THIRD BRITISH LOCALITY

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AS PART of a biological survey of Beckenham Place Park, in the borough of Lewisham, south-east London (VC16, West Kent), I visited the area on 24.v.1995 to examine a small pond. Much of the park is given over to a golf course, and the pond sits between one of the greens, a car park and the narrow boundary woodland abutting houses and flats. It is surrounded by a high chain-link fence with thick hawthorn hedge and is overshadowed by a large oak and many other trees. The narrow banks between hedge and water are overgrown with bramble and other shrubs and emergent vegetation is limited to a small area of woody nightshade and yellow flag in a few places. I was therefore more than a little surprised to discover that along with numerous specimens of the common waterside weevil *Poophagus sisymbrii* (F.) I had swept a single specimen of the enigmatic *Rhinoncus albicinctus* Gyll.

R. albicinctus is associated with the amphibious bistort *Persicaria amphibia* (L.) Gray (Formerly *Polygonum*) in its aquatic form *natans* (Morris, 1976), but as far as I could remember at the time, this plant had not been present in the pond. A return visit on 19.vi.1995 failed to find either the plant or further specimens of the weevil, although the *Poophagus* was still found commonly by sweeping the meagre vegetation.

After ascertaining the whereabouts of some *Persicaria* in the Park, a further return visit was made on 27.vi.1995. Sure enough small patches of the foodplant were growing along the banks of the River Ravensbourne, about 1km east of the pond. However, these were all of the upright terrestrial growth form and they produced only a couple of specimens of the common *Rhinoncus pericarpius* (L.).

Rhinoncus albicinctus was first recorded as British from a small site on the banks of Virginia Water, Berkshire, where it was found in 1972 (Allen, 1974). However, the weevil has subsequently been discovered at the Powdermill Reservoir between Brede and Seddlescombe in East Sussex (Hodge, 1992). This large lake contained plenty of *P. amphibia* f. *natans* during 1992, but by 1994 the water level had dropped several metres and the exposed mudflats were covered in a blanket of the non-aquatic form of the plant. Nevertheless the weevil was still present and a single example was swept from this now exposed site on 23.viii.1994 (Jones, 1995). It is obviously breeding successfully in its Sussex locality, and although only a singleton could be found in Beckenham Place Park, its breeding status is suggested by the fact that the lone specimen was slightly teneral.

In both the insect red data book (Morris, 1987) and the recent review of scarce Coleoptera (Hyman & Parsons, 1992), *R. albicinctus* was accorded

red data book (RDB) status 1, "endangered", on the grounds that it was then known from just the single Berkshire locality. With its discovery at yet another site, it is possible that the beetle's status needs to be re-examined. It is intrinsic, albeit ironic, that with every new discovery a rare insect becomes less rare, and it is debatable whether an RDB1 species found in two new widely separated localities suggests a revised status of RDB2 "vulnerable" or RDB3 "rare". It is also possible that the weevil is, in fact, a newcomer to the British fauna and is now only beginning to spread; in which case it would not qualify for even "notable" status! Having said this, the foodplant, *Persicaria amphibia,* is common and widespread and were the weevil a true immigrant it is likely that it would have been discovered elsewhere before now. Only a retrospective analysis in, say, ten to twenty-five years, will illuminate the issue.

Acknowledgements

I am grateful to Mr Bernard Bligh of Lewisham Borough Council for bringing the small pond to my attention and to Mr Nick Bertrand for information on *Persicaria.* Mr Peter Hodge kindly confirmed my identification of the weevil.

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A sighting of *Nymphalis antiopa* L. (Lep.: Nymphalidae) in Kent

Walking with a friend and her dogs at Ide Hill, Kent, on 2.viii.95, my attention was caught by a large yet unfamiliar butterfly. This turned out to be a fine example of *Nymphalis antiopa* L. (Camberwell Beauty). It approached from the south and was visible for around ten seconds, before vanishing into the birch saplings that are now colonising the open ground left by the 1987 hurricane.– R.W. Bogue, Kingston House, Tuckermarsh, Bere Alston, Devon PL20 7HB.

A LIST OF BEETLES RECORDED FROM KIMBERS, MAIDENHEAD, BERKSHIRE 1964 –1994

B. VERDCOURT

Royal Botanic Gardens, Kew, Surrey TW9 3AB.

SINCE RETURNING from Kenya in 1964, I have lived on the edge of town at Spring Cottage, Kimbers Lane, Maidenhead (vice-county 22, SU 884793, 35 metres altitude). The lane, bordered by a ditch, has remained relatively rural. It was once bordered by elm trees, a species now represented only by suckers, but hawthorn and sallow are common. Intermittent springs keep the area damp. The soil rests on heavy clay and although there has probably been a seat at Kimbers since the fifteenth century, oak woods continuous with Windsor Forest must have covered the area.

I have not actively collected but have attempted to name anything which caught my attention. For a thirty-year period the list is very short; I have in fact been very desultory in writing down the records but it is possible that at least a few of them will add a dot to a distribution map.

I am grateful to Mr A.A. Allen, not only for identifying species which had defeated me and confirming others, but also for reading through the list and checking the nomenclature.

CARABIDAE

Cychrus caraboides (L.) – viii.1968.
Carabus violaceus L. – regular resident, also one in toilet basin, 31.vii.1994.
Leistus ferrugineus (L.) – in barbecue pit, 28.iv.1984.
L. rufomarginatus Duft. – found dead in herbaceous border, 13.xii.1992.
Notiophilus biguttatus (Fabr.) – very common on lawn and bare damp soil.
Bembidion biguttatum (Fabr.) – under log in adjacent field subject to flooding, 25.ii.1979.
Badister bipustulatus (Fabr.) – 6.v.1990.
Harpalus affinis (Schrank) – fragment in hall, viii.1994.
H. rubripes (Duft.) – in house (usually on sandy, chalky or gravelly soil).
Bradycellus verbasci (Duft.) – at light, 25.viii.1990; in house, 8.viii.1992; numerous at light between 10 and 11pm, early viii.1994.
Amara ovata (Fabr.) – 3.i.1990 (tibiae dark but narrow shape).
A. aulica (Panz.) – vii.1991.
Pterostichus madidus (Fabr.) – very common.
Calathus fuscipes (Goeze) – 8.x.1991.
C. melanocephalus (L.) – in web, 25.viii.1990.
Dromius quadrinotatus (Panz.) – dead in branchlet of privet, i.1991; 1994.
Metabletus foveatus (Geoffr.) – on white wall, 1.vi.1994.

DYTISCIDAE

Agabus nebulosus (Forst.) – small pond reservoir of garden fountain, 24.vi.1994.

A. bipustulatus (L.) – ditto, 24.vi.1994; flying, 28.vii.1981.
Ilybius fuliginosus (Fabr.) – dead in sunroom, 1994.
Colymbetes fuscus (L.) – 24.viii.1994; 6.xi.1994.

HYDROPHILIDAE
Helophorus aequalis Thomson – under stones around fountain, on car roof (*Ent. mon. Mag.* **119**: 110 (1983) & **129**: 118 (1993)).
H. brevipalpis Bedel – with last.
H. minutus Fabr. – with last.

SCYDMAENIDAE
Scydmaenus tarsatus Müll. & Kunze – 17.vi.1981; 15.viii.1981.

STAPHYLINIDAE
Proteinus ovalis Steph. – in fungus, x.1991.
Phloeonomus punctipennis (Thomson) – under bark of old wet logs of *Pinus radiata,* 10.iv.1994.
Carpelimus pusillus (Grav.) – under bark, 20.iv.1994.
Oxytelus sculpturatus Grav. – 30.i.1991.
Stenus similis (Herbst) – 5.vii.1991.
Ocypus ater Grav. – dead in garden, viii. 1989; sunroom, 24.iv.1994.
O. morsitans Rossi (=*compressus* Marsh.) – at light, 16.viii.1991.
O. olens (Müll.) – Common.
Tachyporus chrysomelinus (L.) – in house, 26.i.1991.
Tachinus rufipes (Degeer) – vii.1983, in house; 27.vii.1994.

HISTERIDAE
Hister merdarius Hoffm. – 13.v.1965.

LYCIDAE
Platycis minutus (Fabr.) – on tomato leaves in vegetable patch, 16.viii.1993 (Notable B).

MALACHIIDAE
Malachius bipustulatus (L.) – on nettles, 6.v.1990.
Anthocomus fasciatus (L.) – bathroom, 24.iv.1966.

ELATERIDAE
Athous haemorrhoidalis (Fabr.) – Spring Hill, *Juncus* patch, 27.iv.1990.
Agriotes acuminatus (Steph.) – ditto.
A. lineatus (L.) – hibernating in sunroom, 5.ii.1994.

BUPRESTIDAE
Agrilus pannonicus (Pill. & Mitt.) – dead in sunroom, 19.vii.1991, (Notable A) (*Ent. mon. Mag.* **128**: 184 (1992)).

DERMESTIDAE
Attagenus pellio (L.) – in house, frequent.
Megatoma undata (L.) – in house, 19.vi.1972.

Anthrenus verbasci (L.) – very abundant in house, attics etc.
A. fuscus Ol. – 13.vi.1965, on *Heracleum,* 18.vii.1981.

BYRRHIDAE
Byrrhus pilula L. – in dustbin, 1.vii.1985; under stone near folly, 22.iv.1994.

NITIDULIDAE
Brachypterus glaber (Steph.) – abundant on nettles every year.
Meligethes aeneus (Fabr.) – 27.viii.1984, vast numbers mostly in yellow flowers, *Spartium* etc., 14.vii.1985.
M. flavimanus Steph. – 10.vi.1994.
Epuraea aestiva (L.) – 12.iv.1992.

RHIZOPHAGIDAE
Rhizophagus bipustulatus (Fabr.) – xii.1964.

CRYPTOPHAGIDAE
Cryptophagus scanicus (L.) – in stored apples, 23.iv.1994.
Antherophagus nigricornis (Fabr.) – on bramble, 15.vi.1990.

LATHRIDIIDAE
Aridius nodifer (Westwood) – vi.1981; 9.v.1981.
A. bifasciatus (Reitter) – ix.1965; vi.1981; in study, 2.vii.1990.
Lathridius anthracinus (Mann.) – in bathroom, 4.viii.1992.

MYCETOPHAGIDAE
Pseudotriphyllus suturalis (Fabr.) – x.1991.
Litargus connexus (Geoffr.) – 1977.
Mycetophagus quadripustulatus (L.) – one in a blewitt, 27.viii.1984.

COLYDIIDAE
Aulonium trisulcum (Geoffr.) – flying, 20.vii.1977 (Notable A) (*Ent. mon. Mag.* **114**: 16 (1979)).

ENDOMYCHIDAE
Endomychus coccineus (L.) – under elm bark, viii.1966, 27.iii.1967.

COCCINELLIDAE
Subcoccinella vigintiquattuorpunctata (L.) – Spring Hill, marshy ground, 14.v.1990.
Rhyzobius litura (Fabr.) – Spring Hill, marshy ground with *Juncus*, 27.iv.1990, 7.v.1990.
Tytthaspis sedecimpunctata (L.) – in lawn. 7.v.1990; Spring Hill, in *Juncus* tussocks, 27.iv.1990; pine needle litter on sunroom roof (dead), 25.i.1992.
Adalia decempunctata (L.) – 30.iv.1990, 25.vii.1990.
A. bipunctata (L.) – common every year, red on black 11.iii.1990, species less common than 7-spot, formerly hibernated in bedrooms in numbers but double-glazing and central heating has nearly stopped this.
Coccinella septempunctata L. – very common every year, hibernating 17.ii.1990 then active 23.ii.1990, vast numbers *in cop,* 30.iii.1990.

Harmonia quadripunctata (Pont.) – 25.vi.1990.
Psyllobora vigintiduopunctata (L.) – 25.vi.1990, Spring Hill, on thistles, 16.vii.1990.
Propylea quattuordecimpunctata (L.) – common every year on nettles.
Exochomus quadripustulatus (L.) – on small Christmas tree planted after use for decoration, 11.iii.1990.

LYCTIDAE
Lyctus brunneus Steph. – 27.x.1979.

ANOBIIDAE
Xestobium rufovillosum (De Geer) – old beam lying in lower pasture field, 21.iii.1967, 21.v.1967.
Anobium punctatum (De Geer) – old beams in house, constantly about.
Ptilinus pectinicornis (L.) – from elm log in log bin, 21.v.1984.

OEDEMERIDAE
Ischnomera cyanea (Fabr.) (probably) – on *Robinia,* 18.vi.1985 (Notable B).

PYTHIDAE
Lissodema quadripustulatum (Marsh.) – elm log infested with *Ptilinus,* 20.v.1984.
Rhinosimus planirostris (Fabr.) – on dead *Eucryphia* and numerous under bark, 6.iii.1983; ditto, with mites, 10.vii.1992.

PYROCHROIDAE
Pyrochroa serraticornis (Scop.) – mostly on nettles, 21.v.1981, 27.v.1985, 14.vi.1986, 25.v.1987, 17.v.1990, 5.vi.1994.

MORDELLIDAE
Mordellistena pumila (Gyll.) – on oak and *Vicia,* 5.vi.1965.

SCRAPTIIDAE
Anaspis frontalis (L.) – recorded.
A. garneysi Fowler – 27.iii.1990.
A. pulicaria Costa – v.1992.
A. geoffroyi Müll. – wall of house, 18.vi.1981.
A. maculata Geoffr. – in house, 29.iii.1992.

MELANDRYIDAE
Melandrya caraboides (L.) – under log near stream, 20.v.1966.

LAGRIIDAE
Lagria hirta (L.) – at light, 16.vii.1994.

TENEBRIONIDAE
Scaphidema metallicum (Fabr.) – under bark, iii.1966.
Corticeus bicolor (Ol.) – 1977.

Tenebrio molitor L. – in study, 18.vii.1994.

SCARABAEIDAE

Aphodius rufipes (L.) – garage, 22.xi.1981.

A. contaminatus (Herbst.) – on damp washing, 2.x.1994.

Trox scaber (L.) – at light, 12.vii.1983.

Serica brunnea (L.) – wine store, 22.vii.1984.

Melolontha melolontha (L.) – only two seen in 30 years, 10.v.89, one in house, 9/10.v.1994.

LUCANIDAE

Lucanus cervus (L.) – in garden, Kimbers Lane and Spring Hill, 20.vi.1981 (male), 5.vii.1981 (female, eaten by magpie), 23.vi.1985 (female), 15.viii.1985 (female), 5.ix.1986 (female), 3.vii.1990 (female), 10.vii.1990 (male), 27.viii.1990 (females), vi.1991 (female), none seen in 1994, (Notable B) (*Ent. mon. Mag.* **124**: 36 (1988); **126**: 196 (1990)).

Dorcus parallelipipedus (L.) – a regular resident and often plentiful, old logs in garden, 24.ix.1966 (female), 30.vii.1967 (female), 2.vi.1984 (male), 10.vii.1985, on wall, 19.vii.1988, Spring Hill, old elm stumps riddled with holes, 16-17.v.1990, 11.v.1991.

CERAMBYCIDAE

Molorchus minor (L.) – on paeony bud.

Clytus arietis (L.) – once present every year but not seen recently although the vast area of brambles would appear to be very suitable for it.

Anaglyptus mysticus (L.) – in house, probably from elm log, 5.v.1984; garden, 25.v.1992 (*in cop*), 5.vi.1993 (Notable B).

Pogonocherus hispidus (L.) – 20.ix.1972.

Grammoptera ruficornis (Fabr.) – every year on hawthorn in mid-May.

Phytoecia cylindrica (L.) – 27.iv.1990 (Notable B) (*Ent. mon. Mag.* **127**: 143 (1991)).

Tetrops praeusta (L.) – dead in sunroom, 10.vi.1994.

CHRYSOMELIDAE

Lema cyanella (L.) – under elm bark, 7.xi.1981; Spring Hill, under *Juncus*, 27.iv.1990.

Lilioceris lilii (Scop.) – 15.v.1983, not seen again until outbreak on lilies in tub, 23-24.vii.1994.

Chrysolina staphylaea (L.) – 18.ix.1992.

C. oricalcia (Müll.) – on *Anthriscus*, 14.vi.1985; in house, 17.ix.1989 (Notable B) (*Ent. mon. Mag.* **129**: 243 (1993)).

Cassida rubiginosa Müll. – on spear thistle.

CURCULIONOIDEA

Rhynchites aequatus (L.) – recorded.

Apion curtirostre Germar. – on *Trifolium*, 4.vi.1965; on oak and *Vicia* 5.vi.1965.

A. seniculus Kirby – on *Trifolium*, 4.vi.1965; on *Vicia* and oak, 5.vi.1965.

A. carduorum Kirby – recorded.
A. apricans Herbst. – on *Trifolium* 4.vi.1965.
A. assimile Kirby – on *Trifolium,* 4.vi.1965.
Otiorhynchus rugosostriatus (Goeze) – 1977.
O. sulcatus (Fabr.) – sunroom, 15.vi.1986.
Phyllobius virideaeris sensu Joy – on oak and *Vicia,* 5.vi.1965.
P. pyri (L.) – on *Vicia* and oak, 5.vi.1965; in paeony flowers, 7.v.1991; Spring Hill, abundant on white poplar, 27.iv.1990.
P. pomaceus Gyll. – on *Vicia* and oak, 5.vi.1965.
Barynotus obscurus (Fabr.) – on wall, 8.vii.1991.
Sitona hispidulus (Fabr.) – 25.v.1991.
Euophryum confine (Broun) – on front door, 6.vi.1982, 5.vi.1993.
Dorytomus taeniatus (Fabr.) – on sallow, 1977.
D. dejeani Faust. – Spring Hill, *Juncus* site, 27.iv.1990.
Anthonomus pomorum (L.) – recorded.
Balanobius salicivorus (Payk.) – 16.v.1992.
Hylobius abietis (L.) – 5.vi.1992.
Liosoma deflexum (Panz.) – on garage wall, 24.iv.1990.
Cidnorhinus quadrimaculatus (L.) – 3.vi.1965, 13.v.1990.
Ceutorhynchus pollinarius (Forst.) – 7.v.1990.
Gymnetron pascuorum (Gyll.) – on oak and *Vicia,* 25.vi.1965.
Cionus tuberculosus (Scop.) – Spring Hill, *Juncus* site, 27.iv.1990.
C. scrophulariae (L.) – Spring Hill, *Juncus* site, 27.iv.1990; garden and neighbouring ditch, on *Scrophularia,* occurs most years.
Rhynchaenus alni (L.) – on *Vicia* and oak, 5.vi.1965.
Scolytus scolytus (Fabr.) – elm hedge, mid 1960s.
Hylastes ater (Payk.) – 11.x.1991; on washing 13.iii.1993; in house with mite 25.iv.1993; garden under *Pinus radiata* log, 28.x.1993.
H. attenuatus Erichson – on washing, 30.iv.1993; in house, 10.v.1993.

Migrant insects in 1995

Although very few records of migrant insects have reached the offices of the *Record* it is clear some species have had a very good year – and at the time of writing the autumn influxes are still to come. Elsewhere in this issue we record the third British record of the pyralid *Etiella zinckenella* Treits. and the third record this century of the noctuid *Acontia lucida* Hufn. Even *The Times* of 10th August 1995 carried a feature entitled *Heatwave prompts an invasion of long-lost butterflies.* An interesting aspect of this article was the source of information, particularly for sightings of the Camberwell Beauty, *Nymphalis antiopa.* Many of the records came from the *Bird Information Centre* and, as illustrated below, the *Rare Bird Alert.* Dutch entomologists, who have similarly seen many migrant *antiopa* in Holland have recorded the sightings on the Internet – the international computer network. In addition to sightings of the Camberwell Beauty, *The Times* article carries reports of over 70 Yellow-winged Darter Dragonflies (*Sympetrum flaveolum* Muller) from

Dungeness, Kent and Great Yarmouth, Norfolk (a note on this will appear in the January issue). After a refreshingly interesting piece on butterflies and dragonflies, *The Times* concludes with both gravity and perversity that the hot weather had been affecting Crows who had been hammering on windows at dawn with their beaks!– PAUL SOKOLOFF.

Hazards of butterfly collecting – Stardom at last, India, Christmas 1985.

In 1985 I was invited to do a twenty-minute programme on butterfly migration on All-India Television, which was running a nature series financed by the Canadian International Development Agency. A fee of Rupees 250- was at some point mentioned, just enough for a crate of beer, though it never materialised. Nor did reimbursement of Rs 17.50 costs.

It should be thus clear that this was cut-price television. The whole show was taped in the studio during a single afternoon, with me, a microscope, some books, some butterflies, and a handful of slides as the only props. It came out somewhat better than might have been expected, and the Canadian tax-payers certainly had bang for their bucks.

There is probably no part of the world where migration plays such an important part in the ecology of butterflies as in lowland, peninsular India. There is significant migratory activity every year, sometimes reaching spectacular proportions. Mostly, it would appear, butterflies from the wetter parts of the country migrate north-east just before the onset of the main south-west monsoon, breeding in areas where they are not permanently present, some moving back south as the monsoon retreats. One large migration somewhere near Bombay was even picked up by a large cyclonic system and liberally sprinkled over the whole of eastern Arabia (Larsen & Pedgley, 1985, *Ecological Entomology* **10**: 235-8).

I wanted to learn more about this phenomenon, matching my own observation in Dehli and elsewhere with those from other parts of India, so I ended the programme by asking for information about butterfly migration, *and* giving my address.

The decision to give the address was not lightly taken. I had visions of serried ranks of postal officials staggering through the garden with sackfuls of mail – after all, there are a potential 850 million viewers out there! But then no address, no information.

In the event, I received less than 100 letters, though of the broadest possible spectrum. Disappointingly few pertained to the matter of butterfly migration, some girls sending nice paintings of butterflies, with covering letters obviously prompted by ambitious mummies, were rather thicker on the ground. There was also a polite reminder from a manager of a matrimonial introduction agency that my spousal market-value as a "celebrated television personality" had markedly increased. Several astrologers proferred their services, emphasising that these were available "by invitation only to prominent people".

Most of the mail did not lend itself so readily to categorisation, consisting of rambling paeans and panegyrics to the wonders of nature and/or "your goodself". One of the more cogent and precise of these missives read as follows:

Mr Torben
J-17 Hauz Khas
New Dehli 16

"ARISE, AWAKE AND STOP NOT UNTILL (sic) THE GOAL IS REACHED".

The Savant,
"I have roamed from country to country keeping HER in the love of my heart, and around HER have risen and fallen the growth and decay of my life". HER really refers to the butterfly in your life.
Your research (butterfly migration) is the burgeoning source to me and it helps me to conclude that really a research can be carried out on such topics, which (concerning butterfly) was and is my rampant quality and interest.
I am a student (20 yrs) studying statistics. Please let me know if I can be of help to you.
With my obeissance and veneration, happy X-mas,
loads of love
yours
Debasis.

During a recent visit to India, I learnt that the tape is still regularly shown on educational TV (there was also some talk of repeat fees). They may have left out the address, since I get no more feed-back – or possibly the present inhabitants of J-17 Hauz Khas enjoy the correspondence.

Be that as it may, I must confess to missing the endearing, naive crankiness that is an ever-present component of the incredible cocktail that life in India mixes.– TORBEN B. LARSEN, 358 Coldharbour Lane, London SW9 8PL.

Malacosoma castrensis L.(Lep.: Lasiocampidae) recorded from Devon

Fully-grown larvae of *M. castrensis* were found on a variety of plants including *Rumex crispus, Daucus carota* and *Salix* sp. growing on the shingle beach at Seaton, Devon. Skinner (*Colour identification guide to moths of the British Isles*) gives the distribution of this lasiocampid moth as being the coastal areas of north Kent, Essex and Suffolk. Over 100 larvae were seen on 24th June 1995.– G. KING, 22 Stoney Meade, Slough SL1 2YL.

Further records of *Malacosoma castrensis* L. (Lep.: Lasiocampidae) from Devon

Following the report of this species near the mouth of the river Axe in Devon by Mr King (*antea*: 306) I have two further records of larvae of this species – one by Dr Dennis Owen who saw them on the saltings at Axmouth on 17.vii.1995 and a further by Dr Owen who reports further sightings by Dr Colin Dawes on 26.vi.1995 at the same locality. Subsequently light traps were run on the saltings at Axmouth on 31st July, and adults of both sexes were obtained. Interestingly, the ground colour seems more straw-coloured than those from the north Kent coast.

The records are extraordinary given the distribution of this species. It is possible, but unlikely, that the species has always been resident – or could they have been introduced by some irresponsible person?– R. McCormick, 36 Paradise Road, Teignmouth, Devon TQ14 8NR.

***Olethreutes mygindiana* D. & S. (Lep.: Tortricidae) in South Shropshire (VC40) and its suspected parasitoid *Glypta gracilis* (Hellén) – new to Britain**

In a previous paper (Poyton, *Ent. Rec.* **107**: 73) the first and second records of *O. mygindiana* in Shropshire was reported from two locations separated by about 5 kms. I speculated that with the occurrence of its foodplant *Vaccinium vitis-idaea* along the Stiperstones hills I would not be surprised to find *O. mygindiana* to be more widely distributed than indicated by the specimens previously reported.

By collecting the larval spinnings along the length of the Stiperstones, from the Rock (SO 351964) in the south, to Crowsnest Dingle (SJ 375018) in the north this assumption has proved to be correct, with *O. mygindiana* quite common in the area. Additionally an apparently host-specific parasitoid *Glypta gracilis* (Hellén) has been reared from the larval spinnings, which is believed to be new to Britain.

On the 16th April 1995 patches of *Vaccinium vitis-idaea* were examined for the characteristic spinning of the larva at the top of a shoot (H.N. Michaelis, *The Entomologist*, **1963**: 11-14), with a number collected along the length of Nipstone Rock at an altitude of 350 metres from SO 351964 to SO 358971. On 18th April further spinnings were collected as we walked from Cranberry Rock (SO355981) to the Devils Chair (SO 357992), and the search finally completed on 6th May by sampling from the Devils Chair to the head of Crowsnest Dingle (SJ 375018) in the north. The spinnings from these three areas were kept in separate cylinder cages and all yielded both male and female specimens of *O. mygindiana*, with emergence generally in the late afternoon. The distance between the Rock and Crowsnest Dingle is some 6 kms.

During the collection of the larval spinnings and the subsequent emergence, the following points were noted:

- The spinnings were most apparent on open patches of *Vaccinium vitis-idaea* and were easily seen by looking for a brown leaf on top of the shoots. Those patches intermixed with *Calluna vulgaris* did not appear to contain spinnings, or were much more difficult to locate, as no spinnings were collected from such patches.
- The most productive areas of *Vaccinium vitis-idaea* were approximately two to five square metres in area, where a variety of spinnings were noted. Some were spun on single shoots, whilst others showed a number of shoots spun together. In a five-square-metre patch of *Vaccinium vitis-idaea* at Crowsnest Dingle, about 25 spinnings were noted, but no attempt was made on this occasion to prove occupancy. (Since this was the first time we had looked for *O. mygindiana* we were not sure we were collecting the correct species!)
- During the collections on the 16th and 18th April most of the spinnings still contained larvae, although the occasional pupae were found.
- It was clear that the occurrence of the larval spinnings was greater in the area from the Rock to the Devils Chair. As we headed further north from the Devils Chair towards Crowsnest Dingle it became increasingly difficult to find the larval spinnings – probably due to the reduction in ground cover of *Vaccinium vitis-idaea*.
- Emergence of *O. mygindiana* started on 3.v.1995 and was complete by 18.v.1995. The majority emerged over the period 10.v to 15.v.1995. In all a total of 16 imagos were obtained of which 25% were female (the cages had been stored in a warm room 48 hours after collection and left there subject to normal fluctuations from day to day in a domestic residence). It appears that during emergence of *O. mygindiana* the pupal cases is worked free of the larval "tent of leaves", as a number of empty pupal cases were found on the bottom of the cages and one was found just held within the spun leaves by the base of the empty pupal case.
- The only other insect noted emerging from the spun leaves within all the cages was a small Ichneumonidae – the males of which started to emerge on 13.v.1995 and the females some three days later. Examination of the larval "tent of leaves" showed that those which had contained a parasite exhibited a 1.5-2.0mm freshly cut circular hole through a leaf – presumably the point of emergence of the Ichneumonidae.

Samples of the parasitoid were sent to Dr M.R. Shaw at the National Museum of Scotland who positively identified it as a species of *Glypta* (Ichneumonidae: Banchinae) in the subgenus *Conoblasta*. All the specimens sent were of the same species and were keyed-out to a couplet that separates *Glypta gracilis* (Hellén) from *Glypta ceratites* (Gravenhorst). Separation is apparently on leg colour, with the black coxae Shropshire specimens apparently *gracilis*, not *ceratites* (which have red coxae, occasionally black in the hind leg only). *Glypta ceratites* is a common species from Britain and elsewhere whilst *Glypta gracilis* is known from Finland, Switzerland,

Hungary and Rumania. Hellén's *G. gracilis* was not described until 1915. He gave no host and none has apparently been reported to date.

The Shropshire specimens are the same species as the long series of about 40 reared from *O. mygindiana* by W.H.B. Fletcher from Rannoch last century and treated as an unnamed variety of *Glypta certites* (Gravenhorst) by J.B. Bridgman in 1866. (Further additions to the Rev. T.A. Marshall catalogue of British Ichneumonidae, *Transactions of the Entomological Society of London,* **1866**: 335-373.) The all-black coxae of the Shropshire specimens suggest that they may, in fact, be the closely related *Glypta* (*Conoblasta*) *gracilis* Hellén, a species that has not yet been recognised as British nor formerly recorded as having been reared (M.R. Shaw, *pers. comm.*).

Acknowledgements

I am grateful to Mark Shaw of the National Museum of Scotland, Edinburgh for the identification of the Ichneumonidae and the information related to the *Glypta* species. My thanks also to Tom Wall of English Nature and Forest Enterprises, South and West England for permits to collect on the Stiperstones and Nipstone. Last but not least to Veronica, Mark and Andrew Poynton for their help in collecting the larval spinnings in less than ideal weather conditions.– Dr David Poynton, 1A Castlegate, Prestbury, Cheshire SK10 4AZ.

Camberwell Beauty, *Nymphalis antiopa* Linn. (Lep.: Nymphalidae) in Hertfordshire and beyond

Following reports of rare migrant Odonata such as the Yellow-winged and Vagrant Darters (*Sympetrum flaveolum* Linn. and *S. vulgatum* Linn.) in Great Yarmouth cemetery on 2.viii.1995, an easterly immigration of Camberwell Beauties was also reported from the same site.

It was therefore an extremely exciting encounter I had with my friend Mike Watson with *N. antiopa* in Hitchin town centre, Hertfordshire on the morning of 4th August. This was not just a chance encounter as we were deliberately exploring the "Buddleia forest" that exists in the main street on some derelict land behind the main shops. The huge number of bushes were attracting large numbers of Painted Lady (*Cynthia cardui* Linn.) (27 seen) as well as the expected commoner nymphalids and satyrids.

It is interesting to note that in the last great Camberwell Beauty year of 1976 when over 300 were recorded, the first arrivals from the Baltic via Denmark also appeared in Great Yarmouth, although earlier on 27th June (Chalmers-Hunt, 1977, *Entomologist's Rec. J. Var.* **99**: 89-105).

I have compiled a list of other sightings from both personal communications and the *Rare Bird Alert*:

August

2nd	Cheadle, Manchester (2)
3rd	Dunstable, Bedfordshire (1); Dungeness, Kent (1)
4th	Hitchin, Hertfordshire (1); Great Yarmouth, Norfolk (2); Holkham, Norfolk (1)
5th	Gosport, Hampshire (1); Greatstone, Kent (1); Huddersfield, Yorkshire (1); Tayside (1); Hitchin, Hertfordshire (2)
6th	Hickling, Norfolk (3); Heysham, Lancashire (1); Tyne & Wear (1)
7th	Bangor, Co. Down (1)
13th	Flamborough Head, Humberside (1)
20th	Landguard, Suffolk (1)
21-22nd	Cley, Norfolk (2); Waxham, Norfolk (1); Long Melford, Suffolk (1)
24th	Gorleston, Norfolk (1)
"Aug"	Warwickshire, various (8)
31st - 5th Sept.	Hopton-on-sea, Norfolk (1); Salthouse Village, Norfolk (1)

September

6th	Portland, Dorset (1)
18th	Holkham, Norfolk (1); Blakeney Point, Norfolk (1)
23rd	Walton-on-Naze, Essex (1)

October

2nd	Salthouse, Norfolk (1)

– STUART PITTMAN, 101 Old Hale Way, Hitchin, Hertfordshire SG5 1XR.

Records of the genus *Pedasia* (Pyralidae) in south Devon

I was pleased to read that R. McCormick found *Pedasia contaminella* Hbn. commonly on Dawlish Warren (*Entomologist's Rec. J. Var.* **107**: 14), confirming that it still exists there. I found the species commonly in the dune slacks on the Warren on 25.vii.1960 and 17.vii.1961.

On 24.vii.1968 at the same locality I found *Pedasia aridella* Thunb. (*salinellus* Tutt) commonly on the edge of the golf course next to the salterns. These records were unpublished. There were 19th century published records for both these species in VC3, but as the species were often confused these old records cannot stand.– A.H. DOBSON, 282 Britten Road, Basingstoke, Hampshire RG22 4HR.

Ladybirds at light (Col.: Coccinellidae)

Amongst the sporadic beetle visitors to my garden mercury vapour trap there is the very occasional ladybird. I was therefore surprised to find three specimens quiecent amongst the egg boxes in the trap on the morning of

August 1995, following a warm but breezy night. Two were *Anatis ocellata* Linn. (the Eyed Ladybird), and the third was *Myzia oblongoguttata* Linn. (the Striped Ladybird). Interestingly both are associated with conifers, although only garden cultivars and hedging plants occur locally. I have beaten *A. ocellata* from Spruce in Andrews Wood, some three to four miles away but this is first time I have come across *M. oblongoguttata* in North-west Kent. Dr M.E.N. Majerus (pers. comm.) tells me that during the ten year recording period for the Cambridge Ladybird Survey, between 1984 and 1994, there were no records of *M. oblongoguttata* from Kent. In an interesting paper Dr Majerus (*Bull amat. ent. Soc.* 1990. **49**: 197-199) describes a number of species of ladybird that have been found in mercury vapour traps.– PAUL SOKOLOFF, 4 Steep Close, Orpington, Kent BR6 6DS.

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The Type-Material of Diptera (Insecta) Described by G.H. Verrall and J.E. Collin by **Adrian C. Pont.** Oxford University Museum Publication 3. 223pp. 8 black and white plates. Clarendon Press, Oxford, 1995. Price £65.00.

This work was necessary because of the difficulty of deciding the extent of type material of many species described by these authors, who wrote during a period when the importance of clearly designating types was not fully appreciated. Few holotypes were established and perhaps more surprisingly remarkably few lectotypes have been designated by subsequent authors.

George Verrall and his nephew (son of his wife's sister) James Collin dominated the study of British Diptera for more than a century. They described between them about 900 species of Diptera belonging to many families and from many parts of the world, over the period from the 1860s to the 1960s. Many of the specimens identified as syntypes are in their joint collection housed at the Hope Department in Oxford, although others are dispersed through most of the major Diptera collections in this country and abroad.

Adrian Pont has successfully identified much of the syntype material and labelled it accordingly. Most of the text is devoted to detailed accounts of each species, arranged in alphabetical order of specific names, eliminating the need for an index. A taxonomic list indicating synonymy is also provided, as well as a list of all British localities, with grid references, for syntypic material.

The value of the work is greatly enhanced by the introductory chapters which provide biographical details of Verrall and Collin, including much fascinating information about their family background previously

unavailable to diperists. A description is also given of the present state of their collections. The photographs were well chosen to illustrate this section and include shots by Ian McLean of their residences in Newmarket, and favourite collecting sites.

The family photographs are unfortunately undated. The most recent photograph of Collin (Plate 6) was taken at Chippenham Fen in the early 1950s (it includes Cyril Hammond who only went there in 1951 and 1952) and shows him with three of the best known dipterists of his latter years, who are otherwise unmentioned in the text as they did not collect any syntype material. One of the appendices, however, comprises brief biographies of nineteen of the collaborators of Verrall and of Collin's earlier years, which further help to place their work in the context of their times.

The work appears very thoroughly researched and accurate so few discrepancies have been noted, although there are inevitably some loose ends and leads that other reseachers may usefully follow. The current nomenclature given for each species is, however, often based on the Palaearctic Catalogue and is not always up to date, *e.g.* some craneflies are now placed in different genera and *Suillia dumicola* Collin is said to be a synonym of *S. mikii* Pokorny, although Phil Withers has established that *dumicola* is a good species (1987, *Proc. Brit. ent. nat. hist. Soc.* **20**: 91-104). Francis Jenkinson's locality of Logie is incorrectly stated to be in Fife; it was usually cited as "Logie in Elgin" and is by the river Findham, accounting for the range of central Highland species recorded there.

The information packed into this volume will be of enormous value to all future researchers in the wide range of dipterous families covered.

Peter Chandler

Tenth European Congress of Lepidoptology
Miraflores (Madrid, Spain), 3rd-7th May 1996

The Council of the Societas Europaea Lepidopterologica (SEL) kindly invites all SEL-members to attend the Tenth European Congress of Lepidopterology to be held in Miraflores (Madrid, Spain) from 3rd to 7th May 1996. The site of the Congress is in the University Hostel "La Cristalera", at Miraflores de la Sierra, which is situated in the Sierra de Guadarrama, about 50km north of Madrid city.

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- New discoveries in Microlepidoptera
- Tropical Lepidoptera
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(Founded by J.W. TUTT on 15th April 1890)

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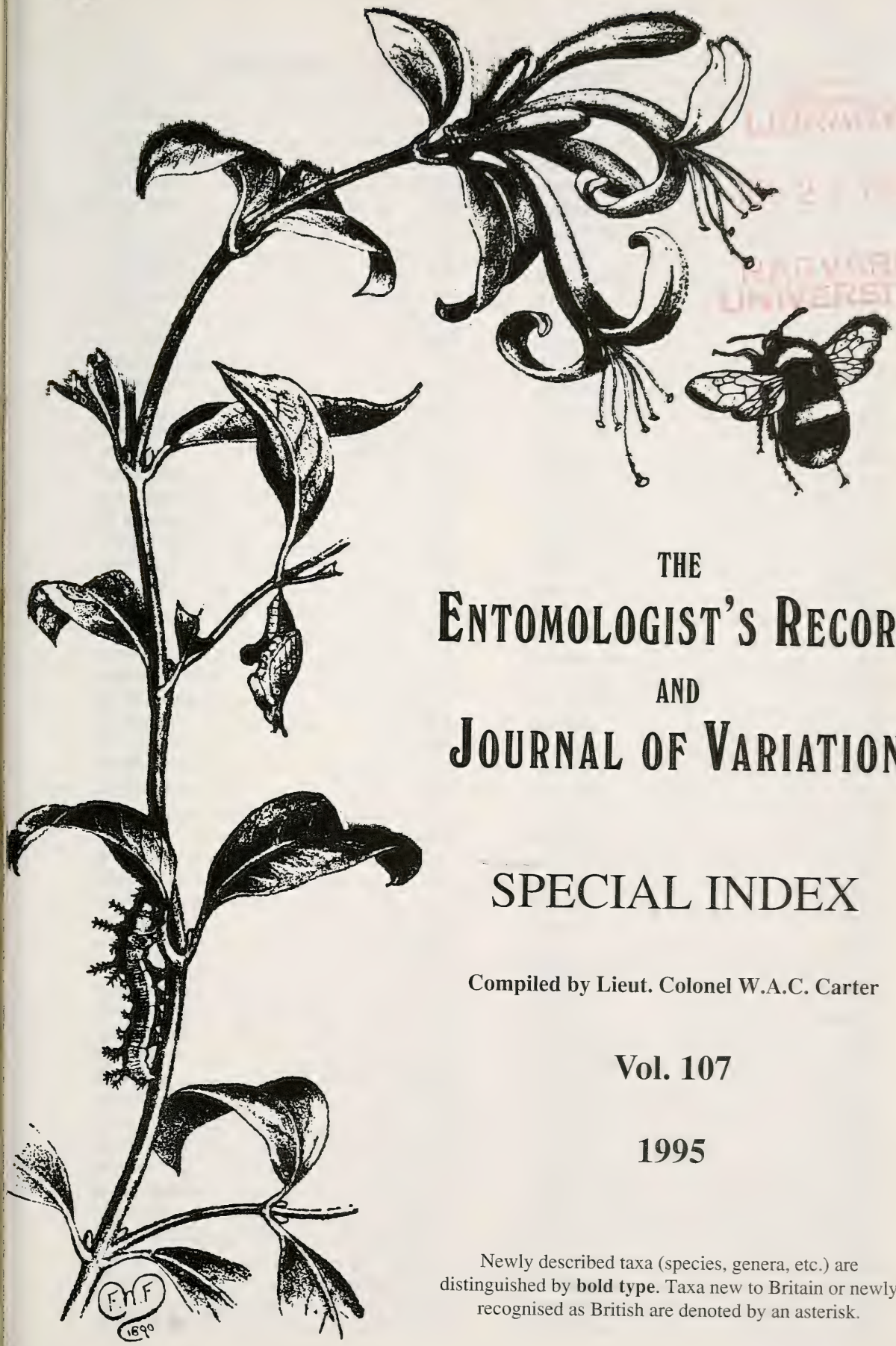

THE ENTOMOLOGIST'S RECORD AND JOURNAL OF VARIATION

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Compiled by Lieut. Colonel W.A.C. Carter

Vol. 107

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Newly described taxa (species, genera, etc.) are distinguished by **bold type**. Taxa new to Britain or newly recognised as British are denoted by an asterisk.

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