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AND JOURNAL OF VARIATION

NOTICE

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THE B.C.S. WARREN COLLECTION AND ITS TYPE MATERIAL

By R. I. VANE-WRIGHT and P. R. ACKERY*

Introduction

The entire collection of butterflies formed by the late B. C. S. Warren (E. Warren, 1979; de Worms, 1979; Chalmers-Hunt, 1979) has now passed to the British Museum (Natural History), London, in accordance with an agreement drawn up between Mr. Warren and the Trustees of the Museum on 20th May, 1935. The purpose of this note is to give a brief account of the Warren Collection and list the type-material that is included.

The Warren Collection

The collection (register no. B. M. 1979-101) contained a total of nearly 21000 pinned adults housed in some 190 double-sided insect store boxes, and just over 2000 microscope slide preparations. The material is mostly from the Western Palaearctic, and includes good representation of many of the Papilionoid species (Papilionidae, 450 specimens; Pieridae, 2000; Lycaenidae, 4500; Nymphalidae, less Satyrinae, 3400; Satyrinae, less *Erebia*, 2550; and *Erebia*, 6200). The Hesperiidae almost all belong to the Pyrginae (1800 specimens). Not surprisingly, the collection is richest in those genera which Warren made the subject of major studies: *Pyrgus*, *Erebia*, *Boloria*, and *Pieris* (*Artogeia*); in these groups there is significant eastern Palaearctic representation and some Nearctic material.

The largest proportion of the specimens were collected by Warren, Mrs. Warren, or his daughter Elizabeth, from the British Isles, Switzerland, Germany, southern France and Corsica. The second largest source of material is the western Palaearctic collection of R. Temperley. Other material was collected or obtained by dozens of 20th century Lepidopterists, including E. B. Ashby, A. Avinoff, O. Bang-Haas, M. Bartel, G. T. Bethune-Baker, A. Biener, S. R. Bowden, G. S. Brooks, I. Buresch, T. A. Chapman, B. H. Cooke, F. Dannehl, A. J. Dennis, H. J. Elwes, B. Embry, W. Forbes, T. Fukai, A. E. Gibbs, F. T. Gilliat, P. P. Graves, J. Haase, A. F. Hemming, G. Hesselbarth, L. G. Higgins, C. Höfer, O. Holik, A. Jakobson, A. H. Jones, F. König, J. A. Kusche, A. Lauck, G. Leonhard, W. & M. Manley, L. Müller, H. E. Page, C. F. dos Passos, O. Querci, J. L. Reverdin, A. Rudkowski, L. Sheljuzhko, T. Shirôzu, A. Simmons, J. Soffner, A. Stecker, I. Sugitani, P. Haig Thomas, F. Wagner, N. A. Weber, T. Weidinger, F. B. & A. E. Welch, G. Wheeler, C. G. M. de Worms and C. Wyatt.

The collection of 2000 slides, mostly genitalic and androconial preparations, is related to the pinned material by a system of unique serial numbers, running in a notional series

* Department of Entomology, British Museum (Natural History), London, SW7 5BD.

from 1 to 2850. The 800 or so 'gaps' in the numbers are scattered throughout; many, if not all these gaps relate to preparations made by Warren from material sent to him on loan (certainly including much BMNH material), but as there is no slide register (or any other form of catalogue) associated with the collection it is not possible to be sure in every case. The Warren slides have been allocated a place in the BMNH Rhopalocera Slide Collection, from numbers 14001 to 16850; in all case the Warren number can be related to the BMNH number merely by the addition of 14000 (i.e. Warren slide no. 114 is BMNH Rhop. Slide 14114; Warren no. 2147 is BMNH 16147, etc. etc).

Warren's type-material

The type-material is mostly of taxa described by Warren, but a few names erected by other authors are represented by (mostly) syntypes or paratypes. Warren's collection was in outstanding condition, largely consisting of perfect specimens well labelled and documented. The only significant damage was the rusting of the pins into some of the boxes, such that the points have decayed in a number of cases. The only other shortcoming was the labelling of types, insofar as the great majority did not carry the name of the taxon concerned. In all cases we have rectified this by adding a determination label giving the precise original status and combination. The type-specimens have all been added to the BMNH Rhopalocera Type Collection; the rest of the collection, having been transferred to standard glazed drawers, will eventually be incorporated into the National Collection (the Parnasiinae having already been dealt with).

In the detailed list of type-material that is appended, each taxon is given in alphabetical order, followed by author, date, reference, the precise original status and combination (in parentheses), country of origin, and details of the type specimens. Bold italics indicate taxa we consider to have been available as names of the species group from the date of their original description; names listed in bold roman are considered to have been infrasubspecific at the time of their original description, or are invalid names. However, some of these judgements are subjective, as Warren employed a complex polynominal nomenclature, not always consistently. Throughout our list quadrinominals are treated as unavailable, but in many cases these taxa were evidently proposed for geographic forms or populations; some of these, no doubt, have subsequently been treated as available, both by Warren, and other workers.

The evaluation of Warren's type-material with respect to the status of individual specimens has caused some difficulty. Although most series of his own taxa include a labelled "holotype", often an "allotype" and "paratypes", in a

majority of cases no indication of a selected holotype or otherwise unique type is given in the original description; these type-series must be regarded as syntypic. For example, the description of *Erebia medusa dolomitica* Warren (1936: 192) gives no indication of the type status of any specimens, or the numbers involved; all that can be inferred is that the taxon is based on two or more males and two or more females from 'Prossliner Hut' and 'Karer Pass'. The Warren Collection included 12♂ and 6♀ of this subspecies, one male labelled "holotype", one female as "allotype", and the remainder as 'paratypes". Despite being clearly labelled, we have rigidly adhered to the principles put forward by Vane-Wright (1975: 26), and treated all such specimens as syntypes, as there is no indication of type status in the original description. However, future revisers should fix the "holotypes" so-labelled as lectotypes, whenever possible. A further complication arises in the case of taxa which Warren himself considered to be synonymous, from which it appears he removed all type labels. For example, consider *Erebia euryale boehmerwaldensis* Warren (1930: 147) which Warren (1936: 58) later considered to be a synonym of *Erebia euryale euryale* f. *isarica* Heyne, 1895. Warren apparently removed the type labels from this series on realising that it was a synonym. The cases of *Boloria pales pyrenesmiscens* and *Erebia gavarniensis* are similar.

Finally, it may be noted that in a few cases Warren subsequently published "Holotye" fixations for certain taxa (e.g. *Erebia disa festiva* Warren; *Erebia lefebvrei rowlandi* Warren); these are treated, for the sake of consistency, as lectotype designations, and have been so indicated. Each example must, in fact, be treated individually, as Warren, along with most taxonomists, was not entirely consistent — we may only hope that our list is as error free as was most of B. C. S. Warren's work (of which a bibliography is given by Warren (1978) himself — note that the paper listed under 1913 in the reference given here is omitted from that bibliography).

In the list the following contractions are used: Ht, holotype; Pt/Pts, paratype/s; Lt, Lectotype; Plt/s, paralectotype/s; St/s, syntype/s; des., designated by; Prep./s, slide preparation/s.

Acknowledgements

The authors would like to thank Mrs. Warren, and Miss Elizabeth J. M. Warren, for their kindness and help in the task of transporting the Warren Collection safely to London, and our colleagues at the BMNH, Mrs. R. Arora, J .Huxley and R. L. Smiles, for their assistance in curating and re-housing the collection. Miss Warren (as did Dr. L. G. Higgins) also read the M/S, and suggested a number of corrections or improvements, many of which we have gratefully adopted. Miss Vera Dick kindly re-typed the final manuscript.

(*To be continued*)

THE FIRST RECORDS OF *PAPILIO MACHAON* L. IN ENGLAND

By Dr. RONALD S. WILKINSON*

While arranging the diverse and extensive data about early entomological observations in England discovered in James Petiver's papers (Sloane MSS., British Library), I have been able to record a number of obvious 'first' captures of British Lepidoptera. However, some cases have been more difficult, and have led to the investigation of sources far afield from the correspondence and notes of the gentle London apothecary-naturalist.

The matter of the butterfly which would be named *machaon* is one of these problems. The insect was well known to British naturalists of the seventeenth century as a Continental species, because accounts of it were published, accompanied by illustrations, in a number of European works. The first British imprint to 'describe' and figure *machaon* was the accretion last edited by Thomas Moffet and finally published as *Insectorvm sive minimorum animalium theatrvm* (London, 1634), where *machaon* appears on pp. 98 (catchword)-99. But few of the insects in the book are mentioned as English, and *machaon* is not among these.

John Ray, the earliest of the seventeenth-century workers usually regarded as the 'fathers' of scientific entomology in Britain, travelled on the Continent, and knew *machaon* from specimens collected in Europe. His posthumous *Historia insectorum* (London, 1710) contained an account of the butterfly; he noted (pp. 110-111) that he had *seen* [the imago] in Sussex and Essex ("inque *Sussexia & Essexia* provinciis hanc observavi") and the larva in Sussex. These data are hardly sufficient to establish first records, as they were presumably written after *machaon* was known by others to be a British species. But Ray's correspondence furnishes more evidence. In a letter of 17th July 1670 to his friend and Continental travelling companion John Willughby, Ray wrote from Middleton Hall, south of Tamworth, Warwickshire, that "This summer we found here the same horned *Eruca* [larva], which you and I observed about Montpelier, feeding on*Fœniculum tortuosum*. Here it was found on common Fennel. It hath already undergone the first change into a chrysalis, and we hope it will come out a butterfly before winter" (Ray, 1848). Of course this was the larva of *machaon*, and the Montpelier observation is substantiated by the later account (Ray, 1710). The Warwickshire record of the larva found by Ray in 1670 is thus the earliest precise one for *machaon* in Britain.

But subsequent accounts are so unclear that we must look to a later period for a documented capture of the imago. Here enter two more 'fathers', James Petiver and the Braintree apothecary and friend of Ray, Samuel Dale. In the 1690's, these two and Ray were collecting simultaneously and, as

* The American Museum of Natural History, New York, New York 10024.

Petiver's manuscript remains show, were all familiar with each other's cabinets of insects. Thus it is possible that Dale was the first actually to capture the adult *machaon*, for when writing to him on 11th July 1696 (Sloane MS. 3332, f. 218), Petiver was surprised that Dale had taken the insect (his reference was to the obvious description in Moffet, 1634). He commented that "I should be glad to see it being as yet a Stranger to me & as I thought to England." (It should be noted that recently Petiver had become acquainted with John Ray's cabinet, which suggests that Ray could not yet have captured the adult *machaon*, and perhaps that his Warwickshire specimen had not emerged. Of course Dale was familiar with Ray's collection, which he helped to augment.) Dale probably took his adult *machaon* during one of his collecting rambles in Essex. As it turned out in the next few years, when naturalists were combing southern England for new records, *machaon* was captured again and again. But we must remember that its distribution was then considerably wider than it is now; in the seventeenth century it probably could have been found over a great part of the island. Printed and manuscript sources indicate that *machaon* was even captured in and about London in the late seventeenth and early eighteenth centuries.

Curiously enough, when James Petiver published his first account of *machaon* in *Musei Petiveriani centuria quarta & quinta* (London, 1699), giving it the name of "The Royal William," he seems to have ignored Dale's capture, for after giving many citations from the literature he noted that "Mr. *Ray* tells me he hath observed this in the *North* of *England*, and the only one I have yet seen about *London*, was caught by my ingenious Friend Mr. *Tilleman Bobart*, in the *Royal Garden* at St. *James's* (p. 35). Ray's northern record has not been further verified, unless the Warwickshire larva was meant. Tilleman Bobart was among the more accomplished among seventeenth-century British entomologists, but little is known about him. He worked in the 'physic garden' at Oxford with his brother Jacob, and sent Ray his collections of insects. In 1703 Ray wrote to Hans Sloane that Tilleman Bobart was among others "more able and skilful" in the subject than himself (Raven, 1950). The origin of the common name "Royal William," which seems to have been in regular usage in the 1690's, is unknown, but *machaon* must have been, as the most splendid British butterfly yet discovered, honoured with the name of the monarch reigning at the time of the christening, William III (1689-1702).

Machaon was the first butterfly named in Samuel Dale's manuscript "Cataloge of English Butterflies Reduced to Mr. Ray's Method 1704," but Dale, who again called the insect the "Royal William," furnished no details about his earlier capture (Dale, 1704). Petiver, who also used the common name in his *Papilionum Britanniæ* (London, 1717) commented that "This has been caught about *London* and divers *Countries*

in England, yet rarely" (p. 1). *Machaon* does not appear at all in the first extensive colour-plate work on British entomology, Eleazar Albin's *A natural history of English insects* (London, 1720). The omission is strange, as Albin was acquainted with the early entomologists who knew *machaon*, and he was certainly familiar with the literature. Benjamin Wilkes, in the set of plates first published in 1742 and usually called the "Twelve new designs of English butterflies," first named *machaon* as *"The Swallow-tail Butterfly"* in print, and we must suppose that after several reigns William's charisma had faded. In Wilkes' later publication, *The English moths and butterflies* (London, [1747 or 48?-49]) he gave evidence of the already diminishing range of *machaon*. Although Petiver could take the butterfly in London forty years before, Wilkes now had to go as far as "the Meadows and Clover Fields about *Cookham*, near *Westram*, in Kent," where with reasonable diligence the butterfly could be captured "without much Difficulty." *Machaon* had already been subjected to the rapid restriction of distribution which can be traced so dramatically in the records of the later eighteenth and nineteenth centuries.

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A REPORT OF THE BLACK-VEINED WHITE (APORIA CRATAEGI L.) NEAR EASTBOURNE, SUSSEX IN 1980. — Mrs. K. Platt (*Country Life*, 16.x.1980, **108** (4339): 1350; and *in litt.*) states that she and her husband saw three or four of this butterfly on the 15th July 1980, as they were walking across the downs from Eastbourne to Beachy Head. She writes me that the butterflies were at rest on Meadow Sweet in an open piece of ground by the low path as one approaches the Head, and that they watched them closely for about 15 minutes.

During a conversation which I had with Mrs. Platt, she remarked that the butterflies were resting with their wings open, that they were very attractive and that there was a lot of black in the markings. I suggested to her that it was perhaps more likely they were Marbled Whites (*Melanargia galatea* L.), upon which she agreed that they might have been that. The butterflies were not photographed, and no specimen was taken. — J. M. CHALMERS-HUNT.

BRITISH PUGS

By Brig. E. C. L. Simson*

(*Continued from Volume 92, page 266*)

20. *E. succenturiata* Linn. In my view this is far and away the most luxurious of the pugs. The contrast of white thorax and dark abdomen; the ample wings with their broad, dark edging surrounding a bright, white centre; itself covered with most delicate striae and set off with a large, black discal dot. So elegant! Larvae on Yarrow. Aug. & Sept. Note that they feed on the feathery leaves in preference to the flowers.

21. *E. millefoliata* Rossl. Through the kindness of Dr. John Langmaid, who guided me, in person, to a choice site for this moth on the South Coast, I have bred a perfect series of this comparatively recent discovery. (First found in Hampshire in 1951). It is one of our largest pugs and, when bred, shows some warm, brown markings to relieve the rather drab, grey, general effect. Until shown how to find the larvae by Dr. Langmaid I had made a couple of abortive trips to the coast in previous years. I had always looked on the white flower-heads of the Yarrow and returned, each time, empty-handed. Dr. Langmaid said the larvae were only to be found on the brown, withered-looking seed-heads. Here the dark brown larvae achieve complete camouflage. I believe this to be the most perfectly adapted of all our pug larvae and, at first, had considerable difficulty in spotting them amongst the tightly packed seed-heads. Unfortunately, this concealment from human and, probably, birds' eyes had no effect on the parasitic *Apantales* which prey on all pug larvae. The losses amongst *millefoliata* larvae can be heavy, as the little, yellow cocoons of the parasite proliferate in the breeding box. However, a visit in a subsequent year enabled me to complete the series shown.

22. *E. castigata* Hübn. Rather a nondescript moth when caught in the wild. When bred, however, certain characteristics show up well; the chief one being the well marked double striae on the centre of the forewings. The larvae come to hand in fair numbers when sweeping for *subumbrata* larvae on the downland in August. This species occasionally produces an unusual, unmarked, dark-grey type, very similar to *virgaureata.* However, the lateral series of small, black spots on the abdomen distinguish it.

23. *E. lariciata* Freyer. A fine pug, being larger and more boldly marked than *castigata.* It also bears a white spot at the base of the thorax ,which is the sure sign of the species. The larvae are often difficult to reach, because the favourite haunt of this species is thick-planted stands of Larch (*Larix decidua.*) 40-50 ft high, with all the lower branches dead. This means the larvae are feeding over 30 ft from the ground. Furthermore, the imagos also pass the day high up amongst the

* Durnford Close, Chilbolton, Stockbridge, Hants SO20 6AP

larches and can not readily be flushed. However, an M.V. light, placed on the edge of the plantation in late June, will bring *lariciata* swarming to the sheet. Many will be in immaculate condition, indistinguishable from bred ones. Females can, of course, be kept for ova.

24. *E. virgaureata* Doubl. In 1979 I was indebted to John Fenn for the receipt of a few larvae from Derbyshire. They did well enough on the ragwort I supplied them, until the time came for pupation, when 70% died. However, four pupae were made and to date one imago has emerged. The moth is uniformly dark grey with very pointed wings. Black, lateral veins on the forewings are conspicuous. In size it is equal to the average *castigata*. As regards the larva, I have nothing to add to G. M. Haggett's fine illustrations in *Proc. Br. Ent. Nat. Hist. Soc.* Vol. 1, plt. III and his comments, except to say that, when disturbed, the larva assumes a corkscrew position and throws back its head and first three segments with its feet in the air, and have not noticed this extraordinary behaviour in any other pug larvae.[1]

25. *E. plumbeolata* Haw. Of this species B. Goater writes in *The Butterflies and Moths of Hampshire and the Isle of Wight* (1974): "The food plant, *Melampyrum pratense* is very local, and colonies exist on which I am sure the moth is absent". This is only too true and even when the moth has been proved to exist it may be only in very small numbers.

I am thinking, particularly, of Pamber Forest in Hampshire. There the Cow Wheat covers large areas of the Forest and yet, work it as I may, with M.V. light and beating through the undergrowth, I have taken but four imagos; two on 29.5.77 (one by beating, one to light) and two on 3.6.80, both by beating. At such a low density I have made no effort to collect the larvae. Where, in such a mass of pabulum, is one to start?

The moth itself is entirely unexciting and, in a worn condition, can be distinguished from *tenuiata* by the fact that the abdomen is without markings. In a series, it is also larger.

26. *E. haworthiata* Doubl. Wherever *Clematis vitalba* grows in the southern half of Britain there, I would opine, this small pug will be found. On the Hampshire chalk its numbers must be vast: every clump of *vitalba* is infested with

[1] In rearing pugs I have become increasingly interested in the behaviour of larvae when disturbed. There is by no means an universal pattern: natural selection must have been at work! For instance, some larvae adopt an upright stance like a small stick; *pimpinellata* is a good example. Some fall to the ground and curl up; *subnotata* is such a one. *Succenturiata* freezes into a very good imitation of a question mark; but *sparsaria* flattens itself along the leaf's midrib and lies low. *Tripunctaria* does a bit of a corkscrew, like *virgaureata*, but does not throw its head and feet backwards. *Millefoliata* relies on its marvellous procrypsis and does nothing.

Of course, many pug larvae pass their lives hidden in a bud or seed-capsule. When disturbed, and shown the light of day, they take up no extravagant posture. They are, after all, what Shakespeare called "a worm i' the bud" and that is, precisely, what they look like!

the larvae, which disclose their presence by making a neat, round hole in the skin of the flower bud. Early August is a good time for the larvae. The imago, when bred, is dark grey with quite clear markings. The fact that the abdomen is suffused reddish towards the base is conclusive indentification.

27. *E. pygmeata* Hubn. This species shares with *haworthiata* and *inturbata* the distinction of being Britain's smallest pug, but it is very much more handsome. When bred it appears quite glossy black, set off by a well pronounced subterminal line of white dots. Really very attractive. Once again I am indebted to John Fenn for my series. On the day after our success with *valerianata* we set off to find some growth of Mouse-ear Chickweed (*Cerastium vulgatum*[2]). My companion said that, because the whole water-table in the area had been lowered by persistent drainage, many of the marshy spots, where he had previously found the plant, had dried out and so had become unsuitable. We went to quite a few fenny places and searched without success. At last, in quite a small, wettish place amongst some fields we found the plant in small quantities. No flowers were present and the dried up plant, with its small seed cases, looked nothing like the illustration in my book. John was of the opinion that we might be too late for the larvae, the date being 28. 7. This was ideal for *valerianata* but latish for *pygmeata,* which was a month ahead.

However, we picked bits from here and there till we had a bunch to fill one of my cellophane bags. No signs whatever of larvae. With little hope, therefore, I returned home and a few days later looked in the bag, preparatory to throwing away the rather unsavoury, and already slightly mildewed, mess. Then, to my joy, I saw frass on the cellophane. No frass has been greeted with more joy! I put the whole mass back in a clean bag and a week later took it out and shook it over a large newspaper. Scarcely believing my good fortune, I counted ten *pygmeata* pupae on the paper. The pupa of this pug is unlike any other pug that I have seen; being bright, yellowish brown all over. From these ten pupae emerged the nine imagos in the collection.

28. *E. tenuiata* Hübn. In the Test valley, where I live, *Salix caprea* grows in uninhibited plenty. The catkins can be obtained, in early April, in enormous quantities, either by picking them from the tree or sweeping up those that have fallen. As the catkins of *Salix caprea* is the pabulum of *tenuiata* one might suppose that pug-hunters in the Test valley would be well supplied with the imago. Such is not the case. I do not know the reason why. Goater, in his book already quoted, states: "I have been unable to find a locality from which larvae may be bred in numbers from catkins".

Personally, I have found it difficult to find localities in which it may even be bred in ones! Once, in the New Forest

[2] Whereas both Meyrick and South give *Stellaria holostea* as the pabulum, John Fenn has never found *pygmeata* on this plant; always in the seed case of *C. vulgatum.*

(17.4.76), while waiting for the light to fade so that *Aleucis distinctata* might flit about the little stunted sloes out on the lawn, I picked a bag of *caprea* catkins and the next morning found one full grown *tenuiata* larva, which promptly pupated (emerging 23.6.76). Next spring I returned to this favoured area and obtained another singleton larva from catkins taken from many sallow bushes.

From time to time the moth appears at light, usually rather worn, and so serves to show up the rather drab beauties of the bred specimens. Altogether, an enigmatic species.

29. *E. trisignaria* H.-S. Fortunately the larva of this pug is readily identifiable by its black head, because the imago is not at all easy to tell at a glance. It is only very thinly scattered over most southern counties and, even if the odd specimen is taken at light, a careful examination of the local Angelica in the following September seldom produces a larva.

However, it is more plentiful in the West Midlands and I am indebted to Philip Sterling for the gift of some pupae from Herefordshire with which to augment my previous very small series.

(*To be continued*)

FALSEUNCARIA RUFICILIANA HAW. (LEP.: COCHILIDAE) BIOLOGY. — Imagines of this species were first noted on Teg Down (V. C. 11) (Royal Winchester Golf Course) on 15th and 18th May 1979, flying in quite large numbers over *Primula veris*. When this area was next visited on 30th May, none were seen. However, on 24th July, it was again flying and specimens appeared quite fresh. The biology as given in Meyrick, *Revised Handbook of British Lepidoptera*; Bradley, Tremewan and Smith,, *British Tortricoid Moths*; and Emmet, *Smaller British Lepidoptera,* is ova June and July, larva July to April, hibernating full-fed, and imago May and June. As the observations on Teg Down did not appear to fit this pattern, I visited the area with Dr. J. R. Langmaid on 8th June 1980, and we each gathered a dozen or so seed-heads of *Primula veris* at random. I had earlier noted imagines flying on 19th May. One or two of the seed-heads were opened a few days later and contained fairly mature larvae. Imagines started to appear from my batch on 4th July and over 30 emerged over the following three weeks. The batch kept by Dr. Langmaid was kept indoors and emergences took place a few days earlier than mine. As both 1979 and 1980 were cool summers, the July emergence cannot be put down to abnormally warm weather conditions, and so it must be concluded that the species is bivoltine, at least in this part of the country, and not univoltine as has been accepted previously. It seems unlikely that the larvae resulting from the July moths would feed on *Primula veris,* as the heads which are still left are hard and dry by this time. However, *Pedicularis sylvatica* has been recorded as an alternative food-plant in England, and numerous other plants on the Continent. — Col. D. H. STERLING, "Tangmere" 2 Hampton Lane, Winchester, Hampshire.

NOTES ON BREEDING *LEPTIDEA SINAPIS* AB. *BRUNNEOMACULATA* STAUDER: THE WOOD WHITE

By John Payne*

The male of this aberration is well-known to collectors of aberrant forms, since a number have been taken over the years, and the earliest record is that of Frohawk (1924), who refers to one taken in 1914. The female on the other hand is less frequent, though the late Alan Collier mentioned (*in litt.*) one taken in recent years by Mr. K. N. Bascomb, but I do not know the details and cannot find any reference to it in the literature. However, when in June 1978, Mr. Alan Sharman brought me a female *brunneomaculata*, I thought it too good an opportunity to miss to try and breed this genetic character. Accordingly, the butterfly was caged with a large bunch of Bird's-foot Trefoil (*Lotus corniculatus*) in flower and fed rain water, and before she died she had laid 23 ova which resulted in 23 overwintered pupae.

The emergence of *L. sinapis* in the wild is sometimes strange — first a general pattern of males with the odd female, going on to a peak of males and female, and often a 'tail' of mostly, and in some seasons *only*, females. So that I think that it happens that a goodly number of females are not found by males. This was evident on the occasion of this breeding: a strong 'tail' of females with no males still alive (the latter sex being notorious for not living long out of their environment, especially when boxed).

All the F1 generation were typical. Four matings were seen, taking place at various times of the day. The females had a choice of foodplant, mostly from gathered seeds (the gathering of seeds should be done early, as they are later eaten by weevils). Besides Bird's-foot Trefoil, the flowers of Bush Vetch (*Vicia sepium* L.) and the Yellow Meadow Vetchling (*Lotus pratensis* L.) are useful as nectar sources, though Bird's-foot Trefoil was found to be the best lasting cut foodplant. The larvae also fed readily on the cultivated form (*L. corniculatus flore-plena*).

White paper was put on the cage bottom so that one might detect feeding by the larvae, since they were extremely well camouflaged when very small and consequently very difficult to find. Later they were divided. No. 1 cage being kept indoors with a temperature range from 60° to 80°F plus, in an attempt to produce a second brood, and an impatience to see results (which could have been most interesting, bearing in mind the forms ab. *erysimi* Borkhausen and ab. *lathyri* Hbn.).

No. 2 cage was kept out of doors in normal temperatures. The only difference resulted in some imagines from the 'hot' cage being smaller, and a female from the No. 2 cage which emerged on 2nd August 1979 was ab. *brunneomaculata*. (Note:

* 10 Ranelagh Road, Wellingborough, Northamptonshire.

The bivoltine tendency puzzles me, and it would be interesting to find what, if anything, triggers it off. A second brood does occur in the Silverstone area in some seasons around the 6th August). The total results from the original female *brunneomaculata* were all typical males and females in the F1 1979, plus only one in August,a female *brunneomaculata* as stated above.

From matings from the type males and females, pupae were overwintered out of doors, and the F2 insects began to emerge in May 1980, with slightly above 25% being aberrant. The colour in the males varied greatly, few having the strong bright colour of the wild ab. and variously described as "pale sandy brown" (Russwurm, 1978), or "ochreus-buff" (Frohawk, 1934), and both a much stronger, stable colour than that of the bred specimens (perhaps the foodplant has an influence on colour?).

The colour in the females was the same as in the males, that is to say varied, but the underside identifies the aberration more certainly, and shows in some a greenish shade. One specimen had the underside lemon yellow. From the F2, further breeding was most difficult, butterflies showing little interest in mating, and when wild males were introduced, the copulation period lasted only minutes compared with a few hours in the wild. Only a few ova were laid, and these proved infertile.

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A Halved Gynandromorph of the Purple Hairstreak: Quercusia quercus L. — I wish to record, though rather belatedly, that from six full grown larvae of this butterfly, which I beat out at Pamber Forest, Hampshire on June 9th 1979, on the occasion of the Croydon Natural History Society Field Meeting, I bred five normal examples and one that is a halved gynandromorph. This specimen has the right side ♀ and was exhibited at the 1979 Annual Exhibition of the British Entomological and Natural History Society. — W. Lockyer, 74, Frant Road, Thornton Heath, Surrey, CR4 7JR [So far as we know, this is only the second British example of a halved gynandromorph in this species. The first, with right side ♂, formed part of lot 75 at the sale of the Samuel Stevens collection on 27.iii.1900, but no particulars of locality or other data were given. — J. M. C.-H.]

Cosmiotes consortella (Stt.) in Devon. — Following Emmet's call for records of this species (*Ent. Rec.*, **91**: 13), I took two specimens of *Cosmiotes consortella* (Stt.), both males, at Plympton, Devon on 11th April and 13th August 1980. The area was wasteland and not on calcareous soil. Both were flying in the late afternoon. — R. J. Heckford, 67, Newnham Rd., Plympton, Plymouth, Devon.

INSECTS AND OIL PLATFORMS

By M. R. Young*

It is often difficult to decide on the origin and flight paths of migrating insects, but these days oil platforms can be used to help. Ornithologists realised this some years ago and there are several schemes, one, for example, funded by several oil companies and run by G. M. Dunnet, another run by the Nature Conservancy Council, which use amateur recorders amongst platforms workers to provide records of birds seen on migration. These are successful because there are many such ornithologists, but there are even a few entomologists on the platforms and I have been provided with records by several. The records are very scarce but nevertheless are interesting and obviously reflect real situations. For example, my regular helper, Alan Morley, found only two insects on platforms in 1979, but found many in 1980.

All my records come from the Forties field which is about 110 miles east of Aberdeen, the three platforms mentioned being a mile or so apart, but there is scope for records from platforms throughout the North Sea and I would like to encourage others with contacts on these platforms to start collecting such records. They could provide crucial evidence on migration routes.

I would like to thank A. Morley particularly, but also C. Frost, D. Merrie and A. Douse for records, and E. C. Pelham-Clinton and K. Watt for identifying the Trichoptera and Diptera respectively.

Records of insects from Forties field platforms in 1979 and 1980

17. 7.79	Forties Bravo	1 male *Eurrhypara hortulata* (L.)
18. 8.79	Forties Bravo	1 male *Limnephilus affinis* Curtis
24. 8.79	Forties Bravo	1 female *Pieris rapae* (L.)
4. 6.80	Forties Bravo	Several Trypetidae (Diptera)
21. 7.80	Forties Bravo	1 male, 1 female *Syrphus torvus* Osten-Sacken, 1 male *S. vitripennis* Meigen
24. 7.80	Forties Bravo	1 male *S. torvus*
27. 7.80	Forties Bravo	Many *Plutella xylostella* (L.) 1 *Vanesse atalanta* (L.)
28. 7.80	Forties Bravo	Many *Autographa gamma* (L.)
9.10.80	Forties Alpha	1 *Acherontia atropos* (L.)
12.10.80	Forties Charlie	1 male *Agrochola circellaris*... (Hufn.)

* Department of Zoology, University of Aberdeen, Tillydrone Ave., Aberdeen, AB9 2TN.

Digitivalva perlepidella (Stt.) in Sussex. — On 17th June 1980 during the middle of a thunderstorm I took at Arundel, Sussex a specimen of *Digitivalva perlepidella* (Stt.) sitting on the underside of a leaf of *Inula conyza*. I understand that this is probably the first record for Sussex. — R. J. Heckford, 67, Newnham Rd., Plympton, Plymouth, Devon.

THE TYPES OF DERMAPTERA DESCRIBED BY FABRICIUS

By A. Brindle*

The London types of Dermaptera described by Fabricius, which are in the British Museum (NH) were listed in Brindle (1970), together with the holotypes of the only two species described by Linnaeus, which are held by the Linnaean Society. The remaining Fabrician types are now in the Zoological Museum of Copenhagen University, and the identity of some of these has not been previously clarified. I am indebted to Dr. Henrik Enghoff for the recent loan of these types, and a summary of all Fabrician types is given in the present paper together with their present status.

Two types are still unidentifiable: that of *Forficula flexuosa*, which is lost, and that of *Forficula pygmaea*, which is in two parts which do not appear to be conspecific. Only one nomenclatorial change is necessary from the present study, which involves the species named as *Forficula annulata*. This species was listed as *Labia annulata* in Burr 1911) and this placing has been followed in recent papers, but the type is clearly identical to the species known as *Euborellia stali* (Dohrn 1864). This species thus becomes *Euborellia annulata* (Fabricius 1793).

The following summary follows the list of Fabrician types given in Zimsen 1964, numbers 84-100, pp. 613-614), and the types examined are indicated by an asterisk. Most types were correctly placed in Burr (1911) but any names which have been subsequently placed in other genera, or where the names were incorrectly used, are noted.

Summary of the Fabrician types of Dermaptera.

1. *Forficula flexuosa* 1775, *Syst. Ent.* 269 (Cayenne = French Guiana). Lost. The original description does not clearly indicate any one known species. Burr (1911) lists this as "species incerta sedis".

* 2. *F. dentata* 1775, *Syst. Ent.* 270 (Madeira). British Museum (NH) Holotype ♂ = *Forficula auricularia* L. ♂.

* 3. *F. parallela* 1775, *Syst. Ent.* 270 (Madeira). British Museum (NH), 2 ♀ syntypes; Copenhagen Museum, 2 ♀ syntypes = *Forficula auricularia* L. ♀.

* 4. *F. morio* 1775, *Syst. Ent.* 270 (Tahiti). British Museum (NH), 1 ♂, 1 ♀, syntypes; Copenhagen Museum, 1 ♂, 1 ♀ syntypes = *Chelisoches morio* (F.) ♂, ♀.

* 5. *F. pallipes* 1775, *Syst. Ent.* 270 (locality uncertain). British Museum (NH), 1 ♂, 1 ♀, syntypes = *Chelisoches morio* (F.). See Brindle (1970) for comments on these types. Given as synonym of *Labidura riparia* (Pallas) in Burr (1911).

6. *F. bipunctata* 1781, *Spec. Ins.* 340 (Italy). Copenhagen Museum, 2 ♀ syntypes = *Anechura bipunctata* (F.). ♀.

* Entomology Dept., Manchester Museum University of Manchester, Manchester H13 9PL.

7. *F. gigantea* 1787, *Mant. Ins.* I : 224 (Europe). Copenhagen Museum, 3 syntypes = *Labidura riparia* (Pallas).
* 8. *F. albipes* 1787, *Mant. Ins.* I : 224 (West Indies). Copenhagen Museum, holotype ♀ = *Doru albipes* (F.) ♀. Type has head missing, and has a small written label "albipes". Listed as *Phaulex albipes* in Burr (1911).
9. *F. biguttata* 1793, *Ent. Syst.* II : 2 (Hungary). Lost. Original description is good = *Anechura bipunctata* (F.) ♂.
*10. *F. flavipes* 1793, *Ent. Syst.* II : 2 (Guinea). Copenhagen Museum, holotype ♀ = *Labidura riparia* (Pallas) ♀.
*11. *F. pygmaea* 1793, *Ent. Syst.* II : 3 (Guinea). Copenhagen Museum, holotype. This is two pieces, the head, pronotum, and an abdomen attached to a small card on a second pin. This last is darker than the other and has a spine on the pygidium suggesting it is an abdomen from a male *Doru*. The head, pronotum, and elytra suggest a Labiid but it is impossible to identify it satisfactorily. It is not *Labia curvicauda* (Motschulsky) as suggested in Burr (1911).
*12. *F. annulata* 1793, *Ent. Syst.* II : 4 (West Indies). Copenhagen Museum, ♂ type = *Euborellia stali* (Dohrn) ♂. Zimsen (1964) records three specimens but that seen has a small written label *"annulata"* and may be the only remaining specimen. Listed as *Labia annulata* in Burr (1911) and in recent papers, but there is no doubt of the identity of the type, and this has the annulate antennae, with some distal segments white, which explains the specific name. *Euborellia stali* (Dohrn) thus becomes *Euborellia annulata* (Fabricius).
*13. *F. erythrocephala* 1793, *Ent. Syst.* II : 4 (West Indies). Copenhagen Museum, ♀ type = *Labidura riparia* (Pallas) ♀. Zimsen (1964) records three specimens.
*14. *F. elongata* 1793, *Ent. Syst.* II : 4 (West Indies). Copenhagen Museum, 2 ♂ syntypes = *Forficula auricularia* L. ♂. These have rather long forceps, and a lectotype has been chosen as the smaller specimen, body length 10 mm., forceps 7 mm. The second specimen, body length 10.5 mm., forceps 6.5 mm., has been labelled as a paralectotype. This species is listed as uncertain in Burr (1911).
15. *F. flavipennis* 1793, *Ent. Syst.* II : 5 (Senegal). Lost. Original description leaves no doubt about its identity = *Chelisoches flavipennis* (F.). Listed as *Enkrates flavipennis* in Burr (1911).
16. *F. herculeana* 1793, *Ent. Syst. Suppl.* : 185 (St. Helena). Copenhagen Museum, holotype = *Labidura herculeana* (F.) .The type has been compared to specimens in the British Museum (NH) and elsewhere. Listed as synonym of *Labidura riparia* (Pallas) in Burr (1911).
17. *F. ruficollis* 1793, *Ent. Syst. Suppl.* : 185 (Tangier). Copenhagen Museum, holotype = *Forficula ruficollis* (F.).

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Current Literature

Liste systématique et synonymique des Lépidoptères de France, Belgique et Corse by **Patrice Leraut.** 334 pp. Supplement to **Alexanor** and the **Bulletin de la Société entomologique de France,** Paris, 1980. Price not stated.

A check list of British insects (Part 2), Lepidoptera by Kloet & Hincks (1972) led to the virtual standardisation of nomenclature and taxonomy in this country. No comparable work was available in France and as a result for "several decades the most complete anarchy has reigned in France in the lepidopteran nomenclature" (p. 15). To remedy this, Patrice Leraut, an amateur entomologist, undertook in 1974 the arduous task of compiling a comprehensive check list, with synonyms, of the French Lepidoptera. This work has ensued after over five years of research.

Taxonomy is not an exact science. Biologists are not agreed even over the definition of a species, and genera, subfamilies, families and superfamilies are groupings of convenience, liable to modification in the hands of successive researchers. Systematic arrangement has to be linear and the taxonomist would like it to resemble a ladder leading up from the most primitive to the most advanced, with the genera as its successive rungs. Instead he is faced by a tree with series of more or less parallel branches, and a problem of priorities. Leraut has sought the advice of leading authorities but it is aware that whatever choices he makes will displease one section of his readers. He modestly writes, " There is no doubt that after its publication this list will soon be out of date. It would be an illusion to think one can permanently establish the nomenclature. If nevertheless this work stimulates a little criticism, bringing about revision of the groups, I will be thoroughly convinced of its usefulness" (p. 35).

A full comparison of his taxonomic arrangement with that of Kloet & Hincks is impossible within the compass of a review, nor is it easy to predict his influence on British thinking. But since his work is bound to have an impact. I shall draw attention to some of the main discrepancies. These are to be found chiefly in the Microlepidoptera.

The Monotrysia of Kloet & Hincks gives place to three new suborders, the Exoporia (Hepalioidea), Nannolepidoptera (Nepticuloidea) and Incurvariina (Incurvarioidea). Two superfamilies appear which were not utilised by Kloet & Hincks, the Copromorphoidea, comprising the Epermeniidae, Schreckensteiniidae and Glyphipterigidae; and the Sesioidea, embracing the Sesiidae and Choreutidae (strange bedfellows!). It is interesting that the Choreutidae and Glyphipterigidae, which were formerly grouped together in one family of the Yponomeutoidea, now find themselves separated and reassigned each to a different superfamily.

As far as families are concerned, the Saturniidae are designated Attacidae in accordance with French tradition, and that vexed species *Diloba caeruleocephala* (Linnaeus) is given a family all its own, the Dilobidae. The changes in the Microlepidoptera are too many to list in entirety. They are greatest in the Gelechioidea and the following comparative table of the families and relevant subfamilies found in Britain will show how sweeping they are, both in concept of family status and the sequence in which they are presented. As far as I can tell, Leraut's arrangement differs from that of all previous authorities (see, for example, Hodges, 1978: 7).

Leraut (1980)	*Kloet & Hincks (1972)*
Ethmiidae	Coleophoridae
Stathmopodidae	Elachistidae
Oecophoridae	Oecophoridae
Elachistidae	Ethmiidae
Coleophoridae	Gelechiidae
Blastodacnidae	Symmocinae
Blastobasidae	Blastobasidae
Symmocidae	Stathmopodidae
Momphidae	Momphidae
Batrachedridae	Batrachedrinae
Scythrididae	Momphinae
Cosmopterigidae	Cosmopteriginae
Gelechiidae	Blastodacninae
	Scythrididae

Leraut treats the Chrysopeleiinae as a subfamily of the Cosmopterigidae. He divides the Gelechiidae into five subfamilies, the Anomologinae, Gelechiinae, Anacampsinae, Chelariinae and Dichomerinae and moves the genera *Sitroga*, *Platyedra* and *Pexicopia* to the Chelariinae. Kloet & Hincks gave no subfamilies and the three of Heslop (1964) were differently conceived.

Tribal names are introduced (termination "-ini"), but only in certain families; for example, the Geometridae are divided into 38 tribes whereas there are none in the Noctuidae.

As for species, there is very little difference in nomenclature from Kloet & Hincks, though their sequence within genera is sometimes different. A few single taxa in the British list are split, e.g. *Parornix fagivora* (Frey) and *P. carpinella* (Frey); *Coleophora suaedivora* Meyrick and *C. salinella* Stainton. In other instances, two of our species are synonymised, e.g. *Stigmella luteella* (Stainton) and *S. distinguenda* (Heinemann) — wrongly for certain. One or two names on our list are synonymised with species considered not to occur in Britain, for example *Antispila petryi* Martini with *A. treitschkiella* (Fischer von Röslerstamm), and *Phyllocnistis xenia* Hering with *P. labyrinthella* (Bjerkander), this being against the evidence of the mines in the Hering herbarium. *Depressaria brunneella* Ragonot is treated as a subspecies of *D. badiella* (Hübner). A few names are changed: *Leucoptera scitella* (Zeller, 1839) becomes *L. malifoliella* (O. G. Costa, [1836]); *Coleophora benanderi* Kanerva, 1941 (not in Kloet and Hincks but no. 565 in Bradley & Fletcher, 1979) becomes *C. saxicolella* (Duponchel, 1843); and *C. ardeaepennella* Scott, 1861 is tentatively synonymised with *C. betulella* Heinemann, [1875], although Scott's name has priority if the synonymy is established. Occasionally an author's name differs from that in Kloet & Hincks. For example, Leraut ascribes *Stigmella* (*Johanssonia*) *acetosae* to Shield instead of to Stainton. The first mention of the name is as follows, "*Nepticula acetosae* (Stainton), n.sp., larvae in leaves of *Rumex acetosella;* July, October and November" (Shield, 1853); if this can be interpreted as a description, Leraut is right.

The supporting text is in four languages, French, Dutch, German and English; page references given in this review are to the English sections. There is a Foreword by C. C. Luquet, Assistant at the Entomological Laboratory, National Museum of Natural History, Paris ((pp. 15-16). This is followed by an Introduction by the author, in which he states the principles he has observed, how the list is to be used and his principal sources; it ends with a list of acknowledgements (pp. 35-39). Next comes a list of Suborders, Families and Subfamilies (pp. 42-43). The list itself, to be considered below, occupies pp. 47-174. Addenda and Corrigenda, which are up-to-date almost to within days of publication, are on pp. 187-189. Explanations, which justify the inclusion of species not given in Lhomme (1923-[1963]) or explain controversial nomenclature, appear on pp. 227-237. References are on pp. 239-250. Three Indices end the work — Abbreviations of author's names (pp. 253-254); Suborders, family-group taxa and genus-group taxa (pp. 255-273); and Species-group taxa (pp. 275-334).

The list itself closely resembles Kloet & Hincks but has certain differences. Each species is given a serial number as in Bradley & Fletcher (1979); these run to 4677 and as there are additions, indicated by the suffix "a" to the preceding number, the total probably exceeds 4700, nearly double the British list. Subspecies and late additions are both designated

by adding "a", "b", etc. to the previous number. The adoption of the same convention for two quite different purposes causes little confusion in practice. All specific names are preceded by the generic initial or initials, since the French abreviate *Phyllonorycter* to "Ph.", etc. Where applicable, subgeneric initals follow in parentheses. Authors' names are given in full, but are not placed in brackets as in Kloet & Hincks when the rules of the International Code of Nomenclature so require. Leraut says the additional research would have delayed publication, but I suspect the real reason was frustration with what is regarded in some quarters as an unnecessary rule. An improvement on Kloet & Hincks is the addition of initials where there are two or more nomenclators of the same name, e.g. M. Hering and O. Hering. The author's name is followed by the date, in square brackets when the rules so require. After that comes the number of the species in Lhomme's *Catalogue* in round brackets; this cross-reference is useful since Lhomme gives details of foodplants, distribution, etc. and so is not superseded. In the case of most species not listed by Lhomme, a number in square brackets is given, referring to a note in Explanations. The further qualification (B) or (C) indicates that the species is found only in Belgium or Corsica. Synonyms are given below, indented and in italics. Many subspecies are listed, especially in the butterflies and burnets, and some of these may prove to be controversial.

As in Kloet & Hincks, adjectival specific names are given their original gender, not that of the genus in which they now stand. Personally, I not only find the false concord distasteful but also a burden on my memory. In Meyrick (1929) or Beirne (1952), for example, one knows that all adjectival specific names in the genus Crambus or compounded genera will have masculine terminations. Now, all but four are feminine. Can you remember which four those are?

Two classes of entry appear which are not found in Kloet & Hincks. Fossil species are included, their names being preceded by the symbol †. Also current species which have not yet been determined are listed; thus on p. 68 entries 816-818 read "E.sp." (*Elachista* sp.).

The list is printed in clear type on good quality paper. In common with so many modern books, it does not stay open, a serious disadvantage in a work of reference. No price is cited in acordance with a French law desgned to encourage firms to sell at competitive prices. I am told it will sell at about £25.

I am overwhelmed by the merits of this work. Although no doubt help was freely given, it is essentially the product of the industry of a single amateur. In a review one tends to dwell on supposed defects, leaving virtues unsung. The degree of accuracy is phenomenal. Species no. 56 is misspelt "*dorsigutella*" and no. 553 "*distendella*". No. 61 Trifurcula (*Levarchama*) *dorycniella* (Suire) is wrongly placed in *Stigmella.* No. 2028 is still given as *Rhopobota unipunctana* (Haworth)

although the name *naevana* (Hübner) has been reinstated. The wrong type-face is used for Semiothisini on p. 144. There are one or two slips of no significance in the English section of the text. No doubt there are other errata but they are very, very few. The whole work reflects meticulous scholarship. It will be of inestimable value to the French lepidopterist and the Englishman who collects in western Europe. As the author himself recognises. not everyone will accept his systematics *in toto.* but they are bound to influence future thought. It is for others to decide whether modifications will need to be made to the British list, steering one hopes, a wise course between the natural yearning for stability and an open-minded readiness to accept soundly reasoned new ideas; we may well have to make changes in our cabinets. I recommend this list without reservations to the lepidopterist who collects abroad and the student of taxonomy.

A. M. Emmet, 15.x.1980

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Notes and Observations

CATAPLECTICA FARRENI WALSINGHAM (LEP.: EPERMENIIDAE) IN ENGLAND. — I am happy to be able to tell Dr. Hulme (*supra*, p. 171) that this species is not extinct in England. Farren's original specimens were taken in Cambridgeshire. The Faircloughs took two adults at Freckenham, just over the Suffolk border, on 3.viii.1974. Last sumer I took one at the Bartlow Hills, about 100 yards on the Essex side of the border with Cambridgeshire and less than two miles from Linton, one of Farren's Localities.

The life history is still unknown and in *The Field Guide* I did no more than echo Meyrick and Ford, who in turn were repeating Farren's own conjecture. My specimen, which I netted on 12.vii.1980, was a worn female flying amongst *Chenopodium album*, but there is no reason to think that this is the foodplant; *Heracleum*, on the other hand, is very likely. As far as I am aware, this species is still known only from Britain. — A. M. EMMET, Labrey Cottage, Victoria Gardens, Saffron Walden, Essex, CB11 3AF. 16. xii.1980.

THE DEATH'S-HEAD HAWKMOTH AND OTHER IMMIGRANTS IN WARWICKSHIRE IN 1980. — Singletons of the Hummingbird Hawkmoth, *Macroglossum stellatarum* L., appeared at Charlecote on June 15th, 17th, 22nd, 25th, 27th, 29th, July 2nd and 25th, mainly at valerian flowers; a male of the Vestal, *Rhodometra sacraria* L. was taken at Charlecote at m.v.l., by Mr. D. Brown on September 20th; at Marton, a female Scarce Bordered Straw, *Heliothis armigera* Hbn. occurred at Mr. G. Robson's m.v.l. on Septemeber 21st; and a male Gem, *Orthonama obstipata* F. appeared in my m.v. trap here at Charlecote on October 26th. Finally, on September 28th, Mr. J. Beards noted his cat playing with a large moth in his drive at Southam, which he rescued and gave to me; it is a female Death's-Head Hawkmoth, *Acherontia atropos* L., in remarkably good condition considering. — A. F. J. GARDNER, Willows End, 29, Charlecote, nr. Warwick.

A FURTHER NOTE ON DONACIA VERSICOLOREA (BRAHM) (COL.: CHRYSOMELIDAE). — Following the note by A. A. Allen (*Ent. Record* **92**: 152) on the later occurrence in the year of this species, than most other members of the genus, I can add a further sighting for September; on 14.ix.1980 at Goonhilly Downs, Cornwall, I saw both sexes of *D. versicolorea* in abundance, on the leaves of *Potamogeton natans*, in a shallow pool on the moorland. Other sightings were single specimens on 18.viii.80 and 20.viii.80, in the same area though in different pools.

In addition, one of the specimens taken on 14.ix.80, a male, has an unusual deformation of the left meso-thoracic leg, in having a split or double tibia forming a 'V' shape; a malformation no doubt rare in the group. — A. P. FOSTER, Ladn Vean, Mawnan Smith, Falmouth, Cornwall, TR11 5ES.

COLEOPHORA LASSELLA STAUD. IN CORNWALL. — In June 1977 I took part in a Nature Conservancy Council survey of the Lizard, Cornwall, On 15th June at Predannack Airfield I took a specimen of a *Coleophora* which I could not identify at the time. I disturbed it on a dull morning from an area which to the best of my recollection consisted mainly of long grass with some *Pulicaria dysenterica.*

It is only now that I have identified this as female *Coleophora lassella* Staud. This appears to be the first Cornish record of a species which has been found in only a few localities in England. — R. J. HECKFORD, 67, Newnham Rd., Plympton, Plymouth, Devon.

OBSERVATIONS ON DR. HORTON'S NOTE. — I read Dr. Neil Horton's note in the June issue of the *Record* with interest, particularly his reference to his finding *Apamea oblonga* Haw. in a reed bed near the Severn in Monmouthshire. This same insect occurs fairly commonly round a reed bed much further up the Severn at Frampton on Severn in Gloucestershire. All the specimens are of the smooth unmarked form. I presume that the reed bed plays no part in

its distribution, but was the attraction to the entomologist to place his MV light here and so draw *oblonga* from its habitat among the grasses at the edge of the tidal estuary. The Frampton on Severn isolated reed bed of 1½ acres is a good spot for Wainscotes and carries populations of *Leucania straminea* Treit., *Nonagria dissoluta* Treit. and *Chilodes maritima* Tausch.

The author is not right about Magor Reserve being the only locality to the west of Offa's Dyke for the Water Ermine (*Spilosoma urticae* Esp.). I took it commonly in Borth Bog on June 18th 1960. Not in the southern sweet gale section known for *Eurgraphe subrosea* Stephens, but in the northern part which is dense reed bed. *Panaxia dominula* Linn. occurs at the same time, *Mythimna turca* Linn. a few weeks later. Incidentally, I noted in my diary for that date "This marsh may well contain rarities". Little did I know that if, instead of putting an MV light among the reeds I had examined the sweet gale with a Tilly lamp, I might have spotted the first *subrosea* larvae seen for a hundred years. — R. P. DEMUTH, Watercombe House, Oakridge, Glos. GL6 7PN.

IMMIGRANT LEPIDOPTERA IN 1980 IN SOUTH WESTMORLAND AND NORTH LANCASHIRE. — The first sign of migrants here was 8th June, when in showery weather two *Cynthia cardui* L. and several *Autographa gamma* L. appeared in my garden, and the following morning the number of *gamma* at m.v.l. had escalated to 22 from the past week's nightly average of three. On 10th June, five *Nomophila noctuella* D. & S. sudenly appeared in the trap, and the same night four *Udea ferrugalis* Hbn. entered Mr. C. Scott's moth trap at Arnside, two miles away. A single *Agrotis ipsilon* Hufn. on the 14th, followed by a reliable report of a *Colias croceus* Geoff. seen at Sunderland Point near Lancaster that week, and the small spate of migrants appeared to have passed by. The indications of a *cardui* year were fulfilled in August and September when, despite bad weather, it was far more plentiful than for many years past. On 31st August Mr. John Wilson, warden of the R.S.P.B. Reserve at Leighton Moss, Silverdale, counted 138 on the Reserve, which were not seen to be moving in any particular direction. That some of the species had bred in the district was proved by the finding of pupae on Arnside Knott in September, by a Research student working for the National Trust.

Mr. W. Kydd informed me of the sighting of three *C. croceus* near Ulverston, N. Cumbria in late August. This prompted us to look out for the species in this district, and sure enough on 1st September, Mr. J. Leedal photographed one at rest on a flower head, on a disused railway embankment in Lancaster, and three more were seen in the same locality on 2nd September and one on the 4th, all by the same observer. On 26th September, Mr. J. Whitehouse boxed a large female *croceus* at rest on a roadside hedge at Hoghton near Blackburn. It is more than twenty years since so many *croceus* were recorded in these parts. *Vanessa atalanta* L. was also fairly

common in September and early October, and on three separate occasions in September, a specimen was found in a light trap at Arnside among the moths.

In 12 years of consistently operating an m.v. light trap here, *Udea ferrugalis* Hbn. has never exceeded six specimens in one year, but this year there were 161. These did not suddenly appear in numbers overnight, and just as quickly pass by as migrants usualy do, but slowly built up in numbers from late August until mid-September, and were about until 5th October. I mentioned this to the now late Mr. Arthur Watson, at the Lancashire & Cheshire Entomological & Natural History Society's Annual Evhibition on 25th October, when he informed me that the species was abundant in September on the St. Annes-on-Sea Nature Reserve, where he was warden, and that they were in his opinion locally bred.

I also had more *Nomophila noctuella* D. & S. in 1980 than ever before in one year, mostly spread over the whole of September, and totalling 31 compared to an average of six in former years. The 38 *Agrotis ipsilon* Hufn., slightly above the average annual total, were spread out in ones and twos in August, September and October, but there was only one *Peridroma saucia* Hbn. this year. On the other hand, a total of 489 *Autographa gamma* L. at light in 1980 was above average. After the Spring movement, *gamma* was almost absent until August, when there were three separate upsurges in numbers and rapid declines in that month. There were two similar fluctuations in September, not paralelled by other species coming in to light. Contrary to our experience during the last few years, *gamma* was scarce here in October. — J. Briggs, 5, Deepdale Close, Slackhead, Beetham, Nr. Milnthorpe, Cumbria LA7 7AY.

On the Recent Occurrence in Britain of Caryocolum blandulella Tutt. — At about mid-day on the 20th of August 1978, I netted a small gelechiid on the sandhills that border the Reserve of the Kent Trust for Nature Conservation at Sandwich Bay, Kent. After setting the insect, a rather worn female, it was put on one side for further examination. Recently, I submitted the moth to Mr. E. S. Bradford who, after preparing a slide of the genitalia pronounced it as probably referable to *Carycolum blandulella* Tutt, and the specimen was later confirmed by Dr. K. Sattler as belonging to this species. The life history of *C. blandulella* is unknown so far as I am aware, and apparently this is the first time since 1891 that the species has been taken in Britain.

C. blandulella was first described from Kent by J. W. Tutt in 1887 (in *Ent. mon. Mag.*, **24**: 105) on the basis of specimens which he took on the Deal sandhills. Although Meyrick (1928, *Rev. Handbook Br. Lep.*, 635) stated the species had not ben recorded from abroad and moreover was only known from Kent, the moth had already been cited from Hampshire by Goss and Fletcher (1900, *Lepidoptera* in *Victoria County History of Hampshire and the Isle of Wight,*

1: 151), who noted it from the sandhills on Hayling Island. Goater (1974, *Butterflies and Moths of Hampshire and the Isle of Wight*, 105) in the absence of available corroboration, rightly placed the latter within square brackets, but the V.C.H. record is in fact correct, and *blandulella* is a good Hampshire species. In the British Museum (Nat. Hist.) are four of W. B. Fletcher's *blandulella* from Hayling dated 1891, and one suspects there are others from there in the Fletcher collection at Cambridge. There is also in the BMNH, a series of about 30 *blandulella* from Deal and Sandwich taken during the 1880's, including the lectotype. In conclusion, I wish to thank both Mr. Bradford and Dr. Sattler for kindly determining my example of *blandulella*. — J. M. CHALMERS-HUNT.

THE SWALLOW-TAIL MOTH IN OCTOBER. — I must record with surprise the arrival on the night of October 22nd 1980 at my m.v. trap here of a male *Ourapteryx sambucaria* L. (Swallow-tail Moth) in very good condition. It seems an exceptionally late date although South reports in *The Moths of the British Isles* a 1904 record from Gravesend, Kent also on October 22nd. — K. G. W. EVANS, 31, Havelock Rd., Croydon, Surrey CR0 6QQ.

CYNTHIA CARDUI (L.). — Whilst walking along a ride in the Halwill Forest, four miles east south east of Holsworthy, Devon on June 7th 1980, two *C. cardui* were seen flying over their "territories". Close examination showed that one was in pristine condition and appeared freshly emerged. — A. J. BALDWIN, 33, Defoe Ave., Kew Gardens, Surrey.

COURTSHIP BEHAVIOUR BY A WOOD WHITE: LEPTIDEA SINAPIS L. — On Sunday, 10th August, 1980, whilst in Kingspark Wood, West Sussex, I happened to meet Miss D. Ashby who later pointed out to me the courtship behaviour of this butterfly of which I had no previous knowledge. A male had flown to a sitting female and settled facing her. He was soon seen to be striking her across the base of her antennae with his extended proboscis. After a little while, perhaps because of our close observation, he flew away. I wonder if this could be a means of establishing whether she had paired? — S. L. MEREDITH, 5, Rutlish Road, Merton Park, London SW19 3AL.

REQUEST FOR RECORDING RELEASES OF CLOSTERA ANACHORETA D. & S. — In view of the large numbers of larvae of this species which were distributed around the country during 1980 I feel that some sort of record should be kept of the areas where surplus specimens have been released. If this is not done future records of the ocurrence of the moth as an immigrant will have little value. I will therefore make a start by giving districts where I released specimens. These are larvae at Slindon Park Woods, West Sussex; New Forest (Denny Wood and Lady Cross); and imagines at Walberswick, Suffolk. If the insect manages to establish itself it will not matter anyway, but if it largely dies out, such records may help to establish which are new immigrants and which are the result of releases. — H. E. CHIPPERFIELD, The Shieling, Walberswick, Suffolk.

THE ENTOMOLOGIST'S RECORD
AND JOURNAL OF VARIATION
(Founded by J. W. TUTT on 15th April, 1890)

TO OUR CONTRIBUTORS

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THE ENTOMOLOGIST'S RECORD

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A KEY TO THE XYLOTINI (SENSU HIPPA) KNOWN IN GREAT BRITAIN AND IRELAND, PLUS *XYLOTA IGNAVA* (DIPT., SYRPHIDAE).

By Martin C. D. Speight*

Since the key to *Xylota* species incorporated into Coe (1953) appeared in print Hippa's outstanding revisionary work on the Xylotini of the world has been published (Hippa, 1978). As a result of Hippa's research, generic concepts in this hoverfly tribe have altered considerably, as has the concept of the tribe itself. In addition, Alan Stubbs has added another *Xylota* species, *X. coeruleiventris* Zett., to the British list. This species has also subsequently been found in Ireland. There is thus an evident need for a revised key to the Xylotini known in Great Britain and Ireland. The key which follows includes all of the species involved, together with *X. ignava* Panz. The latter hoverfly occurs locally over most of Western Europe, including Channel coast countries from France Northwards. I have found it in mixed beech (*Fagus*)/spruce (*Picea abies*) woods. It is included in the key because, due to its strong general resemblance to *X. segnis* L., it could otherwise be overlooked were it to occur in the British Isles. A further continental *Xylota, X. meigeniana* (Stack.), also demands mention. This species is known as far West as Scandinavia and according to Hippa (1968) can only be separated from *X. florum* (Fab.) on genitalic characters. Its close similarity to *X. florum* and its recent date of description (1964) would suggest that its known distribution quite possibly in no way reflects the limits of its range in Europe. All the males of British and Irish *X. florum* I have seen conform in their genitalia with the illustration of *X. florum* genitalia given by Hippa (1968), who also depicts the genitalia of *X. meigeniana*. In *X. florum* the outer margin of each cercus is distinctly concave, so that the cercus appears bluntly bilobed, while in *X. meigeniana* each cercus has a simple convex outer margin.

Apart from *X. ignava* all of the species keyed out below are known from Great Britain and apart from *C. eunotus* (Lw.), *X. ignava* and *X. xanthocnema* Coll. all are also recorded from Ireland However, the solitary sight record of a female *X. abiens* Mg. from Ireland reported by Coe (1953) could well have been based on a misdetermination, since the presence in Ireland of *X. coeruleiventris* Zett. was not then known and these two species are virtually indistinguishable in the fiield, at least in the female sex. Where relevant, generic distinctions cited by Hippa (1978) have been used in the key, so that if species unsuspected in the British Isles should turn up they can at least be consigned to the correct genus. All of the known European genera of the tribe Xylotini are already recorded in both Great Britain and Ireland.

* Research Branch, Forest and Wildlife Service, 2 Sidmonton Place, Bray, Co. Wicklow, Eire.

KEY

1. Metasternum with hairs as long as those on ventral area of mesopleura 2
– metasternum almost bare (hairs much shorter than those on ventral area of mesopleura) 3
2. Mesonotum shining, almost entirely undusted (a pair of vague longitudinal stripes can be discerned anteriorly); abdominal tergite 3 (and usually t.2) with orange/pinkish marks . . . . . *Chalcosyrhus nemorum* (Fab.)
– mesonotum dull and with three dull, black, longditudinal stripes, the median one forking at the transverse suture, the other two lateral; abdomen unmarked . . . . . *C. eunotus* (Lw.)
3. Hind femora with median spinose ridge apicoventrally; frontal prominence unusually produced . . . . . *Brachypalpoides lenta* (Mg.)
– hind femora with lateral spinose ridges or rows of spines apicoventrally; frontal area normal 4
4. Head strongly triangular in front view; arista about as long as maximum width of face . . . . . *Brachypalpus laphriformis* (Fal.)
– head cordate, arista very much longer than maximum width of face 5
5. Basoventral ridge on hind tibiae covered in short, black spines . . . . . *Xylota segnis* L.
– basoventral ridge (when present) on hind tibiae bare 6
6. Abdominal tergite 4 entirely covered with adpressed golden hairs 7
– tergite 4 with black and/or whitish hairs (golden hairs may also be present) 8
7. Hind tibiae black for apical third . . . . . *X. sylvarum* (L.)
– hind tibiae entirely yellow . . . . . *X. xanthocnema* Coll.
8. ♂♂ (eyes meeting above antennae) 9
– ♀♀ (eyes not meeting above antennae) 13
9. Hind tibiae widely yellow at both ends; hind basitarsi (and two succeeding segments) yellow; tergite 2 and tergite 3 with orange bands . . . . . *X. ignava* (Panz.) ♂
– hind tibiae yellow only at base; hind basitarsi dark brown/black; t.2 and t.3 with or without orange bands 10
10. Tergite 2 longer than wide 11
– tergite 2 wider than long 12
11. Fore basitarsi apically with a very long, outstanding, white hair (as long as succeeding tarsal segment) on the inner side, above; none of the hairs on upper part of outer side of hind femora as long as femur is deep . . . . . *X. tarda* Mg. ♂
– fore basitarsi apically without any long, outstanding white hairs, none of apical hairs extending forward as far as tip of next tarsal segment; hairs on upper part of basal half of outer side of hind femora including many longer than hind femur is deep . . . . . *X. florum* (Fab.) ♂

12. Genital capsule black-haired; hind femora with hairs as long as more than ½ depth of hind femur clustered in a clump in basal ¼ of femur, on the outer side of its upper surface . . . . . *X. coeruleiventris* Zett. ♂
– genital capsule whitish-haired; hind femora with few hairs as long as ½ depth of hind femur and these scattered along outer side of more than half of the upper surface . . . . . *X. abiens* Mg. ♂
13. At least second segment of hind tarsi orange/yellow above; tergites 2 and 3 each usually with a wide orange band, though this may be reduced to a pair of orange markings 14
– all segments of hind tarsi dark brown/black above; t.2 and t. 3 each usually with a pair of small yellowish or pinkish marks, though these marks may be reduced or absent 15
14. Face entirely black . . . . . *X. tarda* ♀
– face with central area of upper mouth-edge broadly yellow . . . . . *X. ignava* ♀
15. Hairs on outer (anterior) side of dorsal surface of hind femora all shorter than one third depth of hind femur, except in basal ¼ of femur, where a cluster of longer hairs occurs . . . . . *X. coeruleventris* ♀
– hairs on outer (anterior) side of dorsal surface of hind femora including some longer than one third depth of hind femur, scattered along more than basal ½ of the femora 16
16. Mesonotal disc brightly shining; fore coxae dull on outer surface; metasternum, hind coxae and hind trochanters dull . . . . . *X. abiens* ♀
– mesonotal disc dull; fore coxae brightly shining on outer surface; metasternum, hind coxae and hind trochanters brightly shining on most of surface . . . . . *X. florum* ♀

Acknowledgements

I am most grateful to W. F. Dean (Somerset), Dr. R. L. H. Disney (Yorkshire), Dr. T. Nielsen (Sandnes, Norway) and P. Withers (Norfolk) for testing the key against their *Xylota* material.

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FOODPLANT OF CHRYSOLINA POLITA (COL.: CHRYSOMELIDAE). — Adults and larvae of *Chrysolina polita* were observed to be locally abundant on Gipsywort (*Lycopus europeaus*) at Kingsbury, Warkwickshire, and were not observed on other plants. — JOHN ROBBINS, 123b Parkgate Road, Coventry

THE IMMIGRATION OF LEPIDOPTERA TO THE BRITISH ISLES IN 1979: A SUPPLEMENTARY NOTE

By R. F. BRETHERTON* and J. M. CHALMERS-HUNT**

The following corrections and additions should be made to the main report (in *Ent. Rec.* **92**: 89-97): —

Corrections

RHODOMETRA SACRARIA L. The record "YORKS v.c. 61. Filey, 1.10, infertile female" should be deleted. Mr. P. Q. Winter has informed us that this should apply to an example of *Peridroma saucia* Hubn.

ORTHONAMA OBSTIPATA F. the record "DENBIGHSHIRE. In May one" should be dated 16.5

Additions

RHODOMETRA SACRARIA L. S. ESSEX. Rainham, 9.9., one after 00.15 hrs (G. S. Robinson, *Ent. Gaz.*, 31: 228).

LITHOSIA QUADRA L. DENBIGHSHIRE. Abergele, 16/17.8 (S. Coxey).

MYTHIMNA UNIPUNCTA Haw. W. SUSSEX. Arundel, 25.10 (J. T. Radford).

MYTHIMNA ALBIPUNCTA D. & S. Dungeness 31.8 (P. Jewess).

CHRYSODEIXIS CHALCITES Esp. N. ESSEX. Dovercourt, 25.9.78, 2.10.79. Mr. P. Smith has helpfully given further detail about these captures, which were only barely recorded *Ent. Rec.*, **92**: 62, 97). The first was caught before mid-night in a trap witha 20 watt U.V. lamp. Unlike the example figured by South (1961, I, pl. 141), it had the forewing silver spots joined, but was worn: it was identified at the BM (Nat. Hist). The second, a fresh specimen with the spots separate, was caught in the same trap, also before mid-night. The trap faces south and, though surrounded on three sides by houses, is open to the sea, about a mile distant. In answer to our inquiry whether these examples might have resulted from local breeding in nurseries or gardens, Mr. Smith says that the nearest chrysanthemum nursery known to him is ten miles away, and that there are few plants in neighbouring gardens. This supports the view that both his captures were primary immigrants.

AGRIUS CONVOLVULI L. Co. KERRY S. Bull Rock lighthouse, 12.9. (J. P. Hillis and R. F. Haynes, Irish Migrant Insects, 1979, *I.N.J.*, **20**: 122-124).

Their report also contains information about some commoner species. Of *Colias crocea* Fourc. four were seen at Cape Clear, co. Cork West, 9.9 (2), 9.10 (2). Of *C. cardui* in all 181 were reported, mostly at Cape Clear, but also at the Aran Is., co. Galway and elsewhere. The first was seen at

* Folly Hill, Birtley Green, Bramley, Guildford, Surrey GU5 0LE.
** 1 Hardcourts Close, West Wickham, Kent BR4 9LG.

Lakyle, co. Clare, 16.5, the last at Cape Clear, 28.10, the northernmost on Rathlin Is., co. Antrim, 3.7. *Vanessa atalanta* was scarce early in the year, with the first at Great Saltee Is., co. Wexford, 14.5, but abundant in late August and September, ending at Cape Clear 28.10, and with the most northerly at Fintra, co. Donegal. There were also records of nine *Macroglossa stellatarum* L., beginning on Macgillicuddy's Reeks, 15.7 and ending at Cape Clear 13.10.

THE CLOAKED PUG: EUPITHECIA ABIETARIA GOEZE. — Further to previous notes on this moth (in *Ent. Rec.*, **91**: 220 and **92**: 25), I took a specimen this year (as exhibited at the British Entomological & Natural History Society Annual Exhibition 1980). A female in perfect condition was sitting on the inside wall of my garden MV moth trap in Winchester (V.C. 11) on the morning of 19th June 1980. My initial presumption was that it had been introduced accidently into the garden with some *Picea abies* cones collected from an area some five or six miles away from Winchester (still in V.C. 11) in hope of breeding out *Cydia strobilella* Linn. I now consider this unlikely, as the cones were collected on 23rd February 1980, when the moth would have been a pupa, and all authors state that the larvae feed on the immature seeds in the cones until September, after which they leave them to pupate on the ground, so there appears little chance that it could have been in the cones when they were collected. The previous records of this species as quoted in the reference at the beginning of this note indicate that this is the 10th recorded specimen since the war, the others being three from Scotland, two from the North of England, three from Surrey or SW London and one from Gloucester. Such random records hardly seem to fit in with these moths being migrants, but perhaps rather that it is breeding locality, but the most recent Hampshire record in 1897, and it seems unlikely that it could have been present in a County popular with entomologists and remained undetected for 93 years.

If my specimen had bred locally, as its condition would seem to indicate, there are a number of scattered *Picea abies* in various near-by Winchester gardens, but none of those that I have been able to examine appear to be producing any cones. There ish a Forestry Commission plantation containing an area of mature trees, some of which bear cones, at a distance of some three miles, which could be a possible local source. Perhaps, when migration records for 1980 are put together, it may become clear whether there was any migration in progress at the time that it was taken. If not, there is hope that this species may still be resident in Hampshire. —Col. D. H. STERLING, "Tangmere" 2 Hampton Lane, Winchester,, Hampshire.

BRITISH PUGS

By Brig. E. C. L. Simson*

(*Concluded from page* 10)

30. *E. indigata* Hübn. Considering the prevalence of *Pinus sylvestris* and *P. abies* this pug is by no means easily obtained. My small series was made at my study window, which looks out onto a grove of pines. Unfortunately, only males appear, in the engaging way pugs have of lying flattened on the window pane. The branches of the trees are far too high for me to reach and so I leave the collecting of *indigata* larvae to my local Coal Tits (*Parus ater*).

31. *E. distinctaria* H.-S. In the marvellous summer of 1976 one male member of this species came to a light in my garden in N. W. Hampshire on the 14th of July. Previously only twice recorded from the vice-county, and that twenty-five years before, its presence was a complete enigma. I can only say that in that wonderful year many things turned up in my garden, never previously seen there by me. None as rare as *distinctaria*, but it showed that there were more than normal moth movements going on. I have searched, with care, the massive thyme banks on the West Coast of Scotland, and in Mull and Skye, without seeing any sign of this very local little moth.

32. *E. inturbata* Hübn. Seldom does one see so many assorted larvae as when beating the branches of well grown Maples (*A. campestre*) in mid-May. Every now and then a little green larva, with purple patches on its back, shows up. It stands, looking like a minute croquet-hoop, and so you have *inturbata*. The moth will use quite isolated trees, provided they are well-grown and flowering.

Satisfactorily, the imago emerge only six weeks after pupating and so one's bred series is rapidly attained. As in most pugs, bred specimens are far darker than the illustrations in South show or, indeed, the descriptions in Meyrick, who says of *inturbata*: "Forewings pale greyish-ochreous". In reality they are a warm, dark brown. I thing both South and Meyrick often based their descriptions on either worn or long-kept, faded specimens, as far as the pugs went.

33. *E. pusillata* Fabr. I once, in Hampshire, went into a plantation of spruce (*Pinus abies*) looking for *Thera variata*. The trees were only about 15ft high and had not been thinned. The date was 25th May and at once moths exploded in all directions. They made for the clear ground outside the darkness of the plantation and because the trees were so thickly planted, and due to the massive barrier of dead branches, I had no hope of catching any. So I made my way out and was

* Durnford Close, Chilbolton, Stockbridge, Hants SO20 6AP

hoping to pick up a few specimens, which might have settled, when two urchins appeared. In the uninhibited way of such, one asked, "Wot yer doin' Mister?" I asked, in return, if they were interested in money. They were. And so, for a suitable reward, they scuttled about the plantation like terriers, while I stood in the sunshine netting *E. pusillata* and *T. variata.* Both species were in great quantities (the late Dr. de Worms would have said "in spate"), and I was able to select a good series of both species, indistinguishable from bred specimens.

One final note. In the vernacular, *pusillata* is called "The Dwarf Pug". Not a good name; there are five pugs on the British list very much more dwarfish.

34. *E. abbreviata* Steph. One of the earliest pugs and, as in my part of the world many specimens are spectacularly melanistic, very welcome on a chill April night.

35. *E. dodoneata* Guenée Another early season pug, which I find most plentiful amongst old, well-grown hedge Hawthorns (*Crataegus monogyna.*). From these the handsome orange and black larvae can readily be beaten; 7th July being a good date. This is an attractively marked pug, made more attractive by breeding.

36. *E. exiguata* Hübn. A very common pug, turning up at the M.V. light in all sorts of situations. 25th May is a good date for procuring newly emerged specimens, which are readily identifiable.

37. *E. irriguata* Hübn. In late April or early May, if the M.V light is placed under one of the massive oaks of the New Forest, this pretty little pug will come fluttering down as if it had been watching all your preparations with interest. In a good year a dozen perfect specimens can be seen in the first hour after dark. If specimens are required for ova, then 5th May is a good date.

38. *E. insigniata* Hübn. I have only one specimen of this fine pug. I have beaten the Hawthorns near where friends have taken this moth; I have put my light where advised by friends. In short, I have done my best. This. obviously, is not good enough, and, in the words of the schoolmaster, I must try harder. That I will.

39. *E. fraxinata* Crewe I am in some doubt about nomenclature here. Goater (*Ibid*) writes: "The evidence for the specific distinction of *E. innotata* (Hufn.) and *fraxinata* is reviewed by G. Haggett (1963, *Ent. Gaz.*, **14**: 13), who concludes that all British records of *innotata* (Hufn.) are referrable to *fraxinata* or to error".

The series in my collection, shown under this heading, was bred from larvae kindly sent me by a Past-President of B.E.N.H.S, G. Prior. They were F2 larvae from larvae originally taken in September 1977 in the Romney Marsh, Sussex, feeding on Sea-Buckthorn (*H. rhamnoides*) Being somewhat short of this pabulum in my parish, I fed them Ash (*F. excelsior*), for which they showed a great liking. The relevant

dates are: Larvae received 11.7.78; pupation 21-27/7; imago emerged at intervals between 28.8. – 20.12.78. The imagines are large and very dark and the angulated striae look like those of either of South's illustrations of *innotata* or *fraxinata.*

Mr. Prior is of the opinion that the Romney Marsh larvae may be referrable to *innotata* for reasons of dates; of generations; and of food-plant. I can only re-state my gratitude to Mr. Prior, and place my bred series before the experts.

40. *E. sobrinata* Hübn. Wherever Juniperus grows in plenty, from the South Coast to the Highlands, there will this somewhat variable pug be found. Catching the imago is a sport for two people; one to beat a juniper bush and the other to stand down wind, where he can often score a right and left as the moths dash out. 21st July is a good date for perfect specimens.

41. *E. helveticaria* Boisd. Another juniper feeder. I took a ♂ and ♀ in the Isle of Skye one summer, and have beaten juniper in the Highlands in late July for the larvae. I only found *juniperata* larvae and wonder if, as Meyrick says, the moth is out April/May what happens to ova laid in April until, as he says, the larvae can be found July to October. I have a feeling the moth is probably continuously brooded during the summer.

42. *E. nanata* Hübn. A very prevalent species, with a second brood, flying in July, consisting of very small individuals. These, presumably, are the parents of the fine progeny to be seen next May.

43. *E. extensaria* Freyer. I set aside two days to getting the larvae of this very local moth. In effect, I needed only twenty minutes! I motored to the North Norfolk coast, through a village and down a track to the saltings. I stopped at the high tide mark and stepped out onto the fragrant marsh. The date was 15th September. At once I saw a big clump of Sea Wormwood (*A. maritima*) waving silvery in the wind. There I saw ten *extensaria* larvae of varying sizes and took a few of the largest. On to the next clump and one more and I had eighteen larvae.

I was surprised how big they were. Picking a bundle of the pabulum I left the Wash and returned home; thankful that I had planted a bush of Lad's Love in my garden. In the event the lasting qualities of Sea Wormwood proved so great that the bush was not used and all the larvae pupated amongst the original pabulum. I had eighteen pupae and, between 12 – 25th May the following year, eighteen perfect imagos emerged. No parasitism and no casualities. How I wish this were the usual outcome of breeding pugs. It is a handsome moth and well worth all the trouble.

44. *E. subnotata* Hübn. A pug which should be bred. To do this go to the sea-side and, where *Atriplex* grows on a bank, search for the larvae as follows. Very gently lift up the trailing stems of *Atriplex* and, equally gently, pass a

beating-tray along the ground under the stems. Now shake the stems vigourously. If the date is 24th September then a dozen or so *subnotata* larvae will soon be collected. The reason for this method is two-fold. First, the larvae pass the day deeply hiden in the mass of *Atriplex*; secondly, they fall to the ground at the least disturbance and are then hard to find among the debris. Much parasitised. Of seventeen pupae formed in the autumn of 1979 five *subnotata* emerged, together with eleven chalcid parasites. A 69% loss through parasitism.

45. *E. subumbrata* Guenée. On downland, especially, the larvae can be obtained in fair numbers by sweeping *Scabiosa, Centaurea* and *Gentiana* in late August. Other pug larvae will be found in the sweeper, but *subumbrata* is readily separated by being long, slender and without diamonds or Y markings on the back.

46. *C. sparsaria* Hübn. I include this species because it is called a "pug" in the vernacular. In the Test Valley I have found eggs and larvae on the underside of the leaves of *Lysimachia vulgaris* growing amongst reeds and close to trees. The larvae are usually very heavily parasitised. Date for small larvae (best) 23 – 27th August.

Now I come to four species of pugs not recorded by Meyrick.

47. *E. arceuthata* Freyer. Variously known as the Cypress Pug or Freyer's Pug, this species has undoubtedly spread since the early 1940's, helped by the popularity of the *Macrocarpa* as an ornamental tree in gardens etc. It is now a common species throughout most of the Southern Counties.

48. *E. phoeniceata* Rambur. A recent arrival in Britain, first found at Penzance by de Worms and Messenger in 1959. It slowly spread eastward and was first found in Hampshire, at Southsea, on 23.9.65 by Langmaid. The pabulum is also *C. macrocarpa;* the larvae being confined to mature trees. Best date 20th November.

I took my first specimen at Freshwater in the Isle of Wight; but since then have seen many more through the kindness of R. R. Pickering of Bognor Regis, West Sussex. Mr. Pickering finds that one or two emerge in July and gradually build up to a peak about 16th August. After this, numbers slowly decline; but the moth can still be seen in late Septmeber. A long season!

49. *E. egeneria* H.-S. Only discovered as a British species in 1962, when specimens were recorded by Mere in the Wye Valley, where its pabulum is the flowers of the Small-leaved Lime (*Tilia cordata*). G. M. Haggett, writing in Vol. I p. 106 of *Proc. Trans. Br. Ent. Nat. Hist. Soc.* (what a mouthful!) suggests that the limes were encouraged by the monks of Tintern in order to provide flowers for their bees over an extended season. Would it not be a possibility that the monks also brought *T. cordata* from France and planted saplings

round the Abbey? In the earth enclosing the roots of these saplings etc. the pupae of *egeneria* might also be transported to the Wye Valley. If this is true then the moth remained undiscovered in Britain for six centuries.

On 4th June, a few years back, I put my M.V beneath a tall *cordata* at Tintern and, conditions being ideal, freshly emerged *egeneria* appeared in numbers upon my sheet. I was thus able to select a small series of the moth in "as bred" condition. A very drab species; even "as bred". To Haggett it most closely resembles a pale *lariciata*; to me it seems more closely to resemble, especially in size and shape, a pale, poorly marked *E. millefoliata.*

50. *C. chloerata* Mab. Why it was that the Victorians, who beat everything in sight, including their children, failed to beat the larva of this pug from sloe (*Prunus*) I do not understand. The larva is very distinctive, being remarkably procryptic amongst the sloe-bloom on which it feeds. It is white, except for its head and segments 1-3, which are pink. Thus it is very difficult to see, with its head buried in the pink centre of a sloe flower and its body laid along the white petals.

This was the strange larva so admirably beaten from flowering Blackthorn on 16th April 1971 by E. C. Pelham-Clinton. In fact, he found two larvae and bred the moths. The moths are easily distinguished from *E. rectangulata* by the following: (a) *Chloerata* has a less notched line bordering the outer edge of the forewings' central band. (b) The central black line on the under side of the hind wing in *chloerata* is much less acutely angled.

As soon as the news got round, collectors started examining their series of *rectangulata* and many found they possessed *chloerata*; some even claiming to have bred it. As the larva is quite easily distinguished from that of *rectangulata* I wonder why they did not begin to suspect a stranger in their midst long before 1971! One thing, however, explains a lot: this moth is a reluctant visitor to the moth-trap, on which so many collections seem solely to rely.

Told by Denzil ffennell to beat the topmost boughs of old sloe bushes on the Downs, I obtained larvae, in North Hampshire, on 24.4.75 and bred a nice series in late May following.

This concludes the account of pugs in my collection. But there is one fine pug, *E. abietaria* (Goeze) (= *pini* (Retzius)) of great rarity, which I have little hope of obtaining, about the recent capture of which in Hampshire I must relate. But some day luck may come my way. And here I quote the admirable Allan (*A Moth Hunter's Gossip*): " I don't mean the ordinary good luck which Dame Fortune metes out to us all at times, but the extraordinary luck of which one hears now and then – such as walking aside to a grassy hillock for lunch and finding two Mazarine Blues *in cop* upon it".

Now how about this for luck? A friend, who lives in my part of Hampshire, went, with a companion, in the autumn

of 1979 looking for the larvae of a Micro which feeds in Spruce (*P. abies*) cones. They visited five places in Hampshire where well-grown spruces grow, and collected cones from each place. The sacks of cones were carefully inspected for signs of micro-larva and, showing none, they were eventually emptied in a pile in a corner of my friend's garden. One cone must have contained a healthy larvae of *E. pini* which, as is its wont, left the cone and pupated in the ground. In mid-June 1980 the imago emerged, dried its wings and eagerly awaited the coming of dusk. But at dusk my friend lit his moth trap which, being only twelve yards from the pile of cones, proved a fatal attraction to our *abietaria* which took its first, and last, flight into the trap. So at 8 o'clock next morning my friend saw the first *pini* to be seen alive in Hampshire for at least twenty-five years. Not surprisingly, it was immaculate.

My friend is now faced with the task of collecting spruce cones annually from five different places, and keeping them entirely separate until he obtains, if ever, another *abietaria.* Thus it may be proved that there is, after all, at least one small colony of *abietaria* left in Hampshire.

FURTHER RECORDS OF THE DOTTED RUSTIC: RHYACIA SIMULANS (HUFNAGEL) (LEP.: NOCTUIDAE). — A short note by R. E. Scott in *Entomologist's Rec. J. Var.* (1979) **91**: 260 noted the first record of *Rhyacia simulans* for the old county of Huntingdon (V.C. 31). This year I have taken, or had notice of, a further 18 specimens.

The first was a female, partly damaged (presumably by a passing vehicle), picked up from a road in St. Ives on July 9th. On July 16th four specimens were found under half-empty black plastic sack of compost in a greenhouse at Monks Wood Experimental Station. Three were males, but the other escaped before its sex could be determined. I saw another specimen fluttering in a minibus used regularly for journeys between Monks Wood and St. Ives as I was driving it through Huntingdon on July 25th, but it escaped through a half open window. Mr. John Heath took two specimens in a light trap in his garden in St. Ives on the night of July 25th-26th. Another specimen came to light at a Rothamsted trap in Monks Wood National Nature Reserve in late August.

On August th Mr. E. John collected up the remains, mostly wings, of a variety of moths at the roost of a long-eared bat at his home in Bluntisham, near St. Ives. Among them were the wings of eight *Rhyacia simulans.* Thereafter he made daily collections of moth wings from the roost and on August 18th another pair of *R. simulans* wings was collected. — J. N. GREATOREX-DAVIES, The Institute of terrestrial Ecology, Monks Wood Experimental Statiion, Abbots Ripton, Huntingdon, Cambs.

SOME TECHNIQUES FOR MINIMISING THE DIFFICULTIES IN EGG COUNTING IN *TRIBOLIUM CASTANEUM* (HERBST)

By A. R. KHAN* and B. J. SELMAN**

The red flour beetle, *Tribolium castaneum* (Herbst) is one of the commonest laboratory insects. It is cosmopolitan and a major pest of several stored commodities.

Research workers often need to determine the intrinsic rate of increase of *T. castaneum*. This can be estimated if a lifetable and the fertility data are available. For stored products pests, an approximate value may be obtained if the developmental period and oviposition rate can be obtained experimentally and estimates made of adult and developmental mortality and sex-ratio (Howe, 1953). Unfortunately it is very difficult to get a good estimate of the oviposition rate of many stored products beetles including *T. castaneum*. *T. castaneum* lays eggs steadily over a long period, belonging to the second group of the four types of egg laying found in Coleoptera (Dick, 1937). There is much interference in any one group of beetles and because of density effects the oviposition rate is depressed. Alternatively isolated females may show a low oviposition rate because of need for further matings. If a male is placed permanently with the female then he may interfere with egg laying (Howe, 1962). A further complication is that adults frequently eat the newly laid eggs (Rich, 1956).

In the present paper some simple techniques are described which will minimise the difficulties in egg counting in *T. castaneum*.

Sexing the adult is difficult and depends on the presence or absence of a hair-lined pit on the interior face of the fore femur (Hinton, 1942). Although the method is excellent, unfortunately it requires minute microscopic observations and much time. Fortunately pupae are readily distinguished by microscopic examination of the exogenital processes of the female (Halstead, 1963). This method of sexing is easy and rapid, without any risk of injury. Sexed pupae are placed in separate 9 cm Petri dishes with a thin film of wholemeal flour in an incubator at 30°C. After emergence females are marked with a permanent white paint. White nail polish is excellent for this. Pairs of adults of different sexes are placed individually in 50 x 25 mm flat bottom glass tubes containing a mixture of wholemeal flour and yeast (19: 1) and covered at the top with cotton wool.

The preoviposition period in *T. castaneum* varies with temperature. It is 6.9 ± 0.1, 4 ± 0, and 3.9 ± 0.1 days at 25, 29, and 32°C respectively (Erdman, 1964,1965). Before the onset of oviposition males are separated from females and are reintroduced for short periods for refertilization. Adults are easily separated by sieving the contents of the tubes through

* & ** Dept. of Agricultural Biology, Univ. of Newcastle-upon-Tyne, Newcastle-upon-Tyne NE1 7RU.

a sieve of 500 micrometre aperture. Eggs are obtained by passing the contents through a 60-mesh sieve.

These techniques save time and minimise both the interference with egg laying and the egg predation. These techniques may also be applied to many other stored products Coleoptera.

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AN EARLY USHER: AGRIOPIS LEUCOPHAEARIA D. & S. — On the 2nd January 1981 whilst walking through Park Wood, Hailsham in East Sussex I discovered an extremely early emergant of this species. — MARK HADLEY, Nature Conservancy Council, 19/20 Belgrave Square, London.

AN EXAMPLE OF INTERSPECIFIC COPULATION IN THE GENUS CERYLON LATRIELLE (COL.: CERYLONIDAE). — Whilst collecting on the edge of Burnt Ground Wood, near Hamptworth, Wiltshire (SU 222170), on May 31, 1974 I took a small testaceous *Cerylon* securely *in coitu* with a larger black example of the genus from beneath the bark of an oak log. Recent examination and dissection have confirmed my original supposition that the smaller specimen was a male *Cerylon ferrugineum* S. and the larger, dark specimen a female *C. histeroides* (F.).

It would be interesting to ascertain if the apparently few published references to interspecific copulation in Coleoptera is attributable to the true rarity of the occurrence of such couplings, or if it is because such events are observed infrequently and even then are not considered worthy of note. — DAVID RIDLEY NASH, 266 Colchester Road, Lawford, Essex, C011 2BU.

Notes and Observations

SOME OBSERVATIONS ON THE HEATH FRITILLARY (MELLICTA ATHALIA ROTT.) IN KENT. — I first encountered this butterfly in 1974, after moving to London from the Midlands. At the first opportunity, on the 12th July, I left work in Central London a bit early and sped to Blean Woods. Although I had no idea where to look it did not take long to find three sites: (1) A small clearing beside a road where scrub and brambles were beginning to encroach though there were one or two grassy areas where some *athalia* were seen. (2) An area where the regularly planted sweet chestnut bushes had grown to about 8 to 10ft., with narrow grassy walks in between. Here again there were a reasonable number. (3) Small areas of grass and a small field beside the main cinder road through West Blean Wood supporting a quite healthy population.

The second encounter in Kent was on the 9th July, 1978 when, with a walking party I had crossed the A2 near Dunkirk and had climbed a fence on the south side of the road when I saw a single *athalia* in a small clearing. However, by far the largest sighting was in 1980. On 20th June, I had business in Canterbury and finishing soon after lunch, decided to go and check on the latest situation. Sites (1) and (2) had completely grown up and could not even be identified, although I did find another road-side site similar to (2) but with more regeneration and with a fair sprinkling of Heath Fritillaries. I then took the same walk as (3) but only saw three individuals. I did note though, a very extensive area that had been clear felled which looked promising. It was already getting late so I decided to return over the week-end. Saturday the 21st, was dull and cool and Sunday was even worse with rain in London but the forecast was for some sun in eastern England. I therefore decided, as it was my birthday, to take a chance and hope for the best. Most of the journey was under black clouds and heavy rain, and I was beginning to think that I must be mad, but about 10 miles from Canterbury the end of the cloud was reached and I was in sunshine. I went straight to the area that had caught my eye and soon had the pleasure of having *athalia* flying all around me. The ground cover was no more than about a foot high with lots of cow-wheat. At almost any time one could see from 3 to 5 *athalia* at once and they were over a very extensive area; I would estimate a rough population of a few thousand. An adjoining area where the grass looked greener and with more bushes was devoid of cow-wheat and *athalia*. It was interesting to note how closely the butterflies were confined to the cow-wheat areas even within the same open space. I spent 2 to 3 hours in perfect weather watching this unforgettable spectacle, a most welcome birthday treat. I was pleased to note extensive coppicing elsewhere, so for some time at least, as long as this continues, this butterfly should be reasonably safe. — S. L. MEREDITH, 5, Rutlish Road, Merton Park, London SW19 3AL.

OVERWINTERING WASP-BEETLE: SOME COMMENTS ON MR. WOOTTON'S RECORD. — Mr. Anthony Wootton asks (*antea*: 19) whether it is usual for Cerambycids to hibernate as adults. My answer is: it depends on what exactly one means by hibernation. In that connexion we commonly think of the retirement of an already active imago into winter quarters, to be followed by renewed activity in the spring; in other words, active adult life is broken by a period of dormancy (seasonal diapause). This type is familiar in certain Lepidoptera, many ground insects, etc. But there is another type of hibernation — occurring among species that develop in enclosed environments, such as soil or wood — in which the perfect insect eclodes from the pupa in late summer or early autumn and remains, torpid but fully mature, in the pupal cell until the following spring or early summer when it emerges into the open. Here, then, hibernation is not an interruption of adult activity, but its precursor. This type, best known in the Coleoptera, I have referred to as *pre-emergent hibernation* (Allen, 1958, *Ent. Rec.*, **70**: 16-17).

A number of our Cerambycidae belong to the second class, including no doubt *Clytus arietis* L. whose larva lives in solid dead wood. In the first, only the large *Prionus coriarius* L. sometimes passes a mild winter buried at the foot of a tree, but seldom if ever survives long enough to resume activity in spring. Mr. Wootton's precocious wasp-beetle (found indoors, March 16th) may thus have emerged from woodwork* in his house, or more likely from firewood if present; in either case stimulated, as he suggests, by warmth. (Normal emergence-time for *C. arietis* is late May or early June). If from firewood, it is also possible that the pupal cell chanced to be exposed in the process of chopping-up; which, with or without the warmth of the house, would most likely suffice to rouse the insect from its slumbers. — A. A. ALLEN.

*** The drying-out of the timber would tend to slow down larval growth and might delay its completion by several years.**

RECORDS OF TWO UNCOMMON CRANE-FLIES FROM CUMBRIA. — *Ctenophora pectinicornis* (Linn.). I took a female of this striking looking species on my study window here in New Hutton, near Kendal (V.C. 69) on 10th June 1980. The only other record of this species in V.C. 69, so far as I am aware, is that of P. Skidmore who took a female specimen at the entrance to Roudset Wood National Nature Reserve on 14th June 1959. (*Ent. mon. Mag.*, **98**: 182). *Crypteria limnophiloides* Bergroth. A male of this species was taken in my light trap here in New Hutton on 5th September 1978. Coe (Handbooks for the identification of British Insects, *R. ent. Soc., London* **10** (1): 48) states: — "Frequent. Herts. northwards. 8-10" but the species seems to be scarce in this district and I do not know of any other records for V.C. 69. I am grateful to Mr. Alan E. Stubbs for confirming my identification of this insect. — Dr. N. L. BIRKETT, Kendal Wood, New Hutton, Cumbria LA8 0AQ.

THE RED SWORDGRASS: XYLENA VETUSTA HBN. AT KINTAIL, WESTER ROSS. — In my paper on *Pontania crassipes* (Thomson) in *Ent. Record,* **92**: 250, I mentioned a "Sword Grass moth". At the time I thought it was *Xylena exsoleta* L. (The Sword Grass), but further examination of the specimen shows it to be *X. vetusta* Hbn. — A .D. LISTON, 99 Clermiston Road, Edinburgh, EH12 6UU.

CROESIA FORSKALEANA L., GYPSONOMA ACERIANA DUP. AND EUCOSMA OBUMBRATANA L. & Z. IN COUNTY CORK. — On the evening of August 17 1980, I caught a specimen of *C. forskaleana* at m.v. trap at Douglas, Cork City (V.C. H4). Beirne (1941, List of the Microlepidoptera of Ireland, *Proc. R. Ir. Acad.* XLVII (B) No. 4) considered the occurrence of this species in Ireland to be "doubtful".

At the same location, on August 23rd, I obtained a ♂ *G. aceriana,* also at m.v. trap. Beirne (*op. cit.*) refers to an old record of this species from Co. Sligo, but he states that the record should refer to *G. sociana* Haw.

Another record of interest is that of *E. obumbratana* at m.v. trap at Ballymaloe near Cloyne (V.C. H5) on August 9th. This species was first recorded from Ireland by Bradley and Pelham-Clinton (1967, The Lepidoptera of the Burren, Co., Clare, W. Ireland, *Ent. Gaz.,* 18: 115-153). A further Irish record is from Lispopple, Co. Dublin, at m.v. trap on July 26 1973. All four specimens were seen by Mr. Chalmers-Hunt, who kindly confirmed the determination. — K. G. M. BOND, 24, Lislee Road, Douglas, Cork, Eire.

MELANTHIA PROCELLATA (D. & S.) IN NORTH WALES. — After taking two worn specimens at the North Wales Naturalists' Trust Reserve at Bryn Pydew (V-C 49), in early September 1979, I found the species to be well established there in August 1980 among *Clematis vitalba.* A distribution map kindly supplied by Biological Records shows it to occur mainly south and east of a line drawn from north Lincolnshire to Pembrokeshire with two dots in Shropshire and two rather surprising records from Islay and Galway; does *Clematis vitalba* grow in west Scotland? I have seen a specimen which was found in the Beetham – Silverdale district of north Lancashire where the plant is now established. — H. N. MICHAELIS, 5 Glan y Mor, Glan Conwy, Colwyn Bay, Clywd.

A LATE LARVA OF PIERIS BRASSICAE (L.). — On 31st December 1980, I found a larva crawling up the wall of my garage with a view to pupating and had probably fed on nearby spring cauliflower. On being brought indoors, it saw in the New Year by pupating on 2nd January 1981. — H. N. MICHAELIS, 5 Glan y Mor, Glan Conwy, Colwyn Bay, Clwyd.

MELANIC SCALLOPED HAZEL: ODONTOPERA BIDENTATA CLERCK. — A melanic female was taken on a doorstep in the Viewlands area of Perth, Tayside on May 20th 1980. This is the first melanic specimen of this moth from this area to come to our notice. — R. W. BOYNE and M. A. TAYLOR, Perth Museum and Art Gallery, George Street, Perth.

THE CAMBERWELL BEAUTY IN NORTH YORKSHIRE IN 1980. At about 1330 on the 12th October 1980, whilst returning from Roundhill Reservoir, having counted the ducks and geese there for the national counts, I was crossing the dam when I noticed a very large butterfly flying leisurely from Leighton Reservoir. It flew near to me and then continued purposefully along Roundhill Reservoir up into the hills. It seemed to be on a strong migration route. Weather: light cloud, bright, clear, sunny, warm with light north east breeze.

The butterfly's identity, I readily and amazingly noticed was a Camberwell Beauty, *Nymphalis antiopa* L. I was both surprised by the late date and the high place for it. It was the first I had seen in England, although I had seen them in the Massif Central of France in May. — PETER CARLTON, 19, Peckfield Close, Hampsthwaite, Harrogate, N. Yorks.

OXYCERA FORMOSA MG. (DIPT.: STRATIOMYIDAE) IN S. E. LONDON. — In 1979, *Ent. mon. Mag.*, **115**: 154, I noted the uncommon *Oxycera morrisii* Curt. from Maryon Wilson Park, Charlton, where a single male was taken that year. I can now report the occurrence of a second uncommon species of the genus in the same locality, namely *O. formosa* Mg. — an equally unexpected find, both species tending to be very local and chiefly known from further north and west. The present one has been taken in Surrey and Sussex (Verrall) but I am unaware of any previous record for Kent, or for the London suburbs. Two females were swept from ground vegetation near one of the streams flowing through the park (derived from springs arising on Shooters Hill, the local eminence) on 28th July last. The species is one of those with extensive yellow markings in the female, more restricted in the male. As mentioned in the note cited above, I took one of the latter sex in Norfolk in 1979 at the edge of a swamp, where water can sometimes be seen welling up from the ground. It thus seems possible that *O. formosa* favours fresh running water or spring water for its development, which would explain its apparent absence from the rather well worked Thames Marshes area (where the handsome black and green *O. trilineata* L. occurs very sparingly). — A .A. ALLEN.

STIPHROSOMA SABULOSUM HAL. (DIPT.: ANTHOMYZIDAE) IN THE LONDON SUBURBS. — This curious little subapterous fly is, I think, rarely recorded, and then mostly as an inhabitant of coastal sand-dunes. Its trivial name may suggest exclusive attachment to this habitat, but in fact any such idea is erroneous. I have met with it three times in the south-eastern environs of London, as follows: — Blackheath, one at edge of small garden pond, 2.vi.63; Charlton, one sifted from vegetable litter in garden, 4.vi.78; and finally again at Charlton, a pair *in cop.* and a male, by grubbing at the foot of a willow in Maryon Wilson Park, 25.vii.80. In no case was the soil appreciably sandy. With only tiny strap-shaped vestiges of wings, *S. sabulosum* is clearly one of those species liable to be passed over by dipterists not in the habit of sometimes

forsaking the net and working close to the ground, and is probably therefore much more common than it seems. I am indebted to Dr. J. W. Ismay for the identification. — A. A. ALLEN.

A HALF MELANIC PEACOCK BUTTERFLY: INACHIS IO L. — On Bank Holiday Monday 25th August, 1980, I was in the Shabbington Wood area on the Oxfordshire/Buckinghamshire border. Upon returning to my car, I disturbed a Peacock butterfly which flew to a fir tree and perched about 9ft. up with wings open. Although the forewings were slightly drawn back across the hind wings, the whole of the upper surface of the hind wings appeared to be an even velvety black with no eye spots. The effect was even more marked by the fore wings being quite normal. The sight was so remarkable that I had to look again to make sure that I was not imagining it. After about a minute it flew off at about the same height as its perch and disappeared. Despite returning the next day and the following week-end, I did not see it again, although there were plenty of normal Peacocks around. — S. L. MEREDITH, 5, Rutlish Road, Merton Park, London SW19 3AL.

FURTHER SPREAD OF LITHOPHANE LEAUTIERI BOISD. — On 30th September, 1980 Mr. Arthur Watchman of Monks Eleigh, Suffolk took a specimen of Blair's Shoulder-knot in his garden trap, and another appeared on 26th October. These are believed to be the first records for Suffolk and are an extension of the spread of this species eastwards. — H. E. CHIPPERFIELD, The Shielding, Walberswick, Southwold, Suffolk.

EMERGENCE OF BIORRHIZA PALLIDA (HYMENOPTERA: CYNIPIDAE). — Early in June 1980 I collected an Oak Apple gall and put the sprig of Oak in water to keep fresh. Some 2½ weeks later the insects started appearing, and what was surprising was the degree of synchronization of the emergence: 95 insects appeared in the first 24 hours; about 65 during the following day, and an uncertain, but smaller, number thereafter. Such synchronization is of obvious biological advantage since it enables such weak-flying insects to find mates in a short time. Locality: Lea Marston, Warwickshire. — JOHN ROBBINS, 123b Parkgate Road, Coventry CV6 4GF.

UNUSUAL BEHAVIOUR OF THE BLACK ANT, LASIUS FULIGINOSUS (HYM.: FORMICIDAE). — On the evening of July 19th numbers of these ants were discovered in an airing cupboard, and they included alated adults as well as numbers of pupae, which had been stored beneath a bucket. The most interesting features of this occurrence are:— (i) All these ants had arrived since mid-morning; (ii) All the adults and pupae, and about 80% of the workers, had disappeared by 6.30 a.m. BST the next day; (iii) This was the first time in 16 years that ants had entered the dwelling; (iv) The dwelling was a first-floor flat, and the insects had apparently entered via the flat beneath, but without staying in the latter; (v) There were about 15% of the Yellow Ant, *Lasius mixtus,* amongst the

workers; (vi) There was a further minor invasion of workers (no alated adults or pupae) on July 28th, and a few individuals were seen on subsequent days; but not after about Aug. 3rd. Locality: Coventry. W. Midlands. — JOHN ROBBINS, 123b Parkgate Road, Coventry CV6 4GF.

A RECENT ESSEX FIND OF PROCRAERUS TIBIALIS LAC. (COL.: ELATERIDAE). — On 24th March 1973 I discovered two larvae and remains of an imago of this scarce click-beetle in a large fallen beech in Hatfield Forest, South Essex; one larva was duly reared to maturity. All were near together in decayed (but fairly h ard) 'worm-eaten' wood adjoining a cavity in the split-open trunk filled with wood-mould, which appeared totally barren of insects.

The sole published record of *P. tibialis* for Essex that I know of is an old one given by Fowler (1890, *Col. Brit. Isl.*, **4**: 94): 'Wanstead (Janson)', without date. It might be expected to have occurred in Epping Forest (as has its still rarer relative *Megapenthes lugens* Redt.), but appears never to have been found there. Hatfield Forest, near Bishop's Stortford, must not be confused with Hatfield, near St. Albans, in the adjacent county of Herts.: coincidentally, *Procraerus* was taken at the latter place only a few years before (see Allen, 1971, *Ent. mon. Mag.*, **107**: 12). — A. A. ALLEN.

STRATIOMYS POTAMIDA MG. (DIPT.), ETC., IN N. W. KENT. — On 13th June last I had the pleasure of encountering for the first time this impressive and uncommon fly — a very fine male — by sweeping lakeside vegetation at Danson Park, Welling, not far from here. It was perched almost on the rim of my net, probably about to take off, but I just managed to get a hand over it in the nick of time; which was fortunate, as no other turned up. This could perhaps be due to the fact that 13th June is the earliest date noted by Verrall (*Brit. Flies*, **5**) for the species, whilst 1980 was not a forward season here. After 15th June, the lakeside is so choked with anglers that collecting is practically impossible.

I have not seen a definite Kent record of *S. potamida*, though it has occurred on the fringes of London — e.g., on the north side at Wood Green, Middlesex, with *S. longicornis* Scop. (Colyer & Hammond), and on the south side at Mitcham, Surrey (2 exx. with several *S. furcata* F., near the sewage works, G. Shephard, 30.vii.69). It is usually more of an inland and freshwater species like *S. chamaeleon* L., whereas the other two are equally at home in the brackish waters of estuarine areas.

Strangely, the late Dr. Oldroyd (1969, *Handb. Ident. Brit. Ins.*, **9**(4): 28) seemed unaware of the occurrence of *furcata* in Kent, noting it as "generally a more northern species" and giving for the south an Essex record only. It is certainly the least scarce of our *Stratiomys* spp. in North Kent, having been taken, for instance, in the Thames Valley [county?] by Col. Yerbury (*teste* Verrall) and in the Thames Marshes by H. W. Andrews (Woolwich Surveys). I caught two females at hem-

lock umbels in the brackish marshes near Higham in 1951, and not far away a male of the equally large and very local *Odontomyia ornata* Mg. By sweeping dikeside herbage nearer the village of Higham, Mr. Shephard took a ♂ *S. longicornis* (det. BMNH) in 1966 or 7, and on 26.vi.66 a ♂ *O. tigrina* F. at the same spot; of the last-named, I swept a ♀ from reeds by a marsh dike at Lewes, Sussex, 15.vi. 74. Finally I may mention a ♀ *S. furcata* brought to me by Mr. D. Collins from the sea wall at Leigh, Essex, in July 1964. — A. A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

WINTER AND EARLY SPRING MOTHS IN JANUARY. — An extremely mild spell of weather during the last week in January this year, prompted me to visit a private wood near Ashford, Kent on the 24th of the month. I operated two M.V. lights, and by 7.30 p.m. approximately 300 *Apocheima pilosaria* D. & S. and 70 *Agriopis leucophaearia* D. & S. had arrived, along with half a dozen *Erannis defoliaria* Clerck. An extremely early example of *A. marginaria* Fab. also came to the sheet, but none were found at rest along the adjacent hedges, where they are fairly plentiful later in the year. Both *Theria rupicapraria* D. & S. and *Operophtera brumata* L. were sitting about on the roadside hedges.

Another similar dry warm evening three nights later found *pilosaria* again abundant, with over a hundred *leucophaearia* in many variable forms. Several specimens of *Alsophila aescularia* D. & S. also appeared, and two examples of the late autumn noctuid *Eupsilia transversa* Hufn. made a pleasant surprise, obviously tempted out of hibernation by the remarkably mild conditions. However no *Conistra vaccinii* L. were seen, which is usually to be noticed on the wing in February. In stark contrast, the night of the 29th saw clear cold skies, and only two *leucophaearia* managed to struggle onto the sheet with no other moths of any species to be seen. — J. PLATTS, 11 Maydowns Road, Whitstable, Kent.

OBSERVATIONS ON THE EGG-LAYING HABITS OF GORTYNA BORELII LUNATA FREYER IN THE WILD. — I made several visits to a locality for this species on the Essex coast during October 1980, and found a female ovipositing on a dead grass stem, about eighteen inches above ground. Some eggs were tucked inside the outer sheathing, but most were laid on the outside of th stem. About a dozen were laid in a batch, but proved infertile a day or two later. A few nights later another female was found at rest low down on a dead grass stem, apparently in preference to the higher plants of its food plant the Sea Hog's Fennel, although a male was found amongst the old flower heads. No eggs were present, but at home many were laid over the next few nights, all on dead grass stems. Various other stems were left in the cage including *Peucedanum officinale*, but no eggs were deposited on these. Some hundred eggs were laid, most of which turned pink several days later. — J. PLATTS, 11 Maydowns Road, Chestfield, Whitstable, Kent.

THE ENTOMOLOGIST'S RECORD
AND JOURNAL OF VARIATION
(Founded by J. W. TUTT on 15th April, 1890)

TO OUR CONTRIBUTORS

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EDITORIAL

Beginning with this issue of *The Record* there will be a change of Printer resulting in a slightly different format. Henceforth, the Journal will be issued bi-monthly with an increase in the number of pages in each issue. In this way we hope to offset some of the losses so far sustained over the past 12 months by inflation, and in part to avoid yet further subscription increases in the immediate future. With the assurance of Messrs. Frowde & Co. (Printers) Ltd., we look forward to the Magazine being issued regularly on the 15th of each alternate month.

IMPORTANT NOTICE

Owing to the change of printers, this issue may well be published before the January and February numbers.

———o———

MONOPIS FENESTRATELLA (HEYD.) IN WARWICKSHIRE. – In the Autumn of 1979, through the good offices of the local B.T.O. Representative, Mr. G. H. Green, I obtained the contents of a Kestrel's nest collected for me at Loxley, Warwickshire, by Mr. J. Hardman of Stratford-upon-Avon. The nest was about 15 ft. up an oak tree, in a hedgerow on agricultural land, in a semi-natural nest box made from a hollowed walnut log. The contents were mostly bird wings and feathers and some mammal remains. In June, 1980, I bred out from this, a large number of micro moths (seven species in all), including *Niditinea piercella* (Bent.) and threee examples of a striking *Monopis* species which keyed out in Meyrick to *Monopis fenestratella* (Heyd.). Dr. J. D. Bradley kindly confirmed the identification at the British Museum. I believe this species has not been observed in recent years.

Meyrick has "Surrey, Cambridge, local. . . . Larva in decayed wood". Ford (1949) repeats this; and the new Field Guide gives on continental authority: "In dead wood and fungus, on plant refuse and in hornets' nests". – DR. A. N. B. SIMPSON, 29, The Greenway, Collets Green, Powick, Worcs. [This is a most interesting record, and the only confirmed occurrence of *fenestratella* in this country to our knowledge since 1877, in which year Harold Ruston *(Ent. mon. Mag.,* **15** : 239) took five specimens in his garden at Chatteris, Cambridgeshire on June 24-25. Meyrick's "Surrey", which dates from the 1895 edition of his *Handbook,* is repeated in the 1928 revised edition, but does not appear to be confirmed from any other source. Moreover; the species is not included in the list of lepidoptera of the *Victoria County History of Surrey,* whose main author was none other than C. G. Barrett. Lhomme (1963, *Catalogue des Lepidopteres de France et de Belgique,* 2 : 1106) states that the larva occurs mostly in the detritus, seeds and excrement of birds. – J. M. C. -H.]

A SECOND KENT CAPTURE OF MALTHODES FIBULATUS KIES. (COL.: CANTHARIDAE). – In 1966, *Ent. mon. Mag.*, **102** : 231, I published the first Kent record of this rarity, having taken a single male at m.v. light at Blackheath. I can now report a second male captured in the same manner here at Charlton (2-2½ miles distant) on the morning of 6th June last. It was found on the lamp board after dawn, apparently just arrived, when a decided breeze was getting up. (I find that the individuals of *Malthodes* – with an occasional *Malthinus* – that come to the lamp, all of them males, tend to arrive early (e.g. around midnight) and to resort to the ceiling.) *M. fuscus* Waltl is not very infrequent here at the lamp, as at Blackheath. It is strange that I have never seen either this species or *fibulatus* anywhere in the district, except at m.v. light; for there seems nothing specially obscure about their (adult) habits further out from London. The same applies to *Malthinus balteatus* Suff., which I have twice had at Blackheath. – A. A. ALLEN.

RECENT ABUNDANCE OF CHEILOSIA VELUTINA LW. (DIPT. : SYRPHIDAE) IN THE LONDON AREA. – From early times this Syrphid has been regarded as uncommon, or even rare; but it seems to be one of those species that have for some few decades been undergoing a marked increase in certain areas if not generally. Not only has *velutina* been one of the more common Cheilosiae to me since I recommenced collecting hover-flies 20 years ago, but also I can positively declare that in the last two years at least it has been far more plentiful than any other of the genus here at Charlton, if sought at the right place and time. This is notably the case on an expanse of waste ground near the Thames, where it abounds at flowers of hogweed in August; a few *C. pagana* Mg. and *C. vernalis* Fall. may occur with it, but *velutina* heavily outnumbers them and indeed was the only species noted there last year. For my earlier captures see Chandler, 1969, The Hover-flies of Kent, *Trans. Kent Field Club*, **3** (3) : 180. The only comparable observation I have seen published is by Mr. R. W. J. Uffen, who found that *velutina* was the sole species of *Cheilosia* to occur on a piece of waste ground, also near the Thames, near Chiswick Bridge (1959, *London Naturalist*, **38** : 56). He noted the species there in 1957-8, between July and September, in some numbers, and remarked that he had yet to meet with it elsewhere.

The fly occurs at *Heracleum* flowers so much oftener than at any others as to make it quite likely that this may prove to be the larval foodplant. The one recorded larval host for this species is *Scrophularia nodosa* (a Continental record of 1880 – see K. G. V. Smith, 1979, *Ent. Rec.*, **91** : 192), but I think it safe to assert that it cannot be the sole one, for the figwort is almost non-existent in the Blackheath-Charlton area where *C. velutina* is so frequent. (This fact may not improbably account for the total absence up to now of *C. variabilis* Panz., always reckoned one of our commonest species, from this district.) – A. A. ALLEN.

THE IMMIGRATION OF LEPIDOPTERA TO THE BRITISH ISLES IN 1980, WITH AN ACCOUNT OF THE INVASION OF THE PAINTED LADY: *CYNTHIA CARDUI* L.

By R. F. BRETHERTON* and J. M. CHALMERS-HUNT**

1980 was generally an even poorer year for immigrants than 1979. There were, however, interesting features: early arrivals in April and in June, spectacular invasions of some common species, especially of the butterfly *Cynthia cardui* L., the Pyrale *Udea ferrugalis* Hbn., and the Tineid *Plutella xylostella* L. *(maculipennis* Curtis), and records of *Scopula rubiginata* Hufn., *Nola aerugula* Hbn., *Enargia paleacea* Esp., *Photedes extrema* Hbn., *Deltote bankiana* Hbn., which are local residents in Britain but which also appear as occasional immigrants. Of the scarcer species in almost all cases numbers of individuals reported were woefully low. The numbers arriving may not, indeed, have been quite as poor as the records suggest, because the persistently poor weather discouraged field work and to some extent the operation of static light traps, although the prevalence of cloudy nights with fairly high average temperatures may have favoured the attendance of such nocturnal immifrants as were present.

The season began with a small immigration noted in Sussex in early April *(Ent. Rec.,* 92 : 144), and another, coinciding with three days of warm south east and south winds about May 11/14. This consisted mainly of *Vanessa atalanta* L., which reached as far north as the Trossachs, Perthshire and Handa Island, West Sutherland by May 16 and 19; there was also a surprising capture of a single *Trichoplusia ni* Hbn. at Portland, Dorset, which perhaps arrived also with this movement *(Ent. Rec.,* 92 : 196). The first big invasion, including that of *C. cardui,* began after June 2, when the wind sources shifted suddenly from the North Atlantic to the south west and then to south and south east, brining a current of warm air from north Africa and the Mediterranean. This was interrupted from June 7 to 11, but immigrant species became more numerous when southerly winds were resumed until about June 18.

Most of July was almost barren of arrivals, but towards its end an anti-cyclone became established over Scandinavia and north central Europe, with warm south east and south winds blowing round it across the North Sea mainly to northern Britain. These produced, after some forerunner species, the second great invasion of *C. cardui* and its fellow travellers up the east coast from Yorkshire to Orkney, from July 29 to 31. Rather later an area of high pressure also developed from the Azores to Spain, and as this moved eastwards south west and south winds brought probably the most varied immigration of the year to southern England in the first fortnight of August. Thereafter weather conditions again became very unsettled through the rest of August and in September, with alternating short periods of favourable and unfavourable air streams; but further

*Folly Hill, Birtley Green, Bramley, Guilford, Surrey GU5 OLE.
**1, Hardcourts Close, West Wickham, Kent BR4 9LG.

immigrations can be fairly clearly distinguished from August 24 into early September and again from September 15 to 28. This almost ended the migration season, as throughout October winds were northerly and temperatures low, with records of immigrant species extremely few.

The species whose main arrivals can be attributed to each of these periods are set out below, in the order of the first records:

April 2/7 *C. cardui, A. ipsilon, H. peltigera, N. noctuella; V. atalanta,* 14 and later.

May 1/18 *V. atalanta, C. cardui, A. gamma,* ? *T. ni* (24.5).

June 2/6 *M. stellatarum, A. gamma, C. cardui, V. atalanta, N. noctuella, P. xylostella, H. peltigera, U. ferrugalis.*

June 12/16 *M. albipuncta, D. bankiana, H. peltigera, O. obstipata, A. gamma, P. extrema, P. saucia.*

July 26/31 (N. England and Scotland) *E. occulta, N. aerugula, V. atalanta, C. cardui, A. gamma, P. xylostella, N. noctuella*

August 1/15 (South England) *R. sacraria, P. unionalis, N. noctuella, A. gamma, V. atalanta, H. peltigera, E. parva, M. albipuncta, M. stellatarum, C. crocea, O. obstipata, S. rubiginata*

August 26/September 9 *R. sacraria, V. atalanta, C. cardui, C. crocea, M. stellatarum, U. ferrugalis, M. vitellina, H. armigera, A. convolvuli, A. gamma, D. orichalcea, P. unionalis, O. obstipata, A. atropos, D. nerii*

September 15/28 *P. saucia, M. unipuncta, D. ramburialis, U. pulchella, S. exigua, H. celerio, U. ferrugalis, H. armigera, M. albipuncta, C. croceus.*

In October and November no additional species were reported, and the only noteworthy influx was of a dozen *M. unipuncta* between October 22 and November 2 in south west Ireland.

Among the common immigrants, the great invasions of *C. cardui* are fully discussed and recorded in Annexe III. They were all accompanied by much smaller numbers of *Vanessa atalanta;* but this also arrived independently at other times and probably had more northerly points of origin. Several observers noted that its larvae survived better than those of *C. cardui;* but even so local breeding seems to have been reduced by the poor summer, and its total numbers in Britain may have been below average. In Dumbartonshire some were seen definitely migrating southwards on September 20 and 22, and the account of more than 100, with some *C. cardui* and a single *C. crocea,* on the coast at Girdleness and Newtonhill, in south Aberdeen and Kincardineshire on September 28 may have represented a southward movement rather than a fresh immigration. A presumably over-wintering example was seen in south Hampshire on January 24, and the first immigrants arrived in April and May;

there are few records for October, and the last was reported at Peacehaven, Sussex, on November 2.

Of *C. crocea* about 60 were reported, mostly very widely scattered. One was seen at Padstow, Cornwall on June 13, and another at Wistow, Hunts., on June 15. Most of the others were in a well defined group between August 27 and early September. These arrived at Lands End in some numbers, and were noted later up the west coast of England and in Scotland as far as Loch Lomond and Stirlingshire. The last example reported was on St. Agnes, Isles of Scilly, on October 4. In Ireland, one was seen at Old Lighthouse Is., Co. Down, on June 21, and another in Co. Wexford, on September 28. There was no sign of local breeding, and the species remains, as for many years, almost a scarce immigrant.

Plutella xylostella L. and *Autographa gamma* also came with *C. cardui,* especially in late July, when the former was said to be "in millions" at Spurn Point and in Orkney, and an estimated 1,000 *A. gamma* were seen at Spurn. *Nomophila noctuella* and *Udea ferrugalis* also accompanied them in smaller numbers, and the latter had a very large independent influx in mid September, noted especially in Essex, Westmorland and south west Ireland. There were also many separate influxes, beginning in May, of *A. gamma* on the south coast, and 160 were counted on August 27 in Cardiganshire and 650 on August 13 at Beachy Head, E. Sussex. Its inland spread and local breeding, however seem to have been poor.

The resident immigrant *Phlogophora meticulosa* bred freely in the south through the mild winter, and was commoner than usual in May and June; but it was not generally much in evidence as an immigrant either then or later, although there was a definite influx to Lincolnshire where 159 were trapped at South Thoresby between September 16 and 22. *Agrotis ipsilon* began strongly in Sussex and elsewhere in April, and almost daily records of small numbers through July probably reflect local breeding; but it was not notably abundant as an immigrant in the autumn, apart from a large number reported at light at Swanage, with *Peridroma saucia,* on October 5. Elsewhere that species was certainly scarcer than usual. It was noticed at Hampstead, Middlesex on June 15 and 22, but the later records in September and through October were almost all of single examples and did not extend northwards beyond Abergele in Denbighshire and Blanchpeth in co. Durham. The last was at Leigh, Surrey, on October 28. *Macroglossa stellatarum* came in with the June immigrations in some numbers, getting as far north as the Isle of May, Fifeshire, Caerlaverock, Dumfriesshire, and Abergele, Denbighshire, from June 6 to 8, and being numerous in Warwickshire from June 15 to the end of the month. It was also recorded in south Devon through much of July and singly on August 10 and 28. It may be relevant that this was the only migratory species seen commonly in the French Pyrenees in late July and early August.

Records of the scarcer species are given in full in Annexe II; except for *Rhodometra sacraria* and *Heliothis peltigera,* all species were in very small numbers. Of *R. sacraria* some 20 were reported, almost all as singles except in Essex. The first on July 2, was fresh and was reliably said to have exuded meconium. This is an unusually early date for the species in England, and it is not clear how, or when, its parent may have arrived . Most of the remainder came as immigrants during the first half of August; it is possible that the few noted in Essex and Cornwall in late September and October were locally bred from the August arrivals. The total recorded was, however, below average.

Heliothis peltigera, with about 30 feral moths reported and over 100 larvae in various places along the south coast, had its best year since 1968. The first was at Ninfield, East Sussex on April 10. There was another at Wormley, Surrey on June 5, and eight more in various places from June 13 to 21, reaching as far north as Derby and Abergele, Denbighshire. A further immigration probably accounted for all of the ten moths seen from Kent to Dorset from August 2 to 18; but in some cases larvae were found at the same time, and there is clear indication that three moths found on Looe Bar, E. Cornwall on August 22 and 23 were locally bred, and so perhaps were the few scattered moths reported between September 6 and 18. Larvae were very numerous on the coast of Kent and Sussex in late September and early October, presumably from August parents; but there is no evidence that any of these survived to produce moths in the wild.

Mention has already been made of the occurrence in 1980 of several examples, almost certainly short distance immigrants from across the North Sea, of resident British species. Others which may be suspected of having the same status are two *Meganola albula* trapped at Bradwell-on-Sea, South Essex on August 8 and 9, and also two specimens of *Euproctis chrysorrhoea* caught at the Spurn Observatory on July 30, and which if they were not immigrant, must have come a long way from their coastal haunts in Suffolk, Essex and Kent. In addition, in the invasions of early June and late July Mr. R. I. Lorimer trapped in Orkney examples of *Blepharita adusta* and *Papestra biren* of forms differing greatly from those found locally, and also several species previously unknown there, though resident on the Scottish mainland at varying distances to the south. A full note on these will appear elsewhere.

ANNEXE I

Recorders and localities

(The names of recorders who gave information about *C. cardui* are starred)

Agassiz, Rev. D., Heyshott, Sussex, Bridport, Dorset.
*Allen, A. A., Woolwich, W. Kent.
*Archer-Lock, A. S., Padstow, W. Cornwall; S. Devon.
Elliott, B., Portland, Dorset; Derbys.
*Elliott, R., St. Andrews, Fife.
Evans, K. A. G., Croydon, Addiscombe, Surrey.
*Ezard, S., Rudston, S. E. Yorks.

*Bainbridge, I., Spindlestone Haugh, S. Northumberland, per A. Long.
*Baker, B. R., Near Lands End, W. Cornwall; Caversham, Berks.
*Baldwin, A. J., Halwell Forest, N. Devon.
*Bartlett, J., Banchory, Kinc., per MRY.
*Birkett, N. L., Grange, Sedbergh, Westmld.
Braddock, A. Derby, per CRP.
*Bretherton, R. F., Bramley, Surrey.
*Briggs, J., Westmld; N. Lancs.
Brown, D. C., Lizard, W. Cornwall; Dungeness, E. Kent; Charlecote, Warwicks.
*Burrows, D. S., Malham; Ilkley Moor, Central Yorks.
Burton, G. N., Sheppey, E. Kent.
*Campbell, J. L., I. of Canna, Inner Hebrides.
Carlton, P. Roundhill Reservoir, N. Yorks.
*Chalmers-Hunt, J. M., E. Curthwaite, Bowness-on-Solway, Cumberland; W. Wickham, W. Kent; Nagden, E. Kent; Alnmouth, Craster, N. Northumberland; Tatsfield, Surrey.
Chambers, D. A., E. Kent.
*Christie, I. C., Dumbartons.; N. Berwick; Isle of Coll., Argyll.
*Classey, E. W., Southrop, Lechlade, N. Glos *(Ent. Gaz.,* **31** : 228).
*Clarke, W. A., Scarborough, Filey, etc., N. E. Yorks, per P.Q.W.
Convey, P., Winchester, per BS.
Coster, W.L., Portland, Dorset; Dungeness, E. Kent.
*Coxey, S. Abergele, Llandulas, Denbighshire.
*Cramp, R. A., W. Blean, E. Kent; Reigate, Surrey.
*Dewick, A. J. & S. F., Bradwell-on-Sea, S. Essex.
*Dickinson, J., Blackburn, Lytham St. Annes, N. Lancs.
*Down, D. G., Canvey Is., S. Essex.
*Dyson, R., Brighton, Shoreham, Sussex.
*Eley, Lady, Suffolk; Lock Ness, Inverness.
*Jackson, S. M., Tadcaster, Selby, S. E. Yorks.
Jewess, P., Newington, E. Kent.
*Johnston, A. F., Isle of May, Fife.
*Kitchen, Rev. T. B., Scarborough, N. E. Yorks per PQW.
*Largen, R. Worthing, W. Sussex, per CRP.
Elvidge, M., Godalming, Surrey.
*Fairclough, R., Leigh, Surrey.
Fisher, J. B., Beaumont-cum-Moze, S. Essex.
*Fletcher, D. S., Cumbrian Fells, *Ent. Gaz.*, **31** : 246.
Foster, A. P., Kingsdown, E. Kent; Mawnan Smith, Looe Bar, etc., Cornwall.
*Gandy, M., Cardigans., Middsx., etc.
Gardner, A. F. J., Southam, Marton, Charlcote, Warwicks.
*Gibson, K., Mallaig; Shinat Is.; North Rona, per F.H.
Goater, B., Branscombe, S. Devon; Portland, Dorset; Caerlaverock, Dumfriesshire.
Gregory, J., Par, E. Cornwall, per CRP.
Greenwood, J. A. C., Rogate, W. Sussex.
Halstead, A. J., Wisley, Surrey.
*Hancock, E. E., Dolgelly Merioneth; Dumfriesshire.
*Harman, T.W., Sandwich Bay, Canterbury, Westbere, E. Kent.
Harmer, A. S., Lymington, S. Hants.
Hadley, M. Beachy Head, E. Sussex, per CRP.
*Harrison, F., Derbyshire; S. Yorks; Notts.
Heal, N. F., Detling Hill, E. Kent.
*Hedges, J. Ballakeighan, Isle of Man.
Heckford, R. J., Beaulieu Rd., S. Hants.
*Hare, L. H., West Pentire, W. Cornwell, per J. Heath.
*Hillis, Dr. P. , co. Down.
*Hobbs, R. N., Kent; Sussex; Norfolk.
Homer, T.G., Land's End, W. Cornwall, per BRB.
*Houlston, R., S. E. Yorks, per PQW.
*Hulme, D. C., Muir of Ord, Rosshire; E. Sutherland.
*Humphreys, Col. R. B., Usk, Mon.; Brancepath, co. Durham; Smardale, Westmorland.
*Horton, Dr. G. A. N., Usk, Mon.; W. Sutherland; Caithness.
Pilcher, R. E. M., South Thoresby, E. Lincs.
Pooles, S., Eastbourne, E. Sussex.
Porter, J. Dungeness, E. Kent, per BENHS.
*Pratt, C. R., Peacehaven, Pevensey, Normans Bay, E. Sussex.
Pyman, G. A., Essex.
Radford, J. T., Arundel, W. Sussex, per CRP.

Langmaid, Dr. J. R., Southsea, S. Hants, per BS.
*Laidlaw, J., Teignmouth, S. Devon.
*Leece, J., Handa Is., W. Sutherland per DCH.
*Leedal, A. Lancaster, per JB.
*Lewis, I. T., Hod Hill, Dorset.
Long, A. G., Whitley Bay, S. Northumberland.
*Longdon, M. R., Dumpton Gap, Ramsgate, Joss Bay, E. Kent.
*Lorimer, R. I., Ophir, Orkney; Totteridge, Herts.
*McAughton, J., Ring Point, Loch Lomond, per JB.
*Marren, P., Banffshire; N. Aberdeens.
*Megginson, K., Scarborough, Robin Hood's Bay, N. E. Yorks, per PQW.
*Miller, J. R. Crieff, S. Perths; Argyll; Inverness; St. Andrews, Fife.
*Mitts, P., Girdlestone Ness, S. Aberdeens; Newtonhill, Kinc., per MRY.
*Morrison, R.C., Troutsdale, N. E. Yorks, per PQW.
*Morton, A. C. C., Folkestone, E. Kent.
Messenger, J. L., Wormley, Surrey.
*Muggleton, J. C., Cape Wrath, W. Sutherland.
Notton, J. H. F., Berks, per BRB.
O'Connor, Dr. J. co. Wexford, Ireland.
*O'Heffernan, H. L., Chillington, Slapton, S. Devon.
Owen, J. E., Dymchurch, E. Kent.
*Parnaby, Mrs. E. M. I., Scarborough, N. E. Yorks, per PQW.
*Palmer, S. and B., Aberdeens., per MRY.
*Parsons, M. Ninfield, etc., E. Sussex, per CRP.
*Pelham-Clinton, E. C., Winchburgh, W. Lothian; Porlock, W. Somerset.
*Peers, M., Breconshire, per J. P. S.-B.
Pickering, R. R., Aldwick Bay, Pagham, W. Sussex, per BS, CRP and CJ.
Pickles, A. J., Lymington, S. Hants; Swanage, Dorset, per BENHS exhibition and BS.
*West, B. K., Freswick, Caithness.
*Wild, E. H., Selsdon, Surrey; Swanage, Dorset; St. Lawrence, Isle of Wight; Dungeness, E. Kent
*Winter, P. Q., Muston, etc., S. E. Yorks.
Rees, D., Eversley, N. Hants., *Bull. A. E. S.*, **39** : 172.
*Robertson, A. S., Truro, Roseland, W. Cornwall, *Ent. Gaz.*, **31** : 253.
*Sankey-Barker, J. P., Brecons.; Radnors.
*Scott, R. E., St. Agnes, Isles of Silly.
Senior, G., Dungeness, E. Kent, per RGC.
Simpson, M. S. L., Wistow, Hunt, *Bull. A. E. S.* **39** : 172.
*Skinner, Mrs. P., Newton Abbot, S. Devon.
Skinner, B., Dungeness, E. Kent; Swanage, Dorset; Pagham, W. Sussex.
*Smith, D. J., Aberystwyth, Cards.; Shropshire.
*Smith, P. Fingringhoe, N. Essex, per GAP.
*Softly, R. A., Hampstead, Middsx; Swanage.
Sokoloff, P., Orpington, W. Kent; Herne Hill, Surrey; Northumberland.
*Spencer, B. R., Spurn Bird Observatory, S. E. Yorks.
*Summers, P., Hawick, Roxburghs; Ranmore, Surrey; Verwood, Cranborne, Dorset; Black Torrington, N. Devon.
*Sutton, S. R., Leeds, Yorks.
Sterling, D. H., Leckford, N. Hants; Winchester, S. Hants.
Tapp, A. E., Dungeness, E. Kent.
*Thomas, R. J., Boat of Garten, Inverness.
Thomson, G., co. Cork, W. Ireland.
*Titcombe, C., Bulwark, etc., Mon., per GANH.
Tynan, A. K., Mull of Galloway, Wigtons., per AGL.
Walley, P. F., Dallington, E. Sussex.
*Wallis, A. P., Scarborough, etc., N. E. Yorks, per PQW.
*Wardell, W. R., Scarborough, N. E. Yorks, per PQW.
*Waring, P., Arnside, N. Lancs, per JB.
Watson, A. St. Annes-on-Sea, N. Lancs per JB.
Weir, Miss J., near Guilford, Surrey.
*Wykes, N. G., Uploders, Eggardon Hill, Dorset.
Youden, G., Dover, E. Kent.
*Young, M. R., Forties oil rigs, North Sea; Aberdeenshire; Kincardineshire.

Records of Scarcer Immigrant Species in 1980

DIASEMIOPSIS RAMBURIALIS Dup. (2) S. HANTS: Beaulieu Road station, 19.8 (HJH). W. SUSSEX: Aldwick Bay, 17.9 (RRP).

PALPITA UNIONALIS Hbn. (5) S. ESSEX: Bradwell-on-Sea, 14.8 (AJD). S. HANTS: Lymington, 1.8 (AJP). SURREY: Bramley, 6/7.8, worn female, eggs, 21.10, worn male, possibly bred on garden jasmine; Herne Hill, 4.9., very worn male in a train (PS).

NYMPHALIS ANTIOPA L. (2) S. NORTHUMBERLAND: Whitley Bay, 6.8 (AGL). N. YORKS: Roundhill Reservoir, 12.10 (P.C.).

NYMPHALIS POLYCHLOROS L. (1) SURREY: Near Guildford, 13.9., sitting on a kitchen window ledge (probably immigrant) (JW)

SCOPULA RUBIGINATA Hufn. (1) E. KENT: Sandwich Bay, 15.8.

RHODOMETRA SACRARIA L. (22) W. CORNWALL; Mawnan Smith, 28.10, male (APF). S. ESSEX:Bradwell-on-Sea, 5.8., 6.8(2), 22.9., 23.9., 26.9., 3.10 (AJD, CFD). N. ESSEX: Fingringhoe, n.d. N. HANTS: Leckford, 15/16.8, male (DHS). E. KENT: East Blean, 2.7., male, which ejected meconium (ESB); Detling Hill, 10.8, male (NFH); Dymchurch, 14.8 (JAO). W. KENT: Tonbridge, 1.8., male (AET). SURREY: Croydon, 13.8 (KAGE); Selsdon, 15.8, male (EHW). E. SUSSEX: Dallington, 8.8 (PFW); Peacehaven, 7.9 (CRP); Crumbles, 21.9., at dusk (CRP). W. SUSSEX: Heyshott, 8.8 (DA); Worthing, 29.8 (RL). WARWICKS: Charlecote, 26.9., male (DCGB).

ORTHONAMA OBSTIPATA F. (6) BERKS: Caversham, 3/4.9 (BRB). E. CORNWALL: Par, 1.8 (JG). DORSET: Swanage, 3.9., female (AJP). ORKNEY, 27.8., female (RIL). E. SUSSEX: Pevensey, 13.6 (CRP). WARWICKS: Charlecote, 26.9 (AFJG).

AGRIUS CONVOLVULI L. (6) MID CORK: Fountainstown, 30.9 (AAM). S. E. LINCS: South Thoresby, 20.9 (REMP). MONMOUTHS: Bulwark, 28.9 (CT). W. SUSSEX: Aldwick Bay, 26.6, female at rest on door (RRP). WEXFORD: Old Head of Kinsale, 17.9 (GT). N. E. YORKS: Robin Hood's Bay, 9.9 (SRS).

ACHERONTIA ATROPOS L. (4) DERBYS: Chesterfield, 25.9, one female brought in (BE). SURREY: Thorpe, male, 31.8 (Boon *Bull. Amat. ent. Soc.*, **40** : 15). WARWICKS: Southam, 28.9, female at outside light (AFJG). AT SEA: Forties Oil Platform, 110 miles east of Aberdeen, 9.10 (MRY).

DAPHNIS NERII L. (1) BUCKS: High Wycombe, worn male, 11.9 (Cave, *Bull. Amat, ent. Soc.*, **40** : 15).

HYLES GALLII Rott. (1) E. KENT: Dungeness, 25.7, in trap (GBS).

HYLES LINEATA LIVORNICA Esp. (2) S. DEVON: Chillington, 11.6, large and fresh (HLO'H). E. KENT: Dymchurch, 26.6, in trap (JEO).

HIPPOTION CELERIO L. (1) S. E. YORKS: Rudston, 19.9 (ASE).

UTETHEISA PULCHELLA L. (1) W. SUSSEX: Arundel, 19.9 (ASE).

NOLA AERUGULA Hbn. (1) S. E. YORKS: Spurn Bird Observatory, 26 & 27.7, in m.v. trap (BRS).

EUROIS OCCULTA L. (3) N. ABERDEEN: Old Meldrum, 26.7 (RDY). DUNBARTONS: Loch Lomondside, 26.7, of continental form (ICC). W. LOTHIAN: Winchburgh, 26.7, of continental form (ECP-C).

MYTHIMNA ALBIPUNCTA D. & S. (8) DORSET: Swanage, 5.10, one male, one female (AJP). S. HANTS: Southsea, 23.9 (JRL). E. KENT: Kingsdown, 12.6, worn male at light (APF); Dungeness, 6.9 (JP); 21.9., female (WLC). E. SUSSEX: Pevensey, 7.8 (CRP). ISLE OF WIGHT: St. Lawrence, 10.9 (EHW).

MYTHIMNA VITELLINA Hbn. (3) W. CORNWALL: Lizard, 29.8 (DCGB); Kennack Sands, 20.9, worn male (APF). DORSET: Swanage, 20.9, male (RGC).

MYTHIMNA UNIPUNCTA Haw. (18) MID CORK: Fountainstown, 17.9., 24.9., 22.10/2.11 (twelve) (AAM). W. CORNWALL: Mawnan Smith, 30.10, two worn males, 11.12, worn male (APF). E. SUSSEX: Eastbourne, 1.9 (CRP).

ENARGIA PALEACEA Esp. (2) S. HANTS: Winchester, 10/11.8., very worn (DHS). W. SOMERSET: Porlock, 31.7, very large, pale (ECP-C).

PHOTEDES EXTREMA Hbn. (1) S. ESSEX: Bradwell-on-Sea, 14.6 (AJD).

SPODOPTERA EXIGUA Hbn. (3) S. ESSEX: Bradwell-on-Sea, 20.9 (AJD). SURREY: Leigh, 19.9 (RF); Addiscombe, 21.9 (KAGE).

HELICOVERPA ARMIGERA Hbn. (5) DORSET: Swanage, 5/6.10 (EHW). S. HANTS: Lymington, 30.9 (AJP). E. KENT: Newington, 20/21.9 (PJJ). SURREY: Bramley, 29/30.8 (RFB). WARWICKS: Marton, 21.9, female (AFJG).

HELIOTHIS PELTIGERA D & S. (about 30, over 100 larvae and 2 pupae) BERKS: Emmer Green, Caversham, 2.6., 7.6. (JHFN). W. CORNWALL: Near Land's End, 24/31.8, two pupae dug near rest harrow patches (TGH). E. CORNWALL: Looe Bar, 22.8., male at *Silene maritima,* female drying wings, 23.8., male (APF). DENBIGHS: Abergele, 11/12. 6., fresh male (SC). DERBYS: Derby, 18.6 (AB). S. DEVON: Branscombe, 3.8 (BG). DORSET: Portland, 18.6., worn male, 21., female (RGC); Swanage, 3/4.8., two, 3.9 (AJP); Studland, 6.9 (DCGB). S. HANTS: Lymington, 13/14.6 (AJP). E. KENT: Dungeness, 3 & 10.8, also larvae on *S. viscosa* 21 & 22.9 (EHW); Sandwich Bay, 15.8 (TWH); Boughton Aluph, 11/12.9 (ME). MIDDSX: Islington, 15.6 (MG). SURREY: Wormley, 5/6.6, in trap (JLM); Wisley Gardens, 18/19. 6 (AHH), Addiscombe, 18.9, male (KAGE). W. SUSSEX: Rogate, 14/15.6, fairly fresh (JACG); Pagham, 7.8, two on ragwort, also larvae (DA); Aldwick Bay, 12.9, and larvae on *S. viscosa* 12 & 16.9 (DGS). E. SUSSEX: Ninfield, 10.4. in trap before midnight (MP); Eastbourne, 9.8 (SWP); Pevensey, 12.8., Crumbles, larvae 12.8, six, 4.10, 50 in an hour on *S. viscosa* (CRP).

EUBLEMMA PARVA Hbn. (2) S. HANTS: Southsea, 7.8 (JRL). W. SUSSEX: Heyshott, 6.8 (DA).

DELTOTE BANKIANA Hbn. (2) N. ESSEX: Beaumont-cum-Moze, 14.6, in trap (JBF). E. KENT: Kingsdown, 12.6, male at light (APF).

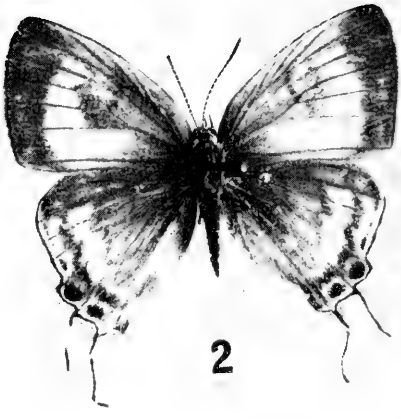
TRICHOPLUSIA NI Hbn. (3) MID CORK: Fountainstown, 3.9, male (AAM). DORSET: Portland, 24.5, male at light (WLC). E. KENT: Dungeness, 22.7, one identified but escaped (EHW).

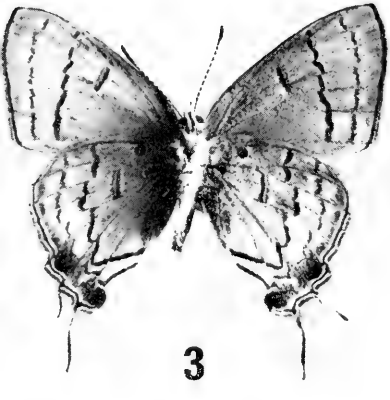
DIACHRYSIA ORICHALCEA F. (2) S. HANTS: Lymington, 1/2.9 (AJP), 5.9 (ASH).

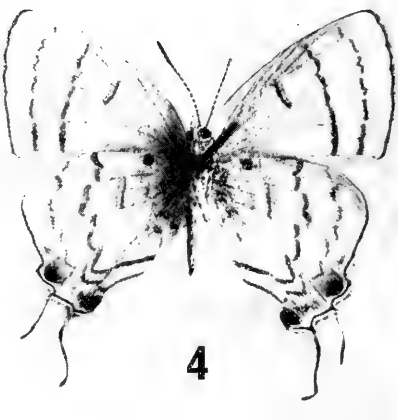
(To be continued)

HESPERIID LARVAE AS PREY FOR A SPHECID WASP. – During a visit to Nigeria in December 1980, I happened across the larva of *Spialia ploetzi* Aurivillius in a Lagos hotel garden. It was feeding on the weed, *Triumfetta* (Tiliaceae) which looks rather like European *Malva*.

As is usual in the Hesperiidae, the caterpillars were living singly inside an envelope made by folding the leaf across so that underside of the leaf can be seen from above. I was studying one of these envelopes when a large sphecid wasp landed on the leaf and immediately chewed a hole in the leaf, extracted the larva and flew off. It must be assumed that the Hesperiidae larvae live in envelopes for protective reasons and I was curious as to how the wasp had managed to locate the larva with such speed and precision. Ten minutes later the wasp came back and provided the answer: visual predation once removed. The underside of the *Triumfetta* leaf is lighter than the upperside and the wasp was systematically investigating all leaves where the upperside could be seen from above. A fair proportion of such leaves were Hesperiid envelopes. Knowing how Sphecid wasps can navigate through acquired topographical knowledge, there is little doubt that its hunting behaviour in this case was acquired rather than intrinsic. When Hesperiid larvae become scarce, another visual search pattern will be adopted. I







Hypolycaena tearei spec. nov.

Fig 1. ♂ Hnlotype (upperside)
Fig. 2. ♂ Allotype (upperside)
Fig. 3. ♂ Holotype (underside)
Fig. 4. ♀ Allotype (underside)

Photo by S. F. Henning.

found a few *Spialia* larvae which had folded their leaves the other way round and they were obviously safe from this particular wasp individual. If there was consistent, heavy predation of the nature I saw, this way of folding the leaf would undoubtedly be selected in favour of. Unfortunately the wasp was not caught, nor its nest found. I spent the next 24 hours waiting for a plane at Murtala Mohammed Airport. How I would have preferred to get to the bottom of that issue instead! – TORBEN B. LARSEN, 23, Jackson's La., London, N.6.

A NEW SPECIES OF *HYPOLYCAENA* FELDER FROM SOUTHERN AFRICA (LEPIDOPTERA : LYCAENIDAE)

By G. A. HENNING*

Abstract

A description of a new species of *Hypolycaena* Felder previously thought to be *Hypolycaena amanica* Stempffer, 1951.

Introduction

The females of this species have been known for some considerable time but as no males were available it was presumed to be a form of *H. phillippus* (Fab.). The first two males were captured by Mr. W. Teare in the Amatongas forest, Mozambique, in March 1969. He later captured six males and a female in the Chirinda forest, Zimbabwe-Rhodesia, but this female does not show the extensive white coloration on the upperside which is so characteristic of the earlier females. The Chirinda forest males are also, on the whole, paler on the underside than the Amatongas specimens. This species was mistakenly identified as *H. amanica,* which is an inhabitant of the forests of the Usambara range in northern Tanzania. The holotype and a paratype of *H. amanica* was kindly loaned by the British Museum (Natural History) for study and on comparison it was immediately evident that the two were not conspecific. This species is identified and pictured as *H. amanica* in "Pennington's Butterflies of Southern Africa" edited by C. G. C. Dickson, 1978.

Hypolycaena **tearei** spec. nov.

DIAGNOSIS. The male is similar to *H. amanica* on the upperside and to *H. philippus* on the underside. The female is similar to that of *H. philippus,* but with the upperside white markings more extensive and the ground-colour paler brown. This species is also slightly smaller than either *H. amanica* or *H. philippus*. The undersides of male and female are very similar to those of *H. philippus* but the ground-colour is paler. The underside of *H. amanica* is closer to that of *H. buxtoni* Hew. and not the *philippus*-group.

* 1 Lawrence Street, Florida Park, Florida 1710, South Africa.

DESCRIPTION. Holotype ♂. Forewing length 14.4 mm. Antenna: club black with ochreous tip; shaft black with white rings. Head: black above, whitish beneath. Eyes: ochreous-brown. Palpi: black above, white beneath. Thorax: Black above, white beneath. Legs: white with black spots. Abdomen: black above, white beneath with black lateral stripes.

Wings. Forewing. Slightly more rounded than in either *H. amanica* or *H. philippus;* cilia grey. *Upperside.* Ground-colour bluish-purple; a black border, broadest at apex and tapering towards tornus. The border is twice as broad as that of *H. amanica* and the ground-colour is more bluish. *Hindwing.* Slightly more rounded than in either *H. philippus* or *H. amanica. Upperside.* Ground-colour bluish-purple. Cilia white, tipped with grey and black at end of veins. White admarginal line from vein 6 to anal angle. Black submarginal spots in areas 1c and 2 and a small spot in the anal lobe. The upper spot bordered proximally with orange. The spot in anal lobe almost obscured proximally with ochreous. The tails are black, tipped and edged with white. Anal fold dark grey. *Underside. Forewing.* Very similar to that of *H. philippus* but with the ground-colour a paler grey. The median, discal and postdiscal lines similar to those of *H. philippus,* but darker in colour. Cilia grey with pinkish-brown along the outer margin. *Hindwing.* Similar to that of *H. philippus* but with the ground-colour as in forewing and lines darker. The ground-colour of the distal half of the wing paler than that of the proximal half. Cilia and white admarginal line as on upperside, with a dark brown edge to the outer margin. Black spots only in area 2 and in anal lobe. Spot in 2 strongly ochreous bordered proximally, while spot in anal lobe is less so.

Allotype ♀. Forewing length 15.3 mm. Antenna: as in male. Head: brownish above, white beneath. Eyes: ochreous-brown. Palpi: black above, white beneath. Thorax: dark brown above, white beneath. Legs: as in male. Abdomen: dark brown above, white beneath; lateral stripes brown and not as pronounced as in the male. *Wings. Forewing.* Slightly more rounded than in male. *Upperside.* Ground-colour pale brown, not ochreous-brown as in *H. philippus.* Cilia grey. There is a postmedial white band 2 mm wide at the costa broadening down to area 1b, in which it extends inwardly and then merges into the ground-colour before the base of the wing. The veins are pale brown where they run through the band. *Hindwing.* Slightly more rounded than in the male. *Upperside.* Ground-colour pale brown. Cilia white, tipped with pale brown at the vein ends. There is a white admarginal line from vein 7 to the anal angle, and there are black submarginal spots in 1c and 2, and a small spot in the anal lobe. The upper black spot is bordered proximally with orange. The spot in the anal lobe is almost obscured proximally with ochreous. There is also a submarginal series of rather lunular white marks in areas 4 and 6, with small dark brown or black markings between them and the white admarginal line. The discal band on the forewing is, in effect, continued on to the hindwing tapering from area 6, where it is 2 mm broad, to vein 1b.

The veins running through the band are pale brown. The tails are dark brown, tipped and edged with white. The anal fold is brownish-grey, edged with white hairs. *Underside. Forewing.* Similar to that of the male, but with the general ground-colour paler and the median, discal and postdiscal lines pale pinkish-brown. *Hindwing.* Similar to that of the male, but with the ground-colour paler and the median, discal and postdiscal lines pale pinkish-brown. Cilia as on upperside and outer margin edged with dark brown.

TYPE MATERIAL. Holotype ♂, Chirinda forest, Melsetter District, Zimbabwe-Rhodesia, 22.II.1972, W. Teare. Allotype ♀, Chirinda forest, Melsetter District, 15.III.1945, E. C. G. Pinhey. Both in the Transvaal Museum, Pretoria. Paratypes: as Holotype, 4 ♂ 1♀ (W. Teare Collection) and 1 ♂ (Henning Collection) : 2 ♂ Amatongas forest, Mozambique, 30.III.1969, W. Teare, (W. Teare Collection); 1 ♂ Amatongas forest, 27.I.1970; 1♀ Amatongas forest, IX.1944, B. C. Cox; 1♀ Vumba, Zimbabwe-Rhodesia, 28.V.1942, B. D. Barnes, (all in National Museum, Bulawayo, Zimbabwe-Rhodesia) 1♀ Chirinda forest, Zimbabwe-Rhodesia, 5.IV.1961, J. C. O. Chitty, (Chitty Collection).

The life history is unknown. Habitat: evergreen forest. *Habits.* The type-series of males was caught early in the morning, playing around the forest edge. The males of this species apparently spend most of the day on the tree tops. The females spend their time looking for males or foodplants on which to lay their eggs.

DISTRIBUTION. The Amatongas forest of Mozambique, the Chirinda and Vumba forests of eastern Zimbabwe-Rhodesia.

FLIGHT PERIOD. Probably throughout the warmer months, the best months appearing to be February and March.

I have pleasure in naming this species after Mr. W. Teare of Benoni who not only caught the first males, but whose great knowledge of our butterflies and friendship has inspired me for many years.

Acknowledgements

I wish to express my gratitude to my father, Mr. W. H. Henning, and my brother, Mr. S. F. Henning for their support and encouragement throughout the preparation of this paper; to Mr. I. Bampton, whose comments are always welcome; to Mr. W. Teare for providing his specimens for description and for information supplied by him; to Dr. E. C. G. Pinhey of the National Museum Zimbabwe-Rhodesia, whose specimens were also made available for study; and to the British Museum (Natural History) for loan of the types of *H. amanica* for purposes of comparison. Finally to Mr. C. G. C. Dickson whose encouragement is always appreciated, and who kindly read and gave advice on this paper.

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SOME ADDITIONS TO THE IRISH MICROLEPIDOPTERA, 1978-1980

By K. G. M. BOND *

On 3.VIII. 1978 two Gelechiids were caught by me on sandhills at Inchydoney near Clonakility, Co. Cork (V. C. H3). As the genitalia of the specimens, one ♀ and one ♂, did not match anything illustrated by Pierce & Metcalfe (1935), reference was made to Gozmany (1955) and Sattler (1960). Both moths seemed to refer to *Chionodes fumatella* (Douglas), and in September 1980 I was able to show the ♀ and its genitalia slide to Dr. Klaus Sattler of the British Museum (Natural History) who kindly confirmed this determination.

A ♂ Mompha caught at M. V. trap at Rochestown, Co., Cork (V. C. H4) on 3. VI. 1979 was found on dissection to be a specimen of *M. subbistrigella* (Haworth). The key provided by Bradley (1951) was used to determine the insect. Beirne (1941) mentions an old record of this species from Co. Galway, but he considers the record unreliable.

A Gelechiid ♂ caught at M. V. trap at Killiney, Co. Dublin on 1.VIII.1980 was found to be an example of *Exoteleia dodecella* (Linnaeus). Beirne (1941) also lists an old record of this species from Co. Antrim, but adds "confirmation is desirable". Two Coleophorid ♂♂ caught at M. V. trap at Ballymaloe, Co. Cork (V. C. H5) on 9.VIII.1980 were found by reference to Bradley & Fletcher (1959), Pelham-Clinton (1959), and Patzak (1974) to be specimens of *Coleophora versurella* Zeller. This species was recorded by Bradley from the Burren in 1952.

On 5.X.1980 I found an 8mm long Coleophorid case on *Halimione portulacoides* at Rogerstown Wildfowl Sanctuary, Co. Dublin. The dimensions of the case combined with the date of occurrence would indicate that this is a specimen of *Coleophora adspersella* Benander, a species not hitherto recorded from Ireland.

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*24 Lislee Road, Douglas, Cork, Eire.

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LEPIDOPTERA NOTED BY MEMBERS OF THE RUISLIP AND DISTRICT NATURAL HISTORY SOCIETY. – The following local records for 1980 were new to entomologists of this society, and seemed worth reporting. (1) Mr. M. J. Hough took a male Maple Prominent *(Lophopteryx cucullina* D. & S.) at m.v. light in Eastcote on July 6th (2) Two males of the Brown-tail *(Euproctis chrysorrhoea* L.) appeared at m.v. on July 25th; one seen by Mr. W. E. Minnion in Pinner and the other about 1½ miles away by Mr. B. S. Goodban in Eastcote. (3) In consequence of a discussion in May with Mr. M. R. Britton of Cippenham, Slough, a site in the Colne Valley was explored on September 22nd for the Pale-lemon Swallow (*Cirrhia ocellaris* Borkhausen). Within an hour after dusk Martin Hough and I had netted three specimens, two of which were alighted on blackberries. (4) A single Haworth's Pug *(Eupithecia haworthiata* Doubleday) was attracted to Mr. Minnion's light in Pinner on July 10th. (5) Finally, a male Tawny Pinion *(Lithophane semibrunnea* Haworth) seldom recorded in the past, was again taken by Mr. Minnion on April 14th. – A.M. GEORGE, 67, Potter Street, Northwood, Middlesex.

OUSIPALIA CAESULA ER. (COL.: STAPHYLINIDAE) TWICE FOUND IN ROTTEN WOOD. – I first drew attention in 1960 *(Ent. mon. Mag.,* **96** : 272) to the presence of this distinctive and seldom-recorded little species in the S. E. London area – it was previously known only from sandy coasts – and since then it has proved not uncommon very locally in heathy places in my district, notably at Blackheath and Charlton. On 26. viii.77 I found a specimen in rotten wood in a stump of felled beech here in Charlton Park, and on 3. ix a second in the same spot. This appears to be the first record of *O. caesula* from such a habitat, the beetle being usually taken at roots of herbage. The surroundings, too, were untypical, – neither heathy nor sandy, but grass parkland, partly open and partly treed, with some bare paths. – A. A. ALLEN.

ALEOCHARA DISCIPENNIS M. & R. (COL.: STAPHYLINIDAE) FROM CARRION IN N. W. KENT. – This species is in general very scarce, but it underwent some temporary increase in the late 1930s and 40s (like so many other insects), reverting more or less to its customary rarity thereafter. Both for that reason and because of the exceptional habitat, it is worth committing to print the capture of a male from part of the dismembered carcass of a frog lying amongst marsh litter at Chislehurst, on 26th March 1964. Moreover, this is quite probably the first record of the beetle (which I have not seen since) on the outer fringe of the metropolis. The normal habitat of *A. discipennis* is fresh dung (horse or cow), in which I found it at Hereford Beacon, Windsor Forest and Park, Hoddesdon (Herts.). and Westhumble (Surrey), between 1935 and 1949. – A. A. ALLEN.

OECOPHORIDAE (LEPIDOPTERA) IN CHESHIRE AND NORTH WALES

By H. N. MICHAELIS*

In Cheshire, species of this family are well recorded but this is not so in the counties of north Wales. The writer has lived on the Lancashire/Cheshire border for many years and has also lived in Wales from time to time, eventually settling in the Conwy valley in 1964. Watsonian vice-county numbers are used and some biological detail is included; months are shown as i-xii. The county numbers are: Cheshire (58); Flintshire (5I); Denbighshire (50); Caernarvonshire (49); Anglesey (52) and Merioneth (48). Records for the southern part of the latter are sparse.

Oecophorinae.

Of the seventeen species listed, the larvae of ten are associated with dead or decaying wood, decaying or dried vegetable matter, wool, skins and dead insects and the two common house or clothes moths are among these. Of the remaining six species, two feed on heathers and four on deciduous trees and shrubs. The food of one is unknown.

Schiffermuelleria subaquilea (Staint.). Locally common in 58 and scarce in 49 and 50, the moth favours high heathy ground in vi - vii resting on walls and rocks and may be "smoked" from herbage. The food is unknown and efforts to breed it from vegetable debris from the base of walls were unsuccessful.

S. similella (Hubn.). Occasional in east 58 resting on bark of *Pinus sylvestris* in vii.

S. tinctella (Hbn.). One record from Delamere (58); locally common in 49, 50 and 51 flying at sunset and dawn from late v - vii. Two moths were bred from a decayed oak branch taken in iii which also produced *Esperia sulphurella.*

Batia lambdella (Don .). Once in 58 and occasional in 49 and 50 flying at sunset in vi - vii and also at light; the larva feeds in dead wood of *Ulex.*

Borkhausenia fuscescens (Haw.) Occurs throughout from late vii - ix. Occasionally disturbed from trees and hedges, it is mainly found on the windows of outhouses. Larvae brushed from crevices in wood and brickwork in old cobwebs suggests a diet of dead insects.

Telechrysis tripuncta (Haw.) Scarce in 58 but fairly common in mixed hedgerows in 49 and 50. The moth flies in the evening sun from late v - vii. Have associated this moth with *Corylus* and have bred a moth from a rotten piece of hazel gathered in the winter.

* 5 Glan y Mor, Glan Conwy, Colwyn Bay, LL28 5TA.

Hoffmannophila pseudospretellā (Staint.) Plentiful throughout, mainly indoors from spring to autumn. The larva feeds on a great variety of organic matter.

Endrosis sarcitrella (L.) Known as the "white-headed clothes moth" and is plentiful throughout the year in houses, sheds, etc., where the larva feeds on a wide range of organic matter and refuse. The moth is also found out of doors on tree trunks and lichen covered walls.

Esperia sulphurella (Fabr.). Flies in sun and is plentiful among hedges and woods throughout from late iv - vi. The larva feeds in dead wood over winter.

Alabonia geoffrella (Fabr.) Local throughout in mature hedgerows, v - vi. Larvae found in ii in dead wood of hazel and sallow, pupating in iv in a yellowish white cocoon among flakes of wood. It is advisible to keep the dead wood out of doors exposed to the weather.

Pleurota bicostella (Clerck). Plentiful on heaths throughout in vi - vii where the larva feeds on heather.

Amphisbatis incongruella (Staint.). A secretive moth which flies only in warm sunshine in iv - early v on still days and rests on shoots of ling *(Calluna)* when it is difficult to find. Found only in 58 and 50 as yet.

Carcina quercana (Fabr.) Plentiful throughout, vii - ix. Larva in a white web under leaves of many deciduous trees and shrubs usually in v - vii; may possibly overwinter as a larva as I found two on *Hypericum hidecote,* an evergreen shrub, in iii.

Diurnea fagella (D & S). The male is plentiful on tree trunks during daytime while the semi-apterous female is more easily found at night, late iii - v. The larvae of this and the next two species have a characteristic club-footed appearance due to swelling of the 3rd pair of thoracic legs; all three species feed very slowly, v - ix/x. *D. fagella* feeds in spun leaves of many trees and shrubs.

D. phryganella (Hbn.). Is locally common in oakwoods in 58 but uncommon in the Welsh counties, flying in sun, x-xi. Ova are laid separately on twigs and bark of oak and hatch in v.

Cheimophila salicella (Hbn.) Local and uncommon in iv- early v in 58 and 50. Have found larvae in spun shoots of bilberry *(Vaccinium myrtillus)* growing in woods in ix, ova from the moths resulting were easily reared when left in a sleeve on sallow, v - ix.

Depressariinae

The larvae of all listed species are phytophagous found mainly

in spun or rolled leaves or in spun flowers and shoots of Umbelliferae and Compositae; an ability to wriggle rapidly backwards or forwards is characteristic of many species. Many species hibernate as imagines and fly on warm winter evenings and well on into the spring. A few will come to light but the majority are more readily found by searching flowers of *Senecio, Centaurea, Daucus* etc., or by the use of a bee smoker.

Semioscopsis avellanella (Hübn.) Is local in 58 and in the Maelor district of 51. The moth rests low down on birch trunks in iv.

S. steinkellneriana (D & S.) Local and uncommon in all vice-counties; the moth is difficult to disturb, is usually among sloe *(Prunus spinosa)* and will occasionally come to light, iv - v.

Exaeretia allisella Staint. Locally common as larvae in young shoots of Mugwort *(Artemisia vulgaris)* in 58 and less so in 50, 51 and 49. Drooping young shoots in the crown of the plant indicate larvae in iv-v and these will move to new shoots as required. Larvae should be reared on a potted plant which should be kept until late August as it is likely to produce the Tortricids *Epiblema foenella* (L.) and *Dichrorampha simpliciana* (Haw.) during the summer. *E. allisella* is not easily disturbed by day and may be found on leaves of Mugwort after dusk, vii - ix.

Depressaria daucella (D. & S.) Plentiful throughout, viii - v. Larvae are gregarious on flowers of Hemlock Water-dropwort *(Oenanthe crocata),* v - vii.

D. pastinacella (Dup.) *(heracliana* sensu auctt.) Plentiful, viii - v. Larvae are gregarious on flowers of Hogweed *(Heracleum)* in v - vi.

D. ultimella Staint. Single records from Delamere and Wirral in 58, ix.

D. pulcherimella Staint. Occasional in 58 and 52, locally common in 49, 50 and 51. The larva is found singly in spun flower heads of Earthnut *(Conopodium)* in vi.

Agonopterix heracliana (L.) *(applana* Fabr.). Plentiful throughout from vii - iv. Larvae in rolled leaves of many Umbelliferae during the summer and is the only Oecophorid larva found on Alexanders *(Smyrnium olusatrum).*

A. ciliella (Staint.) Widespread but never common in all vice-counties, vii - iv. Larvae feed on lower leaves of *Heracleum* making a fold or turning down the edge of a leaf and are occasionally found on *Angelica,* vi - vii.

A. subpropinquella (Staint.) Local throughout mainly on coastal sandhills vii - iv; form *rhodochrella* (H. - S.) having a dark brown thorax occurs sparingly in 50 and 51. Larvae feed in rolled leaves of Hardheads *(Centaurea nigra),* v - vii.

A. propinquella (Treits.). Local near the coast in all vice-counties, viii - iv. Larvae feed in a web on the underside of leaves of *Carduus* making a window-feeding pattern of brown blotches; Nodding Thistle *(C. nutans),* Seaside Thistle *(C. tenuiflorus)* and very occasionally *Carline Thistle (Carlina vulgaris)* are favoured on the north Wales limestone.

A. arenella (D. & S.). Plentiful throughout, ix - v. Larvae in spun shoots and leaves of *Carduus, Centaurea* and Burdock *(Arctium* sp.). vi - vii.

A. liturella (D. & S.). Occurs locally throughout, vii - viii. Larvae in spun shoots and rolled leaves of *Centaurea nigra,* v - vi.

A. bipunctosa Curtis. Two moths found in September 1980 at Cors Goch (52) where Sawwort *(Serratula tinctoria)* is well established. I understand that the only previous records are from Cornwall (I or 2), Dorset (9), Hampshire (11 or 12) and Isle of Wight (10).

A. ocellana (Fabr.) Plentiful among *Salix,* the food-plant, ix - iv.

A. pulverella (Hübn.) An unconfirmed record in 1917 for 58.

A. assimilella (Treits.). Local throughout where Broom *(Sarrothamnus)* is established, vii - ix. Larvae in a long spinning to join two shoots together.

A. scopariella (Hein.) As yet, was found only after hibernation among *Sarrothamnus* at Mochdre (50), iv.

A. nervosa (Haw.) *(costosa* Haw.) Plentiful throughout, vii - ix. Larvae feed in spun shoots of *Ulex* and *Sarrothamnus,* v - vi.

A. carduella (Hübn.) A record by the late C. M. Jones at Hoylake (58) in 1953. Two bred by J. M. Chalmers-Hunt, 25. vii.1971, from larvae taken by him on *Carduus,* Great Orme (49), 2.vii.1971.

A. ulicetella Staint. *(umbellana* sensu auctt.) Local throughout, viii - iv. Larvae live in a silk tube among the needles of *Ulex europaeus* and *U. gallica,* vi - viii, found at 2000 feet on the latter.

A. conterminella (Zell.) Plentiful as a larva in spun shoots of *Salix* throughout during v - vi. The moth comes to light and ragwort flowers vii - ix.

A. liturosa (Haw.) Plentiful as larvae in top shoots of various herbaceous *Hypericum,* v - vii. The moth often rests on the leaves, vii.

A. astrantiae (Hein.) In August 1949, the late B. B. Snell took five specimens at Llanarmon yn Iâl (50) mainly by searching with a Tilley lamp and at same the time in the following year, Snell took me to the locality and we found four specimens. As I remember, B. B. S. sent two specimens to the British Museum and the others will be in the Lancashire and Cheshire Entomological Society collection at Liverpool; my specimens are in Manchester Museum. The ground was a limestone ridge with poor woodland on the lower slope, a search for larvae on Wood Sanicle *(Sanicula)* in late June 1951 was not sucessful. In 1970, I found a possible larva in the folded edge of a leaf of *Sanicula* in a wood on limestone near Llandudno (49); this fed on *Astrantia major* growing in my garden but later turned flacid and died so I cannot claim this as a record. At an exhibition meeting of the Raven Entomological Society (Formby) in 1952, I saw a specimen exhibited by a Mr. or Dr. Greenwood which was contained in a series of *A. ocellana* taken at Grassington in north-west Yorkshire; this is also a limestone area.

A. angelicella (Hubn.) Occurs in wetlands in all vice counties vii - ix. The larvae feed on *Angelica sylvestris* in v - vi and is gregarious when young.

A. yeatiana (Fabr.). Occurs sparingly on coasts of 50, 51, 52 and 58 in viii - ix on flowers of *Senecio jacobaea* and *Daucus carota.* The last named is probably the foodplant.

A. rotundella (Doug.) A single unconfirmed record from the Lleyn (49) in the 1950s; as the foodplant is *Daucus carota,* this is a likely occurrence.

While the foregoing notes are derived mainly from personal observations, I have taken some records for Cheshire (58) from "The Lepidopterous Fauna of Lancashire and Cheshire" by J. W. Ellis, 1890 revised by William Mansbridge in 1940. There are records prior to 1890 which have not been confirmed since and as these were communicated to Ellis by C. S. Gregson, J. B. Hodgkinson and J. H. Threlfall, all well known northern collectors, I feel these should be included:

Depressaria chaerophylli (Zell.); *D. badiella* (Hübn.); *D. pimpinellae* Zell.; *D. albifrontella* Zell., *Agonopterix pallorella* (Zell.); *A. capreolella* (Zell.); *A. purpurea* (Haw.).

Mrs M. J. Morgan has kindly supplied a list of records from North Wales taken from the files in the Department of Applied Zoology, University College of North Wales, Bangor which are included. Additionally there are old records of *Shiffermuelleria*

grandis (Des.) from Langollen (50); v, vi 1855, J. S. Ashworth *(Zoologist,* 1855); vii 1860, C. S. Gregson *(Ent. Weekly Intellegencer* 1880); 1862, N. Greening *(Zoologist,* 1862). It is unlikely that this handsome moth associated with rotten wood was mis-identified though the late Wm. Mansbridge in the 1920's searched at Llangollen for moth and larva without success.

BUTTERFLIES ON MARTHA'S VINEYARD ISLAND

By DR. C. J. LUCKENS*

My family and I spent the month of August 1979 on Martha's Vineyard, a small island off the coast of Massachusetts about three miles from the nearest point of the Cape Cod mainland. This island has a land area of approximatly 100 square miles and encompasses diverse habitats including saltmarsh, dune, meadowland, extensive scrub and woodland and a few freshwater bogs. The lepidoptera of Martha's Vineyard and its neighbouring island of Nantucket has been surveyed by F. M. Jones and C. P. Kimball (1943), and they were able to record 1227 species from the former island.

My wife's family have had their home on Martha's Vineyard for many years and this was my second visit to the island, the previous occasion being in 1968. Rather surprisingly during these two short visits I was able to add a butterfly species unrecorded in the Jones and Kimball list. This was the distinctive little skipper *Pholisora catullus* Fab., The Common Cloudywing, which I took once only in 1968 but which appeared to have become quite common 11 years later. A parallel seemed to have occured among the birds – the splendid scarlet and black Cardinal, either rare or absent in 1968, had become in the interim a frequent visitor to my father-in-law's garden just outside Vineyard Haven.

This garden proved to be a harbour for many butterfly species. Between the lawns and the sea was a strip of grass and scrub where wild flowers grew in plenty and around the property were various trees and shrubs such as sassafras and wild cherry, foodplants of several butterflies. The Swallowtails, in particular, were much in evidence, two black species being quite common. One of these, *Papilio troilus* L., was frequent in the larval stage on the aromatic sassafras where the spectacular 'eyed' caterpillars, (superficially like a green version of an Elephant Hawkmoth larva), make 'tents' by turning over the irregular leaves. These dwellings were very easy to spot. In 1968 I had found many of the very similar larvae of *Papilio glaucus* L. on wild cherry but this year failed to find any though I saw several of the magnificent yellow imagines and searched persistently for the early stages.

The commonest Swallowtail was the black *Papilio polyxenes* Fab. Drinking coffee on the veranda before breakfast was especially pleasurable as I could watch the velvety females ovipositing on my father-in-law's carrot plants!

*52 Thorold Rd, Bitterne Park, Southampton SO2 4JG.

There are 23 skipper species recorded for the island, the genus *Erynnis* Schr. comprising more than any other. I found two of these 'Duskywings'; the widespread *Erynnis horatius* Scudd. & Berg. and the rather local *E. baptisiae* Fbs., the latter being confined to areas where its sole pabulum, wild Indigo, occurs. Three frequent *Hesperids* were the tiny *Ancyloxpha numitor* Fab., *Polites coras* Cram. and the large dashing *Epagyreus clarus* Cram. Throughout the island the last was common in the larval stage within leaf 'tents' on wild Acacia trees. The least common of the skippers we encountered was *Polites themistocles* Latr., and this species was found mainly on the grassland adjoining Martha's Vineyard State Forest.

The State Forest, a misleading title to a European, is, in fact, an extensive wild area of scrubby woodland covering much of the centre of the island. It was the last refuge in North America of the now extinct Heath Hen, an eastern close relative of the Prairie Chicken. In 1916, a devastating fire at incubation time decimated the population of this bird and from then on it declined gradually until the last male was seen here in the 1940's. The State Forest remains a fine insect locality however, and, as it is criss-crossed by paved trails for cyclists, my mother-in-law's bicycle was quickly pressed into service. The clearings and rough grassland at the edge of the woods were especially rewarding. Large numbers of *Everes comyntas* Godt., flew among the spiky native clovers *(Lespedeza* sp.) and the little *Melitaeine* butterfly *Phyciodes tharos* Dru. swarmed everywhere. *Cercyonis pegala ssp. maritima* Edw. (type locality Martha's Vineyard) flew around like an enormous Meadow Brown, but in spite of its loping flight it was a wary insect and deceptively difficult to net. A few *Vanessa virginiensis* Dru. were encountered but mostly in poor condition.

The deep parts of the forest were less rich but one fine species was not uncommon: *Limenitis astyanax* Fab., the Red Spotted Purple, a large dark butterfly with iridescent turquoise hindwings. These particularly favoured the half-shaded crossroads in the forest and had a habit of settling on the track in the latter part of the afternoon.

They were also to be seen in several other places on the island including the delectable little unmetalled road called Tea Lane. This curves through the woods near Chilmark and got its name from the contraband tea that was smuggled in this area in the eighteenth century when Massachussetts was a British colony. Tea Lane became a favourite collecting ground of mine, being rich in butterflies, birds and wild flowers. At the northwest entrance were large stands of Joe Pye weed *(Eupatorium)* which attracted dozens of *Danaus plexippus* L. (a common butterfly all over the island), a few *Vanessa cardui* L. and the two black Swallowtails *polyxenes* and *troilus.* The little diurnal American Bee Hawk Moths were also present in fair numbers. Further in was the domain of *L. astyanax* but on one occasion I took, with some difficulty, a superb *Polygonia interrogationis* Fab. The lane was a favourite patrolling

ground for *Lycaena phlaeas americana* Harr. – a Nearctic subspecies of the Small Copper.

Along Tea Lane, I found a sallow bush that had evidently once been the home of a larval colony of *Nymphalis antiopa* L. – the cast skins were plain to see. During our previous visit we had seen several 'Mourning Cloaks' and it was disappointing not to find the imagines this time.

A feature of entomology on the island was the variety of insect predators, some of which attacked the adult butterflies. 'Ambush Bugs' *(Phymatidae)* for example, no more than 12 mms. long, lurked in the Goldenrod flowers and it was amazing to see how they attacked large butterflies up to the size of *P. troilus.* Their victims often remained in lifelike positions and several times I stalked a Swallowtail, apparently sunning itself, only to find it, motionless in death, in the clutches of one of these little predators. Spider hunting wasps *(Pompilidae)* were also not uncommon. These did not attack lepidoptera but homed in on roving spiders, hovering around them and stinging them repeatedly before carrying them off. Robber Flies, *(Asilidne),* voracious carnivores which pounce on their victims, could also be found, but they usually preyed on other *Diptera.*

In the same area as Tea Lane, between Chilmark and West Tisbury, I found a good-sized clover field of around 6 acres. This was swarming with the two widespread North American *Colias* species. Much the commoner was the lemon-yellow *Colias philodice* Godt., and almost 30% of the females of this species were of the white form. There were also good numbers of the orange *Colias eurytheme* Boisd., and several examples showing evidence of hybridisation were also taken. A rather beautiful deep butter-yellow form of what I assume is a *eurytheme* female with mixed ancestry was taken in the State Forest later on.

One other example of island habitat was also sampled – a Cranberry bog beside the Lamberts Cove road. I hoped to find the little Copper, *Lycaena epixanthe* Boisd. & LeConte, but its flight period may well have been over and I saw no sign of it.

In mid-August my wife and I travelled up to Maine to stay for a few days with her relatives at Blue Hill. The first northern butterfly we encountered was *Hesperia comma* L. (ssp. laurentina Lym.) which occurred around her uncle's garden. Here also I took a single specimen of *Limenitis archippus* Cram., the *Nymphalid* that mimics the Monarch very closely. The northern race of *Cercyonis pegala (ssp nephele* Kirby) was widespread. This butterfly resembles the dark Palaearctic *Satyrus actaea* L. and is of quite different aspect to the form of *pegala* found on Martha's Vineyard, which has large yellow patches on both sides of the forewing.

C. pegala nephele was also noted during a days outing to Mount Desert Island, part of which comprises the Acadia National Park. Throughout this island there are fine areas of mixed Canadian forest and a rocky coastline with the characteristic Jack Pines marching down almost to the tideline. We drove up Mount Cadillac, (1500 ft), on the eastern side of the island behind Bar Harbor

and stopped near the top to explore. *Hesperia comma laurentina* was about with several fresh *Vanessa virginienses* but I was especially pleased to see a butterfly completely new to me – *Aglais milberti* Godt., which was fairly frequent on Compositae. This New World relative of the Small Tortoiseshell also feeds on nettle, apparently, but I saw no sign of this plant anywhere on Mount Desert. Driving along the coast south of Bar Harbor we spotted a smallish sulphur-coloured *Colias* beside the road, and I quickly stopped to net another personal 'first' – *Colias interior* Scudd. This male specimen was in less than good condition but nevertheless an exciting capture. The generally fine weather broke on our third day in Maine and we saw no further butterflies of note until after our return to Martha's Vineyard.

There follows a list of the butterflies noted in these two areas of New England, compared where relevant, to the Jones and Kimball list of 1943. (Hereafter abbreviated to J & K).

Danaidae

Danaus plexippus L.: Common throughout Martha's Vineyard 1968 and 1979.

Satyridae

Cercyonis pegala Fab.: Fairly common in grassy places throughout M. V. as *ssp. maritima.* Edw. 1968 and 1979.
Widespread in a different form – *ssp nephele* Kirby, around Blue Hill and on Mount Desert Island, Maine.

Euptychia cymela Cram. *(eurytus* Fab.): Seen only as worn examples on M. V. in July 1968. (J & K record it as 'not rare, June and July')

Nymphalidae

Limenitis astyanax Fab. wooded areas on M. V. Infrequent 1968. Common 1979. Occasionally visited *buddleia* in the garden at Vineyard Haven, otherwise not usually attracted to flowers. J & K state that it is partially double-brooded on M. V. Fresh specimens were certainly seen from mid-July to August in 1968 and throughout August 1979.

Phyciodes tharos Dru.: Comnon nearly everywhere on M. V. 1968 and 1979. Even noted *inside* a taxi that we took in Vineyard Haven in September 1968!. Very worn single specimens seen at Blue Hill, Maine 1979.

Polygonia interrogationis Fab.: Single specimens seen in July 1968 – one inside a shop in Vineyard Haven, another two outside the local library. In 1979 several were noted in the garden near Vineyard Haven – all rather worn. 1 fresh specimen taken in Tea Lane. (J & K state 'resident but never abundant').

Polygonia comma Harr.: One seen sitting on a cypress bush July, 1968, near West Tisbury, M.V. J & K give only two records and remark that it is rarely seen.

Vanessa atalanta L.: Single specimens seen all over M. V. Several along one ride in the State Forest 1979.

Vanessa cardui L.: Fairly common in both woodland and gardens throughout M. V. 1979. Less prevalent in 1968.

Vanessa virginiensis Dru.; In contrast, this butterfly was common on M. V. in 1968 and rather scarce in 1979. Attracted to the clover fields and garden *buddleia.* Several fresh examples seen near the top of Mount Caddillac, Mount Desert Island, Maine, 1979.

Aglais milberti Godt.; Only seen near the top of Mount Cadillac.

Nymphalis antiopa. L.: Several seen around Vineyard Haven and West Tisbury in 1968. Evidence of a brood of larvae on sallow in Tea Lane 1979.

Speyeria (Argynnis) cybele Fab.: A very worn male noted on *buddleia* in Vineyard Haven after a northerly gale (August 15th 1979) J & K comment 'unaccountably rare [Though in late June, early July 1942 it was present in small numbers at Vineyard Haven, The remaining records suggest that it is usually a vagrant from the mainland.]

Clossiana selene D. & S. *ssp myrina* Cram.; Single specimens taken near Vineyard Haven July 1968. Not seen 1979.

Lycaenidae

Strymon melinus Hüb.; On M. V. Single examples taken July 1968. Not seen 1979.

Euristrymon Liparops Boisd & LeConte. One taken at Lamberts Cove, M. V., 1968.

Lycaena phlaeas ssp. americana. Harr. Widespread on M.V. One or two at Blue Hill, Maine 1979.

Everes comyntas Godt.; Widespread on M. V., but especially common around patches of *Lespedeza* near the State Forest, 1979. Large numbers seen on damp mud near Lamberts Cove, 1968.

Pieridae

Pieris rapae L. Common nearly everywhere, on M. V. Pehaps slightly less frequent further north at Blue Hill.

Colias philodice Godt. Abundant in clover fields M. V. Single specimens all over the island, 1968 and 1979. Several netted on Mount Desert Island in a search for *C. interior.*

Colias eurytheme Bdv.; Less common than its congener on M. V. but found in all suitable places. Fairly common in the clover fields. J & K point out that this butterfly was once a rare straggler to M.V. and "its present status of an abundant resident dates from 1930".

Colias interior Scudd.; One specimen taken near Bar Harbor, Mount Desert, Maine. A northern species.

Papilionidae

Papilio polyxenes Fab.: Common on M. V. The larvae look identical to those of *P. machaon* L. and could be found on various *Umbelliferae* all over the island.

Papilio troilus L.; Most frequent in wooded areas on M. V. but present also at gardens in Vineyard Haven. Larvae common on sassafras bushes.

Papilio glaucus L.; Common all over M. V. in both larval and imaginal stages in 1968. A few imagines seen at Vineyard Haven and one in Tea Lane 1979.

Hesperidae

Epargyreus clarus Cram.; Widespread and common on M.V. wherever Wild Acacia (Locust) trees grew, 1968 and 1979.

Erynnis horatius Scudd. & Berg. Fairly common and widespread, on M.V. 1979. One or two only, 1968.

Erynnis baptisiae Fbs. 2 specimens taken around Wild Indigo along Tea Lane. The foodplant grows abundantly beside the tracks in the State Forest but no larvae were found in spite of prolonged searches and no imagines of this species were seen there either. (J & K specifies the 'Plains area' ie. near the State Forest, as the best locality).

Pholisora catullus Fab. One taken at Vineyard Haven 1968. Not uncommon around Vineyard Haven 1979. (J & K record this very doubtfully in a supplementary list for Nantucket but not for M. V.)

Ancyloxypha numitor Fab. Widespread and common throughout August on M. V. 1968 and 1979.

Hesperia leonardus Harr.; Two taken near Vineyard Haven in early September 1968. A late season species.

Hesperia comma L. *ssp. laurentina* Lym. Several noted at Blue Hill and on Mount Cadillac, Maine 1979.

Polites coras Cram. *(peckius* Kby.); Common around Vineyard Haven. Occasional elsewhere on M. V. 1968 and 1979.

Polites themistocles Latr. Rather scarce around Vineyard Haven, Tea Lane and M. V. State Forest. 1979. (J & K – "occasional").

Acknowledgements

I should like to thank my wife's parents and relatives for their warm hospitality and in particular for tolerating my often abberrant behaviour while 'entomologising'.

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HERINGOCRANIA CHRYSOLEPIDELLA (ZELL.) IN KENT. – I wish to record the finding of vacant mines of this species on hazel at Hoads Wood, Bethersden on 24th May 1980 and Steps Wood, Stockbury on 26th May 1980, identification kindly confirmed by Lt. Col. A. M. Emmet. It is surprising to note this species is not recorded from Kent in Volume I of *The Moths and Butterflies of Great Britain and Ireland,* yet I understand that in the 1960's both the late Stan Wakely and the Editor noted the species, also on hazel, from Trottiscliffe. – N. F. HEAL, "Fosters", Detling Hill, Maidstone, Kent.

Practical Hints for Collecting and Studying Microlepidoptera by **Paul Sokoloff**. Pp. 1-40, 11 text figures. Amateur Entomologist, volume 16. 1980. Price £3 (plus 15p. postage), available from AES Publications, 4 Steep Close, Green Street Green, Orpington, Kent BR6 6DS.

This latest AES guide may be regarded as a companion to Dickson's *A Lepidopterist's Handbook* (Pub. AES, 1976), which treats principally of the macrolepidoptera.

The work comprises five short chapters, the subjects of which are: (1) Collecting adults (pp. 3-5) (2) Collecting early stages (pp. 6-13) (3) Breeding (pp. 14-21) (4) Killing, setting and mounting (pp. 22-32) and (5) Identification, reference books (with notes), lists of suppliers, etc. The usefulness of these hints is increased by an accompanying series of figures of examples of larval mines, larval cases, feeding places, apparatus, etc. from drawings by the author.

This little publication gives an outline introduction to the study of the microlepidoptera, with guidelines for further study. It will be of considerable value to the beginner, and doubtless many an old hand will benefit from its use. Mr. Sokoloff is to be congratulated on its production. – J. M. C. -H.

Adult and immature Tabanidae (Diptera) of California by **Woodrow W. Middlekauff** and **Robert S. Lane**. 1980. Bulletin of the California Insect Survey. Volume 22. 99 pp. University of California Press. Price $ 10.50.

This is a thorough revision of the Horse Flies of California, updating the previous work by Middlekauff (1950). It includes 73 species and 7 subspecies in 11 genera. All species dealt with are endemic to north America, many confined to the western part and the work is therefore of limited application to the European fauna (already well covered by the Horse Flies of Europe).

The systematic part includes keys to species, brief notes on distinctions from allied species, notes on seasonal occurrence, detailed information on the biology where known and maps indicating the distribution within California. It is well illustrated by 15 plates, including line drawings of diagnostic features, photographs of wings where patterns are important and of egg masses.

A useful account is given of the early stages and development of Tabanidae. The known immatures of Californian species are keyed to genus and references are given to the original descriptions of the early stages of the 33 species of which they have been described. – P. J. CHANDLER.

NOTARIS SCIRPI (F.) (COL.: CURCULIONIDAE) IN CUMBRIA WITH NOTES ON THREE OTHER SPECIES OF THE GENUS

By R. W. J. READ*

On October 21st 1979 I visited Rainsbarrow Wood (NGR SD19/93) near the village of Ulpha in South Cumbria and collected samples of leaf litter and moss in the hope of finding *Acalles ptinoides* (Marsham). These samples were taken home and were later hand sorted and one adult *Notaris scirpi* (Fabricius) was found. The specimen was in good condition and well marked and may have been a newly emerged adult. In personal communication from Dr. M. G. Morris this is a new record for Cumbria and vice county 70 Cumberland. Rainsbarrow wood is composed mainly of sessile oak with silver birch, mountain ash, hazel and a few scattered pines. It is situated on the side of a steep and rocky limestone ridge below Pike Fell and extends from 125 metres to about 218 metres on the fell side. The wood is part of an extensive area of mixed woodland in the picturesque Ulpha Park valley through which the River Duddon flows south to the estuary above Foxfield. Among other weevils extracted from the leaf litter was one *Trachodes hispidus* (Linnaeus), six *Acalles ptinoides* (Marsham) and a number of *Coeliodes dryados* (Gmelin in Linnaeus). *N. scirpi* appears to be locally distributed in England and Fowler (1891, *Coleoptera of the British Islands,* 5 : 269) records it from Kent, East Sussex, West Sussex, Hampshire, Dorset, Worcestershire and Lancashire and it was recorded from Ireland by Johnson, W. F. and Halbert, J. N. (1902: A list of the beetles of Ireland. *Proc. R. Ir. Acad.* (ser. 3), 6 : 804). It appears to be absent from Scotland. The weevil is associated with various species of Typhaceae and Cyperaceae and Hoffmann, A (1954, *Fauna de France,* 62, *Coleopteres, Curculionides,* 3: 1434) gives *Carex acutiformis* Ehrhart as the host plant in France and he states that the larvae develop in the roots. Fowler *(loc. cit.)* notes that the weevil can be found overwintering in the stems of *Typha latifolia* Linnaeus, and *N. scirpi* was also found in the stems of this plant at Higham saltings, Kent in May, (1960-1961): *Proc. S. Lond. ent. nat. Hist. Soc.:* 91). When kept alive in captivity for a short time at home I observed *N. scirpi* to have an interesting feining posture. When disturbed the weevil crossed the prothoracic legs over the reflexed rostrum and the tarsal claws were locked tightly together and held just below the eyes. The mesothoracic and metathoracic legs were held against the body in a normal feining position. All the four British species of *Notaris* Germar have now been recorded from Cumbria and vice county 70 Cumberland.

Notaris acridulus (Linnaeus) appears to be the most common and widespread species and I have taken specimens mainly by sweeping riverside vegetation and general herbage in damp meadows. My localities are, Hensingham, NX98/17,6.vi.69, Beckermet,

* 43 Holly Terrace, Hensingham, Whitehaven, Cumbria, CA28 8RF.

NY01/04, Seascale, NY03/03, 21.v.77, Hallsenna Moor, NY06/00, 24.viii.79, Holmrook, NY08/00, 2.vii.78, Frizington, NY02/17, 27.v.73, Loweswater, NY11/22,3.vi.78, Ravenglass, SD07/97, 25.vi.78, Drigg, SD06/98, 30.iv.77, Silecroft, SD13/81, 6.vi.78, Shaw Moss, SD18/85, 8.vii. 78, Fellgate Gill, Muncaster, SD11/97, 13.v.78. The local specimens of *N. acridulus* in the F. H. Day collection in Tullie House, Museum, Carlisle are from Orton and Salkeld.

N. aethiops (Fabricius). This distinct rare Northern species was first recorded from the county by Britten (1907, *Ent. Rec.*, **19** : 115), who took specimens in flood refuse at Borrowdale and this record is also given in Fowler & Donisthorpe (1913, *Coleoptera of the British Islands,* **6** : 310) where this locality has been misspelt. One specimen in the Day collection is from Borrowdale and bears the data 26, vi.37, F.H.D. In an interesting paper by Pearson, (1962, *J. Ecology*, **31**: 129-150) the remains of *N. aethiops* were found along with certain other species of Curculionidae in a late-glacial deposit at St. Bees.

N. bimaculatus Fabricius. I have found this species at only two sites in West Cumbria and specimens have usually been taken in association with species of *Typha* and *Phragmites* growing around the edge of the saltmarsh areas of the River Irt and Esk estuaries near Ravenglass, SD06/97 and SD10/95. I also took two specimens from a species of *Carex* growing on the edge of mud flats near to the railway line south of Kirby in Furness station, SD22/81. Local specimens in the Day collection are from Burgh and Silloth (NY15 and NY35 respectively).

From a review of the literature on the biology and ecology of *Notaris* I have been able to draw up preliminary lists of the host plants and larval feeding sites for the four British species, and this information is summarised in table 1. I was unable to find any published details on the early stages of *N. aethiops.*

Table 1. Hostplants and larval feeding sites of *Notaris.*

Species	Hostplant	Family	Larval feeding site
acridulus	*Glyceria aquatica*	Gramineae	roots and stems
aethiops	*Sparganium erectum*	Sparganiaceae	?
bimaculatus	*Phalaris arundinacea*	Gramineae	stems
	Phragmites communis	Gramineae	stems
	Typha latifolia	Typhaceae	stems
sciripi	*Carex acutiformis*	Cyperaceae	roots
	Typha latifolia	Typhaceae	roots

Acknowledgements

I wish to thank Dr. M. G. Morris for information concerning the vice county distribution of *N. scirpi.* I also thank Mr. D. J. Clarke, curator, Tullie House, Museum, Carlisle for allowing me to examine specimens in the F. H. Day collection.

DIMORPHISM IN PAPILIO PUPAE.

D. G. SEVASTOPULO, F.R.E.S.*

In a previous paper (Sevastopulo, 1974/5) I described an experiment with the pupae of *Papilio demodocus* Esp. Unfortunately the rate of brown to green/pink pupae was seriously distorted by the inclusion of a considerable number of pupae from larvae reared in crowded cultures of a dozen or so per container, instead of singly. All the pupae from the crowded larvae were, without exception, brown even when formed among leaves in the jars in which they had fed up.

For the benefit of those to whom the previous paper is not available, the following is a brief description of my *modus operandi.* The larvae were collected from Citrus trees growing in my garden at Mombasa, either as ova or in their 1st, 2nd or 3rd instars, and reared to maturity in individual clear glass jars of about 2" in height and 1¼" in diameter. As soon as they had passed their final evacuation, they were transferred to the pupation chambers, glass jars of about 4" in height and 1¾" in diameter, either lined inside with sand-paper or with sand-paper wrapped round the outside, the jars being capped either with a square of sand-paper under a weight to keep the larva from escaping, or by a piece of glass covered by sand-paper. These jars were then placed in a closed wooden box and left for thirty-six hours, by which time the larva had pupated and the pupa had dried and hardened. The last evacuation was usually passed about 8 p.m., the larva had hung up in its chosen pupation site some twelve hours after wandering had commenced and had pupated some twelve hours later. It will be seen that the only variable was the texture of the surface on which the larva pupated, all other conditions being the same.

Results were as follows, and I have added the previous percentages in brackets:–

	Rough		Smooth	
Brown	27 – 84.38%	(94.34%)	11 – 37.93%	(53.20%)
Green	2 – 6.25%	(1.89%)	10 – 34.48%	(23.40%)
Pink	3 – 9.37%	(3.77%)	8 – 27.59%	(23.40%)
Total	32		29	

Ten larvae, either by accident or design, were allowed to pupate in the jars in which they fed up, and these produced 6 (60%) green pupae and 4 (40%) pink. In the previous experiment all the larvae from the crowded larvae were brown, but none from the individually reared larvae.

It appears, therefore, that crowding the larvae produces 100% brown pupae, and that pupation on a rough surface produces a considerably higher proportion of brown pupae than pupation on a smooth one. These are facts, but I can make no suggestion as to the reason. One factor can be ruled out entirely, not a single pupa went into diapause. Diapause is often considered an important factor in temperate climates.

*P.O. Box 95617, Mombasa (Nyali)

In nature the larvae usually pupate in the Citrus tree on which they have fed up, and remain green throughout the wandering phase.

Two recent papers concern pupal dimorphism in two American papilionids, *Battus philenor* (L.) and *Papilio polyxenes* F.

The first (West & Hazel, 1979) describes the natural pupation sites of the two species, *philenor* on exposed surfaces of tree trunks and cliffs well off the ground, and *polyxenes* on thin weeds and grass stems or on stumps and fence posts. It was noticed that autumn pupae, i.e. diapausing, chose broader supports than summer ones.

The second (Hazel & West, 1979) describes experiments with the two species using pupating substrates differing in both colour and texture. It was found that on a rough surface *philenor* produced 100% brown pupae irrespective of the colour – red, blue, green or yellow – but on a smooth substrate (the coloured paper wrapped outside a plastic container) there was a difference, blue producing 94% brown, red 57%, green 55% and yellow only 18%. With *polyxenes* there were differences on both surfaces, rough red producing 97% brown, rough blue 94% and rough green 2%, whilst smooth red produced 2%, smooth blue 29% and smooth green 6%, yellow both rough and smooth produced no brown pupae. Unlike my *demodocus* larvae, most of the American larvae were ready to start wandering about midday, so that their wandering took place during the hours of daylight, or at any rate partially, so that their choice of pupation site could have been influenced by both colour and texture. In the case of *demodocus,* where the wandering starts well after nightfall and the larva has suspended itself well before dawn, choice of site can only be affected by texture, and colour can only come into play during the pharate stage.

It is difficult to see what advantage the pink form affords as it is fairly conspicuous both among leaves and on tree trunks.

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W. N. Hazel & D. A. West, 1979, Environmental control of pupal colour in Swallowtail butterflies (Lepidoptera, Papilioninae), *Ecological Entomology,* **4** : 393-400

HAPLOTINEA INSECTELLA F. IN KENT – A visit to Steps Hill Wood, Stockbury on 25th August 1979 produced a single female in fine condition of this local tineid, which I beat from dense roadside thicket of dry, dead branches and brambles. The specimen was submitted to Dr. J. D. Bradley, who kindly determined it from the genitalia. – N.F. HEAL, "Fosters", Detling Hill, Maidstone, Kent. [This appears to be the first record for Kent of *H. insectella.* – J. M. C. – H.]

A SURVEY OF THE SALTATORIA OF THE BRISTOL AREA AND NORTH SOMERSET

By J. F. BURTON, F.R.E.S., F.Z.S.*

The main purpose of this paper is to provide a basis for future, more detailed, studies of the status and distribution of the Saltatoria (bush-crickets, crickets, grasshoppers and ground-hoppers) of the region comprising the vice-county of North Somerset (V.C.6) and the old county of Bristol, most of which is incorporated in V.C.34 (East Gloucester). This is largely a personal study, derived chiefly from my own records collected since I took up residence in the Bristol district in May, 1960. However, in 1963 the late Mr. J. Cowley gave me a large number of records of Orthoptera made by himself and others, including many species of Saltatoria, from a wide range of English localities, including the area reviewed in this paper. In addition, I am most grateful to Dr. D. R. Ragge and Mr. Richard Savage who have also supplied records or other information.

Saltatoria are warmth-loving insects; therefore because of its southern position allied to a wide variety of habitats, from fenland to high downland and moorland, this region is home to a respectable proportion of the British species – 19 out of 29. It is quite possible that a few more species may yet be added to the list. Only as recently as 1977 the Grey Bush-cricket *Platycleis denticulata* (Panz.) was discovered by Mr. R. S. Cropper in some abundance on Brean Down, the first record for the old county of Somerset. Even the largest species are easily overlooked. This was true of the large and bulky Wart-biter *Decticus verrucivorus* (L.) which was not seen anywhere in Britain for almost 30 years until it was rediscovered simultaneously in Dorset and Sussex in 1955. Since then, due to an increased interest in Saltatoria amongst British entomologists, new sites in Kent, Sussex and North Wiltshire have been found. So its presence in the latter county suggests that it may well be worth searching the southern slopes of the Polden, Mendip and Cotswold Hills on hot, sunny days in August and early September when the loud, characteristic song of the male is likely to be heard.

In 1966 the Mole-cricket *Gryllotalpa gryllotalpa* (L.) was also rediscovered in Wiltshire and seems likely to be surviving in this locality, one of its few remaining sites in Britain, although Dr. David Ragge and I have failed to find it there on three visits this year (1980). However, this once widespread insect, now apparently almost extinct in Britain, may yet exist undetected in the extensive wet fenlands and water meadows of Somerset and Avon.

As suggested by Haes (1979), it may well be worth looking for Roesel's Bush-cricket *Metrioptera roeselii* (Hagen.) in the estuaries and coastal marshes of this part of England, since this east coast species has recently and surprisingly been discovered beside the Dovey Estuary in west Wales. I am very familiar with this insect as it is common on the Thames-side marshes near my former home and am therefore confident that I have not overlooked it in the

*11, Rockside Drive, Henleaze, Bristol, BS9 4NW.

possible west country localities which I have visited frequently.

Finally, there is a strong possibility that Cepero's Groundhopper *Tetrix ceperoi* (Boliv.) may yet be found along the south side of the Bristol Channel and Severn Estuary as it has been seen in the past on the Welsh side and there is plenty of marshy ground near water along the costs of the area covered by this paper.

Of the species present only two seem in danger of extinction: the Large Marsh Grasshopper *Stethophyma grossum* (L.) and the Woodland Grasshopper *Omocestus rufipes* (Zett.). The former is suffering from the effects of the extremely rapid and large-scale extraction of peat from the Somerset bogs since the Second World War which has destroyed or rendered much of its specialised habitat unsuitable, and is in need of a thorough and up-to-date survey of its present status; the latter appears to be endangered because so far it is known to me from only one Somerset wood, fortunately a nature reserve of the Somerset Trust for Nature Conservation, but may well be discovered in other parts of the extensive woodlands surrounding its present site.

The Bog Bush-cricket *Metrioptera brachyptera* (L.) is very localised, but its existence in a well-maintained Somerset nature reserve should ensure the survival of healthy colonies.

BUSH-CRICKETS (Family Tettigoniidae)

Oak Bush-cricket *Meconema thalassinum* (Degeer)

This delicate-looking, pale green bush-cricket is not, as its English name suggests, confined to oak trees; in fact it is found on a wide range of broad-leaved trees, though mature oaks are the most favoured. As in the rest of southern England, it seems to be common in most, if not all, wooded areas of Bristol and North Somerset. Being fully winged and therefore capable of short flights, it most often comes under notice when attracted indoors after dark by artificial light. Adult males caught in this way have been brought to me by persons living in Stoke Bishop, Bristol (1964) and Pill, North Somerset (1964 and 1966).

If it were not for its strictly nocturnal habits, the Oak Bush-cricket would be recorded more often. When searching especially for it, I have found it with ease by day on oaks in Ashton Park (1977) and Leigh Woods (1978 and 1980) on the outskirts of Bristol, and in Alexandra Park in the middle of Clevedon (1967). There is an early record of its occurrence at Batheaston (Blathwayt, 1906) while, J. Cowley (1949) recorded it at Edington on the northern slopes of the Polden Hills in September, 1947 and mentions in his ms list of records a record of one in August 1953 taken at Charlton Mackrell by W. D. Colthurst. In the C. Bartlett collection in the Bristol City Museum there is a male which was collected at Portishead, presumably in the early 1900s.

Great Green Bush-cricket *Tettigonia viridissima* L.

This large and magnificent bright green species is locally common in North Somerset where its loud, penetrating and continuous

stridulation is a familiar sound in late summer and early autumn from early evening until late into the night. On hot days they often begin to 'sing' around mid-day. So loud is the stridulation of this species that I have found it easy to hear them stridulating from the roadside hedgerows and verges while driving in spite of the noise of the car engine. On such drives in September 1963 and July 1975, for instance, across the Mendips from Cheddar to Winscombe I heard males stridulating every hundred yards or so, and also on drives along the coast road from Clevedon to Portishead every year between 1964 and the present.

The calcareous hill ranges of North Somerset are the chief strongholds of *viridissima,* but it is also locally common on the Central Somerset Levels and Peat Moors in luxuriant patches of coarse vegetation and brambles in such places as Ashcott, Catcott, Edington, Shapwick and Walton Heath. However, it seems to be curiously scarce or absent on the levels to the north, such as Allerton, Cheddar and Kenn Moors, although numerous on the adjacent hills. Nevertheless, I have heard solitary males stridulating from hedgerows on the coast by Clevedon Pill, while further south it was recorded in 1953 and 1954 by the late J. Cowley in the sand dunes at Berrow, and doubtless still occurs there.

The following list of known localities and years recorded are extracted from my journal, unless otherwise stated in parentheses: Portishead: 2 females in C. Bartlett collection, Bristol City Museum, no date; Burnham-on-Sea (Blathwayt, 1906); Walton and Weston Downs, Portishead, 1964 - 70. Clevedon: 1967 - 1976 (East Clevedon, Clevedon Pill, Church Hill, Court Hill). Tickenham: 1964 - 1975. Cadbury Camp and Westpark Wood, nr. Tickenham: 1964. Weston-super-Mare: ca. 1900 (H. J. Charbonnier *per* J. Cowley). Berrow sand dunes 1953 and 1954 (J. Cowley). Mendip Hills 1960 - 1975 (Bleadon Hill, Crook Peak, Winscombe, Churchill, Shipham, Cheddar Wood, Cheddar, Westbury-sub-Mendip and Ebbor). Central Somerset Peat Moors: Walton Heath, 1948 (E. G. Neal); Edington Heath, 1950 (J. Cowley); Catcott Heath, 1950 (J. Cowley, D. G. Brown and J. H. P. Sankey), 1951 (A. H. Turner); Shapwick Heath, 1963; Buscott, 1963; Ashcott Heath, 1963 - 1967. Polden Hills: Moorlinch, 1953 (J. Cowley); Edington, 1955 (J. Westcott det. J. Cowley); Loxley Wood, Shapwick, 1951 (J. Cowley); Walton, 1949 (J. Cowley); Walton Hill 1971; Street, 1953 (F. R. Underwood det. J. Cowley).

Dark Bush-cricket *Pholidoptera griseoaptera* (Degeer)

The choruses of chirps from large colonies of this rather spidery, dark-brown, wingless bush-cricket are the most prevalent of all nocturnal insect sounds in this region during the late summer and autumn. The males also often stridulate during the day, especially from mid-afternoon, but are rarely mature enough to do so before the beginning of August; thereafter a few may still be heard as late as the first week in November.

A bush-cricket of the nettle-beds, wayside scrub and woodland borders and rides, *griseoaptera* is to be found in abundance in almost all suitable places throughout this region. It is one of the only two species of bush-crickets known on the island of Steep Holm in the Bristol Channel, where it was described as "common and widespread, often entering the barracks in autumn" (Parsons, 1978). Incidentally, this author stated that he was unable to find any previous record of this species for the island; in fact, the late J. Cowley *(pers. comm.)* collected a nymph there on the 10th June, 1956 and another on 14th May, 1961.

My list of localities is very extensive: Bristol: Clifton and Durdham Downs, 1960 - 79; Henleaze, 1977 - 78; King's Weston Down, 1970; Whiteshill and Hambrook, 1978; Shirehampton, 1963; Ashton Park, 1963; Leigh Woods, 1962 - 79. North Somerset: Pill, 1960 - 67; Lodway, 1966; Portishead 1960 - 76; Portishead-Clevedon coast road, 1964 - 70; Weston Down, Portishead, 1970; Clevedon 1967 - 76; Walton Common, Walton-in-Gordano, 1976; Clevedon-Failand road, 1967; Tickenham Hill, 1964; Westpark Wood and Cadbury Camp, near Tickenham, 1964; Wraxall (Battleaxes Hotel), 1967; Barrow Gurney Reservoir, 1962; Brockley Combe, 1973; Goblin Combe, 1964; Mendips: Bleadon Hill, 1960; Crook Peak, 1960; Cheddar to Churchill via Shipham, 1963; Batheaston, near Bath (Blathwayt, 1906); Central Peat Moors: Ashcott Heath, 1963 - 67; Buscott, 1963 - 67; Shapwick Heath, 1963 - 79; Meare Heath, 1964 - 79; Polden Hills: Cock Hill, 1950 (J. Cowley); Edington 1948 - 50 (J. Cowley); Moorlinch, 1953 (J. Cowley); Loxley Wood, Shapwick, 1947 (J. Cowley, 1949); Priest Hill, near Ashcott, 1951 (W. D. Colthurst, det. J. Cowley); Walton Hill, 1948 (J. Cowley), still there 1971 - 74; Great Breach Wood, near Compton Dundon, 1971-74; Charlton Mackrell, 1953 (C. Avent, det. J. Cowley). Swell Wood, Fivehead, 1961; Muchelney, 1961; Langport, 1961; Steep Holm, 1956 and 1961 (J. Cowley) and 1975 - 76, (Parsons, 1978).

(To be continued)

Memoir of the Life and Works of Edward Newman by his Son (Thomas Prichard Newman) 1876. **A facsimile with a new Introduction** by **E. W. Classey**. Portrait, 5 wood engravings, [iii] + 32pp., stiff wrapper, 1980. Price £2.

For devotees of Edward Newman this facsimile of a curious and interesting old pamphlet marks a memorable event, since very few copies of the original appear to have survived. Much additional information to that found in the obituary notice (which appeared in the *Entomologist* for December 1876) is contained herein, and the identity of the author of the anonymous *Letters of Rusticus* (1849) is confirmed. A particularly interesting feature of the *Memoir* is the woodcut on page 10, which shows the Bull Inn, at Birch Wood, Kent (reproduced from a vignette in the *Entomological Magazine* of 1837), famous as a venue of 19th century entomologists, and

where for many years members of the Entomological Club (instituted in 1826 with eight original members, of which Edward Newman was one) held their annual festivities.

This forms no.6 of Classica Entomologica in the series of facsimile reprints issued by the firm of E. W. Classey Ltd., Park Road, Faringdon, Oxon. It is printed on good paper, has an attractive cover and is similar in format to no. 5 (Rev. Greene's *Pupa Digger*) in the series. – J. M. C. -H.

SOME RECORDS OF *SPHAEROPHORIA* (DIPTERA, SYRPHIDAE) FROM NORTH-WEST ENGLAND

By DR. NEVILLE L. BIRKETT*

Recent papers by Speight (1973) and Kidd (1973) have directed the attention of dipterists to this genus. On the basis of the observations of these authors records of two species of *Sphaerophoria* seem worth noting.

Sphaerophoria loewii Zetterstedt. One male and two females of this species were taken by me at Leighton Moss, North Lancashire (V. C. 60.) on 5 July 1959. The determination has recently been confirmed by Dr. Martin C. D. Speight. Dr. Speight also suggested that the species seems to be associated, in the few localities from which it has been recorded, with *Scirpus maritimus* L. (Sea Club-rush). Dr. Geoffrey Halliday, of Lancaster University Botany Department, confirms that this species of rush is common along the southern boundary of Leighton Moss. Leighton Moss is a reserve for birds managed by the Royal Society for the Protection of Birds and the only public access is across a central causeway. That was where the presently recorded flies were taken.

S. loewii does not appear to have been recorded previously in the north of England. Coe (1953) gives Kent, Hampshire and Dorset only. Dr. Speight, *in litt.*, tells me he had taken it in Ireland.

Sphaerophoria philanthus (Meigen). This species is apparently quite widespread but is considered uncommon. Kidd (1973) gives records of two specimens taken in the Grange-over-Sands area contained in the A. E. Wright collection housed in Oldham Museum. I have three males of this in my collection taken as follows:

VC 69. Sandscale Hawes Warren, 28 July 1978; Grange-over-Sands 8 August 1980.

VC 70. Armboth (on the west side of Thirlmere), 21 July 1980.

These localities offer widely different habitats – at Grange-over-Sands the locality is low-lying brackish marsh, Sandscale Hawes is sand-dune with little in the way of damp slacks, while at Armboth the specimen was caught in a small road-side clearing by the side of a conifer plantation. In his distribution records Speight *l. c.* notes records by Wainwright from Walney Island (VC69) and Drigg (VC70) – both habitats not dis-similar to the Sandscale Hawes locality.

*Kendal Wood, New Hutton, Cumbria, LA8 0AQ

Acknowledgements

I am grateful to Dr. Martin C. D. Speight and Dr. Geoffrey Halliday for their help as indicated.

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FURTHER OCCURRENCE OF STIGMELLA ACERIS (FREY) IN KENT. – One of my frequent brief roadside pauses produced a single vacated mine of this species on *Acer campestre* at Tilden Road, Ulcombe, near Maidstone on 9th September 1980, and apparently a new record for vice county 15. Up until 1976, this species was only known in Britain from two Kentish records, but I believe that of late it has been recorded from elsewhere in Britain. – N. F. HEAL, "Fosters", Detling Hill, near Maidstone, Kent.

APION SIMILE KBY. (COL. : APIONIDAE) IN S. E. LONDON. – For some obscure reason this birch-feeding *Apion,* not normally regarded as uncommon or even especially local, has always been very rare to me. I am inclined to think it must have become scarcer than formerly in at any rate the south-east, though in the 1950s or thereabouts Mr. J. A. Parry used to find it general in the Canterbury district. I had met with it, always singly, only at Mickleham (Surrey), Bricket and Knebworth Woods (Herts.), and Fleet (Hants.), and once swept one from a privet hedge in my former garden at Blackheath which must have come from some birches in the next garden. Finally, I was agreeably surprised to beat a female *A. simile* from a birch in my present garden at Charlton on 12.v.80, and a male from the same tree on 3.ix.80; the two captures together practically prove it to be breeding there. The host tree is plentiful in the district, but the same clearly cannot be said of the weevil. It might be expected, for instance, in the woods at Shooters Hill, but I could never find it there. – A. A. ALLEN.

RECENT INCREASE OF SPHAEROPHORIA RUEPPELLII WIED. (DIPT. : SYRPHIDAE) IN N. W. KENT. – This small hover-fly is rightly accounted uncommon or rare as a rule; in the course of rather intensive collecting in my Blackheath garden from 1961 to 1973 it occurred only very sporadically, and in

fact I saw none during the last six years or so of that period. But in 1977, four years after moving to Charlton, I met with it repeatedly in that district – but principally at Abbey Wood (just east of Plumstead). Though most of my captures were of single specimens, it turned up in some numbers at the latter place on 15th July by sweeping flowers of Oxford ragwort along the base of a temporary wall in what could best be called an 'industrial wilderness', together with its common congener *S. scripta* L. Each year since then it has been noted, but sparsely and always singly, in my Charlton garden, at Kidbrooke, Shooters Hill, Woolwich Common, Charlton Reach, etc. It may be recalled that the second half of the summer preceding the sudden 'outbreak' was intensely hot and dry, a fact perhaps not unconnected with the remarkable (temporary?) increase of *S. rueppellii* in these parts. – A. A. ALLEN.

THE PRESENT STATUS OF *LITHOPHANE LEAUTIERI* (BOISD.) IN BRITAIN

By D. F. OWEN**

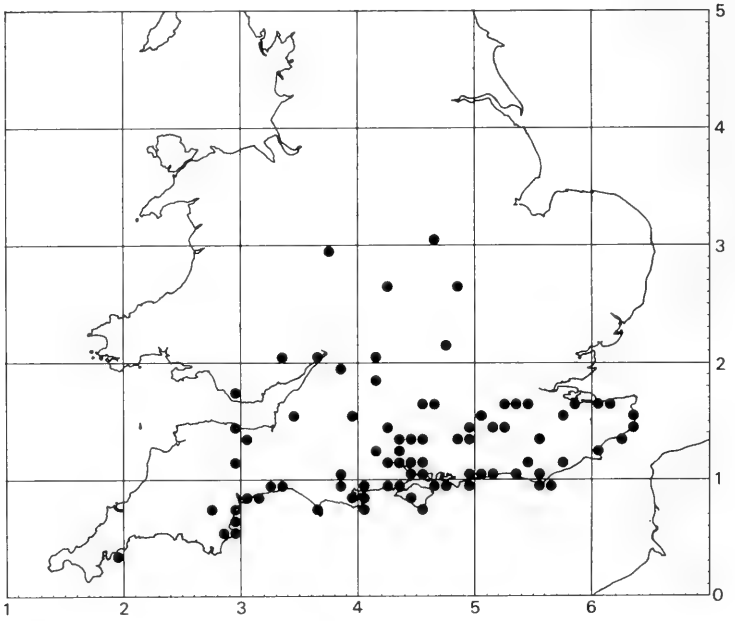
In the thirty years following the original discovery in 1951 of Blair's shoulder-knot, *Lithophane leautieri* (Noctuidae), at Freshwater, Isle of Wight (Blair 1952), the moth has colonised much of southern England and is rapidly penetrating northwards. The accompanying map is based on published reports, records held by the Institute of Terrestrial Ecology and Rothamsted Experimental Station, and letters from collectors and observers resulting from an appeal for information published in the *Record.*

As shown. *L. leautieri* is known from 81 10 km squares in England and Wales. The northernmost record is Leicester (1979) and the moth now occurs, in some places as the commonest October species, from Cornwall to Kent, a truly remarkable example of colonisation, reminiscent of what happened to the golden plusia, *Polychrisia moneta* (Fab.) earlier this century, and the varied coronet, *Hadena compta* (D. & S.) from 1948 onwards. There is every reason to suppose that *L. leautieri* will continue to expand its range in Britain and increase in numbers in localities where it is already established. The map can therefore be regarded as a thirty-year progress report of a moth recently added to the British list.

The only known larval food-plant in Britain is the Monterey cypress, *Cupressus macrocarpa*, introduced in 1838 and now common in low-lying areas, especially in parks and gardens along the south coast. Such evidence as there is suggests that the larvae require

*66 Scraptoft Lane, Leicester LE5 1HU.

new leaves and flowerbuds high up on the taller trees (Haggett 1957, Kettlewell 1957a, 1957b, Wakely 1961). It has not been recorded from wild juniper, *Juniperus communis*, whose associated fauna has been well studied (Ward 1977), but is known from *Juniperus* spp. and occasionally *Cupressus* spp. from continental Europe. It would be worth examining introduced species of juniper in gardens for larvae.



A more detailed account of the colonisation of Britain by this species will be published later. My intention in this communication is to publish an up-to-date map in the hope that readers will fill in gaps and report further range extensions. I shall be glad to receive additional records, including those from localities where the moth is already established, and especially of the discovery of wild larvae and their food-plants.

I thank the numerous correspondents who have sent me records, John Heath for access to the Institute of Terrestrial Ecology records, Rothamsted Experimental Station for information, and J. M. Chalmers-Hunt for much encouragement.

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TWO NOTABLE DUNG FLIES IN GREENWICH PARK. – From a puparium found in horse dung in Greenwich Park last July, a ♀ *Gymnodia humilis* Zett. (Muscidae) emerged a few weeks later; there are no breeding records for this species in Fonseca (1968, *Handb. Ident. Brit. Ins.*, **10** : (4b) : 15). In the same locality on fresh horse dung I caught single examples of *Calythea nigricans* Dsv. (Anthomyiidae) – ♂ 3. viii, ♀ 7. ix – a species which Mr. Fonseca (who kindly named all three flies) says appears rather infrequent but that he once found the males hovering in a vast swarm in Eastling Wood (E. Kent) and later hovering in small numbers in parts of the New Forest. He swept some ♀♀ in the former place off vegetation under the aerial swarm, but does not connect the species particularly with dung. The male has a striking pattern of white markings on the abdomen, which shows up in frontal lighting, but the female has no trace of it and in fact looks quite different. – A. A. ALLEN.

CALOPTILIA HEMIDACTYLELLA D. & S. (LEP.: GRACILLARIIDAE) IN GLOUCESTERSHIRE. – Whilst re-examining some old genitalia slides recently, I noted one I made in 1954 for Mr. L. Price and labelled *C. hemidactylella* ♀. In November of that year we had beaten out one or two specimens from bracken etc. in a wood near Cirencester. I labelled the specimen *hemidactylella* at the time because in Pierce & Metcalfe (1935, *Genitalia of the Tineina)*, for the females of the *Caloptilia,* all other species were quite different from the one I was examining. Pierce & Metcalfe, however, do not figure the female of *hemidactylella* so I assumed that this must be what I had. Furthermore, the foodplant of this species, sycamore, was quite plentiful at this site. Meyrick (1928, *Rev. Handbook Br. Lep.*) gives several localities in Britain for *hemidactylella*, but recent research by Col. A. M. Emmet reveals that there is no actual proof that any of them are correct. So that it would appear that the few specimens taken by Price and myself in Gloucestershire in 1954, and also in 1955, constitute the only confirmed records of the species in Britain.

I am indebted to Dr. J. D. Bradley for kindly confirming my mount of the female, and also for preparing another of a male. Thanks also to Col. Emmet, who has seen the genitalia mount of the male and added his confirmation. – J. NEWTON, 1, Oxleaze Close, Tetbury, Glos GL 8JS. [This is a most interesting discovery, and we hope to hear further from Mr. Newton of his finding in due course of the early stages of this elusive species. – J. M. C. -H.]

Obituary

AUSTIN RICHARDSON

Austin died on January 14th. He was born in 1904 and his father was the headmaster of Beaudesert Park School which was then in Warwickshire. He was educated at his father's prep-school, Eton and Oxford. He returned to teach at Beaudesert and subsequently became headmaster. In 1938 he married Beryl Jones, the under-matron, who died in 1964. Beryl, besides being an ideal headmaster's wife was magnificent as the wife of an entomologist and however arduous some of Austin's collecting expeditions were, Beryl was always at his side.

Austin had what he himself called "the finest collection of British Lepidoptera in private hands" and this was certainly true in regard to numbers and rareties, but the collection had overflowed the cabinet space and many insects were lodged in store boxes and if the collection is kept together and goes to a Museum, as it certainly should, there is a years work for someone in complete rearrangement.

It was a pity that Austin with his enormous experience did not put this down in writing. However, he produced numerous supplements to the Gloucestershire County List and with Robin Mere wrote up the lepidoptera of the Scilly Isles and named several subspecies from those islands, which he visited at least once a year. He was always very keen on species new to Britain and could be relied on to lead the rush. He was a first class breeder and among his many successes were *Drepana harpagula* Esp., *Cosymbia puppillaria* Hübn, and *Eupithecia phoeniceata* Rambur, of which he took the second British specimen.

None of the above really describes Austin. He was an extraordinary person. He had a highly developed competitive collecting instinct. Cigarette cards, British lepidoptera, postage stamps, sighting of rare birds, all were pursued with a ruthless determination, to achieve his object and to excell all others. This was combined with devotion to the opera and ballet and his favourite casts would be followed from Covent Garden to Manchester to Bristol to anywhere where they were performing.

Apart from the fact that we were friends and neighbours, I had ample opportunity to appreciate this as after Beryl's death, he used to join us on our family holidays in the remote places we and the children used to visit. First to Inch in Kerry and Slyne Head in Connemara, then next year to Harris in the Hebrides and then to Portsalon on the north Donegal coast and the Mull of Belmullet on the coast of Mayo. His energy never flagged for one minute nor his determination to catch more than I. At Slyne Head there is a marvellously remote bog where the Irish form of *Nonagria algae* Esp. occurs. We selected positions for our Colman lamps (which for this insect are more effective than M. V.), he on a dry spit on one side of the bog and I on a high rock on the other. In due course I had caught six *algae* and Austin had caught none and was boiling with

rage. "I am coming over to join you" he shouted and lifting his lamp above his head proceeded to wade into the water. Not until he was submerged up to his thighs did he relent!

Austin aged 76 and in spite of a bad heart, never gave up. He was in the Farne Isles bird watching before Christmas. After Christmas he had dinner with us and he looked so ill I tried to persuade him to stay. No, he could drive home and would. Next day he went to Cheltenham races and in a few days he was dead. What a trouncing the older generation of lepidopterists have recently taken. Bernard Kettlewell, Charles de Worms, Timothy Tams and now Austin Richarson. I suspect I shall miss Austin most. Who now am I to crow over when at last *nerii* arrives in my moth trap? — R. P. DEMUTH.

Current Literature

The Butterflies of Scotland — a Natural History by **G. Thompson**; xvii + 267pp., 33 pl (inc. 8 col.), 97 text fig. (inc. 68 distrib. and 12 habitat maps). Croom Helm, London, 1980. £19.95.

The work is divided into three parts, each of two chapters, plus appendices. An introductory chapter dealing with geology, landscape and climate is followed by a chapter on Scotland's flora, its development and organization to form the various habitats of butterflies. These chapters form the foundation for the following two concerned directly with the butterfly fauna — its dispersal, origin and establishment, recent changes in distribution and the future outlook — and occupying the bulk of the book a critical analysis of the butterfly species. The first of the two chapters of Part III is concerned with the history of interest in butterflies in Scotland, and the second with a history of relevant societies and journals. This is followed by appendices on nature reserves, a collecting code, a check list of species, a glossary of entomological terms and a very comprehensive bibliography.

This is a scientific work based largely upon the author's considerable knowledge and practical experience of the subject and his extremely thorough research into the contents of journals, society proceedings and museum collections; throughout it makes interesting reading and is without superfluous technical jargon. The nomenclature used is that of Kloet and Hincks (1972). A commendable feature is that temperatures and altitudes are given in degrees Centigrade and Fahrenheit, and metres and feet respectively.

The butterfly species are dealt with in the fourth chapter under the headings 'status, history, habits, form, distribution, appearance', and for each species there is a distribution map based upon 10 km squares. Unfortunately, the symbols used in these are not consistent; thus, a black dot may either represent a record, or a record since 1900, or a record since 1931: it would have been more satisfactory to have adopted the same procedure as the Biological Records Centre. In the section on each species labelled

'habits', it is frequently not clear whether the larval foodplants listed refer to Scotland, and there is also a lack of authenticity on this subject.

All recorded species are illustrated, mostly by excellent life size photographic reproductions in colour, although those of specimens in natural surroundings are not all true to size, nor is this indicated. It would have been more helpful if such species as *Hipparchia semele* L. and *Maniola jurtina* L. were illustrated in colour in place of *Melitaea didyma* Esp. and others unlikely to be met with in Britain.

A few printing errors occur, and some loose expressions of geography were noted, such as the inclusion of the Channel Islands in the British Isles on page 15, and reference to the Gulf Stream when the North Atlantic Drift is indicated.

In general this book, well bound and in an attractive dust cover, was a pleasure to read; at £19.95 it represents excellent value for a beautifully presented, informative and interestingly written work, profusely illustrated, and deserving of a place on the book shelves of all interested in the natural history, and especially the butterflies, of Britain; it must surely encourage further investigation and interest in Scotland's butterfly fauna. – B. K. W.

Love among the Butterflies: The Travels and Adventures of a Victorian Lady by **Margaret E. Fountaine** edited by **W. F. Cater** (Collins £8.50).

The name of Margaret Elizabeth Fountaine (1862-1940) will be familiar to many lepidopterists as a collector who travelled much of the world then difficult of access in search of specimens which ultimately she left to the Castle Museum, Norwich, with the proviso that it should be called the Fountaine-Neimy Collection. Her contributions to entomological magazines will also be known to many. Fewer lepidopterists would know of her reputation for eccentricity, and hardly any are likely to know of those aspects of her private life which are revealed in this book.

The book itself has its genesis in Miss Fountaine's bequest to the Castle Museum of a locked black metal box with instructions that it was not to be opened until April, 1978. Duly opened at the appointed time at the Castle Museum and with attendant publicity, the box disclosed twelve large neatly hand-written volumes of her diaries dating from 1878 (the opening thus celebrating the centenary of her first entry) containing much about butterflies as expected but also a personal record of an intimate nature of her life and loves. Subsequently the *Sunday Times* acquired the right of publication and the diaries have been published in a very much abridged form edited by Mr W. F. Cater.

In her pursuit of butterflies she was indefatigable, travelling in her early years over Southern Europe, the Middle East and the Balkans when travelling conditions were very different to what

they are now and with less concern than most people nowadays take over a cross channel trip. Frequently she travelled by mule, and by bicycle. For very many years her constant companion was Khalil Neimy her Syrian Dragoman, initially hired as a guide and courier and who seems to have fallen in love with her at first sight.

Although this book deals at considerable length with Miss Fountaine's amorous adventures which were far from being at an end after her first unhappy affair, and later association with Neimy, there is still a great deal of entomological interest extracted from her diaries and in these passages Miss Fountaine shows the gift evident in her contributions to entomological journals of bringing to life the geography and atmosphere of the places she visitied. As a posthumous publication and in the context of her strong personality and the social background her narrative takes on an added interest.

Especially enjoyable is the account of her excursion with a group of Hungarian entomologists from Budapest – there is a charming photograph of these gentlemen – and her search for *psyloria* – the little Cretan Blue.

The book itself is well produced with good quality paper and illustrations at a very reasonable price and although it must be seen for what it is – one aimed at a high circulation and the popular market – it should nevertheless be of considerable interest to all lepidopterists and provides thanks to Mr Cater's skilled editing a human and fascinating picture of this self-willed, indomitable lady and her travels in an age which now seems far away. – D. S. BURROWS.

The Heyday of Natural History (1820-1870) by **Lynn Barber.** Pp. 320 with 16 colour plates and over 100 black and white illustrations. J. Cape. Price £9.50.

During the period covered by this book the Victorians were subject to a series of collecting manias, of Algae, mosses, ferns, fossils, insects and other branches of Natural History. Lynn Barber suggests the reasons behind this phenomenon, which had "Aristocrats turning their parks over to elands, beavers and kangeroos, and artisans hoarding their pennies to buy the 'Entomologist's Weekly Intelligencer'," or "When it was impossible to visit the sea-side without tripping over parties of earnest young ladies and gentlemen, armed with a book by Mr. Gosse and a collection of jam jars, standing knee deep in rock pools and prodding at sea anemones."

The style is light and witty with a rich store of amusing quotations and cartoons from the periodicals of the time and fine colour reproductions from some of the rarer Natural History books.

Why were the clergy all anxious to emulate Gilbert White? Why did the anthropromorphic and anthroprocentric attitudes of the Victorians depend on "theological" Natural History as ex-

pounded by the Rev. J. G. Wood and his ilk? How did the rise of Darwinism and the introduction of Biology into schools help to end the craze, for the majority? What was the relationship between the field worker and the "cabinet men" in the museums? Answers to these and many other questions are developed in an entertaining way, while the main characters involved are brilliantly sketched in.

The one weakness of the book is in the absence of a full bibliography. This makes it impossible to know what the author has selected and what she has not seen. Too much time is devoted to Audubon and Agassiz, who can have had little influence on the masses. Mantell, whose books were a great stimulus to Geologising and Stainton who inspired many to Entomology, are dismissed in two lines. Mantell's Journal is a fine source for the theme of the book. Was it overlooked?

Nevertheless, this is a most readable and beautifully produced book which should be a source of pleasure to all interested in any branch of Natural History – E. H. W.

Notes and Observations

BIPHYLLUS LUNATUS F. (COL.: BIPHYLLIDAE) IN S. E. LONDON. – Of this local and well-marked species (formerly classed as a Cryptophagid but now assigned to a separate family along with its ally *Diplocoelus*) I swept an example off grass under a good-sized ash tree in Maryon Wilson Park, Charlton, on 15th August 1980. The beetle is exclusively attached to the black fungus *Daldinia (Sphaeria) concentrica,* which affects various trees, but above all, old ashes; it is seldom seen in this district, and the tree in question (likewise other ashes round about) do not visibly harbour it, but the presence of the beetle suffices to show that it must be there. I have not been able to find another record of *Biphyllus* from the immediate environs of London, apart from an old one for Coombe Wood (presumably Wimbledon) in Fowler, 1889, *Col. Brit. Isl.,* **3** : 308. – A. A. ALLEN.

THE ENTOMOLOGIST'S RECORD
AND JOURNAL OF VARIATION

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

TO OUR CONTRIBUTORS

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MICROLEPIDOPTERA: A REVIEW FOR THE YEAR 1980

By the Rev. D. J. AGASSIZ *

Despite a year when the weather was not encouraging, many interesting species of Microlepidoptera were found. Three species were discovered new to Britain, others little known were rediscovered or their known range extended.

These advances must be largely due to the increase of interest in the smaller moths. There is now a larger and abler band of 'micromen' than for many years. Added to this much has been contributed by the specialisation undertaken by those researching into families in preparation for writing their respective parts of 'The Moths & Butterflies of Great Britain and Ireland.'

To comment on individual species I will consider those of note in the order in which they appear in 'A Check List of British Insects' by Kloet & Hincks (1972)

INCURVARIIDAE

A second British specimen of *Lampronia flavimitrella* (Hübner) was taken in Kent by J. M. Chalmers-Hunt on 24.v.80, the first specimen was taken in Hampshire by the late D.W.H. Ffennell in 1974; but the life history remains a matter of speculation.

TINEIDAE

The breeding of three specimens of *Monopis fenestratella* (Heyd.) from a Kestrel's nest by Dr. A. N. B. Simpson, is a remarkable discovery of a species not seen for many years. It has never been common in this country and very encouraging is the knowledge that it is still resident.

LYONETIIDAE

As in 1979 mines of *Lyonetia clerkella* (Linn.) were particularly abundant.

Combined field excursions by groups of specialists are always liable to produce new discoveries and we await with interest the outcome of *Bucculatrix* mines on *Myrica gale* found on Anglesey by J. D. Bradley, A. M. Emmet, J. R. Langmaid and E. C. Pelham-Clinton. They correspond to no known British species (These have now yielded *B. cidarella* Zell. So only the foodplant is new).....

GRACILLARIIDAE

I am not aware of any significant discoveries in this family, but the comparative scarcity of *Phyllorycter* mines is worthy of comment.

*The Vicarage, High View Avenue, Grays, Essex RM17 6RU.

YPONOMEUTIDAE

The emergence of a long series of *Swammerdamia passerella* (Zett.) from larvae I collected in Scotland in 1979, confirms the existence of the species as a good species, and reinstated it on the British list where it once stood bearing the name *S. nanivora* Stainton. The abundance of such a species in the mountains of the Scottish Highlands suggests that many more species might remain there undiscovered. One thinks of several species recently discovered in the boreo-alpine regions of Scandinavia.

Digitivalva perlepidella (Staint.), which used to be regarded as very scarce and local in Kent and the Gloucestershire area, is being found to have a wider distribution. The capture of one in West Sussex during a British Entomological & Natural History Society field meeting fills in a big gap in its distribution.

Acrolepia assectella (Zell.) was reported in a newspaper to be a pest in South Devon; when the species was first found it was stated how this was a potential pest, but after an initial spread it seems to have withdrawn and maintained a foothold only in a few coastal localities in Kent and Suffolk – until this record.

COLEOPHORIDAE

The newly recognised *Coleophora prunifoliae* Doets was found not uncommonly in Devon, Cornwall and Essex, usually near the coast; there were also more records of *C adjectella* H.-S. Cases of both these species are to be found on blackthorn.

C. linosyridella Fuchs was bred by N.F. Heal from *Aster tipolium* growing in the Thames Estuary, both in Kent and Essex, this is an interesting addition to our fauna especially in view of the unusual foodplant. Again in the Thames Estuary it was encouraging to hear that cases of *C machinella* Bradley were found on *Artemisia maritima*, this was the biology given by Machin, but it had not been found since early in this century. Recently Dr. J. R. Langmaid found the species feeding on *Achillea ptarmica* in Hampshire. Another long lost species was *C. vibicigerella* Zell. rediscovered in Kent by R. W. J. Uffen.

OECOPHORIDAE

Depressaria weirella Staint. in recent years has been found elusive, but one was bred from *Arthriscus sylvestris* from Worcs. by Dr. A. N. B. Simpson, while several others were bred from S. E. Essex. *Agonopterix astrantiae* (Hein.), another extremely elusive species, was bred from W. Sussex by R. J. Heckford; the foodplant was *Sanicula europaeus* which confirms earlier speculation that this might be a host plant for the species in Britain.

GELECHIIDAE

The sharp eye of Dr. K. Sattler at the Annual Exhibition of the British Entomological & Natural History Society detected a specimen of *Metzneria aprilella* H.-S. (new to Britain) which was taken in Wiltshire by Dr. K. Bland; until then this was wrongly identified as

M. neuropterella (Zell.). It has been subsequently found that many supposed specimens of *M. neuropterella* from Hampshire are in fact *M. aprilella.*

Caryocolum viscariella (Staint.) was found to have greatly increased its range during 1980, being found especially in many parts of Essex by A. M. Emmet.

SCYTHRIDIDAE

Another remarkable species new to Britain was *Scythris inspersella* (Hubn.) found independently by both Dr. K. Sattler and J. L. Fenn to be breeding in Norfolk. The species seems to be locally well established, feeding on *Epilobium angustifolium.*

TORTRICIDAE

It is surprising that the publication by the Ray Society of the second volume dealing with this family has not yet led to increased interest and more new discoveries. However it is encouraging to note that *Celypha woodiana* (Barrett) has been bred in the West Country by both Dr. A. N. B. Simpson and Dr. M. W. Harper. Until it was bred in 1979 by E. C. Pelham-Clinton, no search for it had been successful for a very long time.

Of similar importance is the capture near Selkirk by Dr. Bland of *Apotomis infida* Hein.

PYRALIDAE

Records of migration details are the subject of another paper, but it is worth noting that *Diasemia ramburialis* (Dup.) was taken in a few scattered localities.

Pseudoscorpiones: Provisional Atlas of the Archnida of the British Isles (European Invertebrate Survey) part 1, edited by **P. E. Jones** (1980) for the Biological Records Centre, Institute of Terrestrial Ecology. Price £2.00.

Arachnologists and students of terrestrial microfaunas will certainly welcome this publication of all known records of the distribution of British and Irish pseudoscorpions. Maps for all 25 species which make up the accepted list are presented on 10 km sq format together with notes describing their particular occurrence and habitat. The division of the records into: pre 1960 and post 1960 is undoubtedly of interest in this group as the accuracy of identification has evidently improved in recent years. The maps give a good impression of our pseudoscorpion biogeography and I do not share the editor's misgivings that few of the maps show any distinct patterns of distribution. Indeed, for aside from rarities, one species is clearly western, six are southern, four are coastal and eleven are generally distributed. – P. D. HILLYARD.

NOTES ON THE LEPIDOPTERA OF CORNWALL

By Dr. F. H. N. SMITH *

Though acknowledged as a botanical mecca, Cornwall is probably too far west to compete entomologically with the more eastern southern counties. However, during several years of increasing concentration on micros there have been some surprises, which indicate that within the geological limitations – mainly absence of chalk – the fauna is richer than suspected. According to a very useful list drawn up recently by Mr. R. J. Heckford, nearly 150 species have not been seen again since they were included in the Victoria County History. A few, at least, of these have been rediscovered alive and well, and some not previously recorded at all have turned up, suggesting that there is a lot of scope for microlepidopterists here. I think it may be worthwhile to put on record those of these two groups that have come my way, bearing in mind that others may also have seen them, and also some other species which may be of interest.

The VCH species are: *Callisto denticulella* Thunb., *Teleiodes luculella* Hb., *Phalonidia vectisana* H. & W. (this was flying in numbers on the evening of June 24th, 1979, at the only Cornish salting I have been able to discover which is not covered by the sea at high tide), *Cydia fagiglandana* Zell. and *Leioptilus tephradactyla* Hb.

New to the list are: *Phylloporia bistrigella* Haw. and *Roesslerstammia erxlebella* Fabr. Mr. P. N. Siddons has taken both of these at different localities. *Coleophora ardeaepennella* Scott, bred from cases found on oak at a wood near here. *Pseudatemelia flavifrontella* D. & S., at MVL near St. Austell. *Scrobipalpa obsoletella* F. v R. at Devoran Creek, and I believe RJH has bred this from larvae found at a different locality. *Blastodacna atra* Haw., one at my kitchen light. *Ancylis mitterbacheriana* D. & S. on the Fowey estuary. *Pammene obscurana* Steph., one specimen at MVL on June 14th, 1980, at a wood where there is some birch. This is a male, with the hindwing costal black scaling referred to in Bradley Tremewan & Smith, *British Tortricoid Moths,* Vol 2., clearly defined. In view of their remarks on the life history, it will obviously be a priority next year to try to find early stages.

During the past few years the micros found in the garden here have repaid much closer study. *Namapogon schwarziellus* Zell. was flying in a small swarm on June 3rd, 1979. On 22nd June I boxed a single "Longhorn". The forewings were fuller with more rounded apices, antennae longer, and colour more ochreous than *schwarziellus,* and I am sure it is *N. metaxella* Hb. *Psychoides filicivora* Meyr. is established on Hartstongue Fern growing just outside my den window. *Swammerdamia pyrella* Vill., *Phyllonorycter coryfoliella* Hb., *Trifurcula immundella* Zell. and *Acrolepia*

*Turnstones, Perrancoombe, Perranporth, Cornwall.

pygmeana Haw. have appeared at the kitchen light, the last two being explained by Broom and Woody Nightshade close by. On 26th May, 1979, I took a tiny moth on the wing, which proved to be *Phyllonorycter geniculella* Rag. Later that year I searched sycamore for mines without success, but last autumn came across a number of occupied blotches on some sycamore suckers which I was pruning off, all within 3 feet of the ground, and think they may well be of this species. A sallow in the garden may have produced a single *Caloptilia stigmatella* Fabr. on July 13th, 1974, but it has not yielded to a search for larvae. The *Illustrated Papers on British Microlepidoptera,* published in book form in 1978, kindled a strong desire for Momphas, and there seemed no reason for not starting on my own *Epilobium montanum.* On 4th August, 1979, I found four occupied mines, all in the small top leaves, and, thus encouraged, started splitting seedpods. To my surprise, a fat little pink larva was soon revealed, followed by three more. After a few days these left the pods and settled down to pupation in a mixture of peat and coarse sand. The larvae from the mines spun cocoons in folded leaves on the same sprigs as the mines, and proved to be *M. locupletella* D. & S. when the first emerged on 22nd August – a most beautiful and flawless moth. After a fortnight none more had appeared, and close inspection revealed that the others had hatched, but were trapped by the leaf fold, which had dried too much. This taught me a lesson, that simply sealing in an airtight plastic box does not guarantee enough moisture. The pod larvae had been put two in a box for pupation, and on 1st September I found two hymenopterons in one of these, which I took to mean that both larvae had been parasitised; but this was not so, as on the 4th a *M. subbistrigella* Haw. also emerged. Each wasp was about the size of the moth, but one larva had been enough to feed them. This lesson was about the folly of presuming anything.

Among Tortrices found in the garden are *Lobesia reliquana* Hb., *Rhopobota naevana* Hb. and *Pammene regiana* Zell., the last found freshly out on a sycamore seeding. From further afield, a few other species may be worth a mention. A single *Aristotelia ericinella* Zell. was taken on 5th August, 1978, in the coombe here. I don't think it is common in Cornwall. Spinnings in elm shoots near Padstow on 24th May, 1979, produced some variable *Epinotia abbreviana* Fabr. about a month later. I have found *Agriphila selasella* Hb. in heath, woodland and estuary localities, and *A. latistria* Haw. occurs in two heathy places, to my knowledge. Late in August 1978, *Catoptria margaritella* D. & S. was flushed in small numbers from a wet bog on Bodmin moor. Since Mr. W. G. Tremewan's List was published in 1961 (*Ent. Gaz.* **12**: 127). I have kept an eye out for *Platytes cerussella* D. & S. at Falmouth, without seeing it, but it also occurs at a spot further inside the Fal estuary, and along a stretch of cliff path on the Lizard, in late June. *Phycita roborella* D. & S. turned up in the Camel river valley on 4th August 1977. Returning for a moment to Tortrices, *Acleris literana* L. seems very elusive, in spite of beating a lot of oak trees, but it must

be somewhere as one came to MVL here on 6th May, 1960. By all accounts *Acleris cristana* D. & S. also has to be worked for, and this may be why I have only ever seen two, which most considerately came into the house on 8th April, 1960, and 10th March 1974.

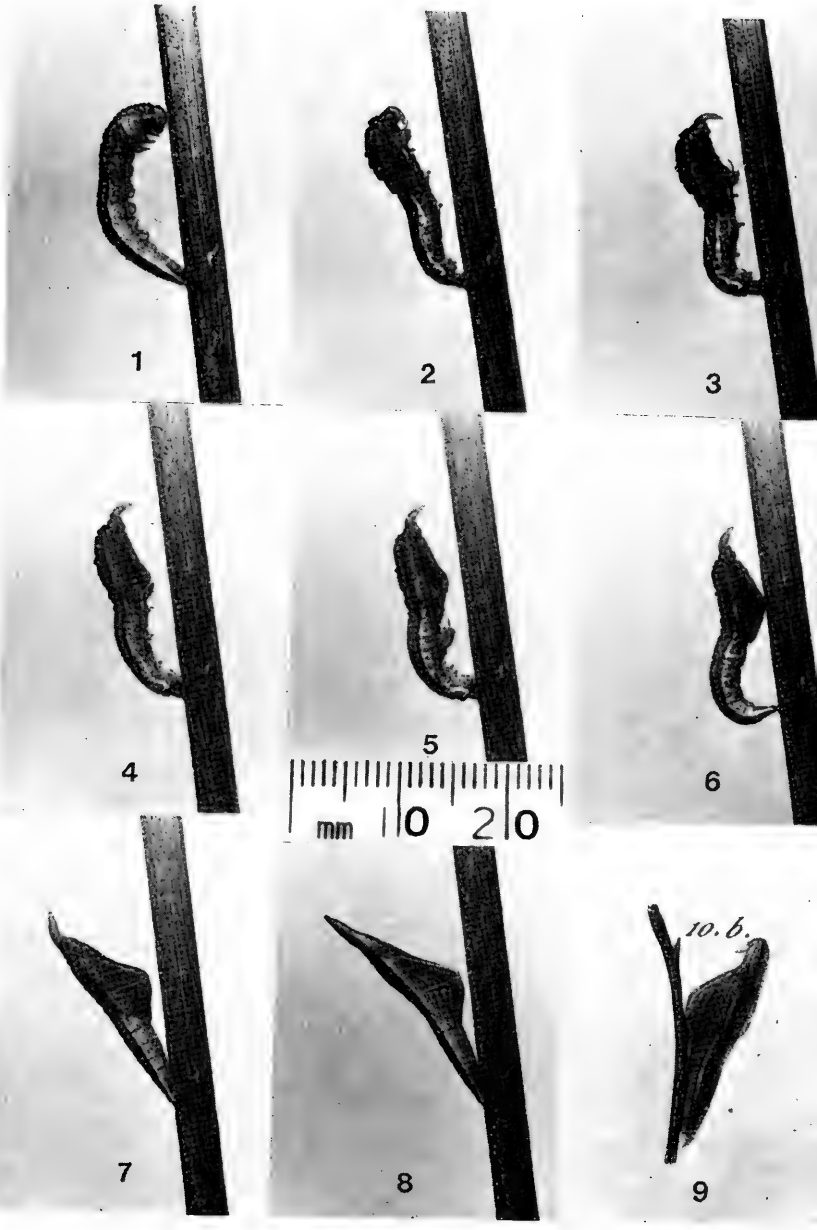
Regarding Macros, I had never heard of the Beautiful Brocade, *Lacanobia contigua* D. & S. in Cornwall until last year, when several came to MVL in mid-July at a mainly heathy locality. These were reported by Mr. Stephen Jackson, and I have seen specimens to confirm. They look a little paler than others I have seen from elsewhere. A Pale Eggar, *Trichiura crataegi* L. at MVL in the Camel valley in September last year came as a surprise to me, but I have since heard that PNS has seen it occasionally over the years in roughly the same area. The Slender Brindle, *Apamea scolopacina* Esp. and Fern, *Hydriomena tersata* D. & S. also occur in this valley. We have bred the Black Banded, *Polymixis xanthomista* Hb., from eggs, laid by a captured female, which overwintered easily in a plastic box, and hatched during the last week of April. Provided they have really fresh Thrift all the time, the larvae do well, they began to pupate about mid-June, mainly choosing the roots for this. My son, David, discovered Brown-veined Wainscot, *Archanara dissoluta* Treit. and Twin-spotted Wainscot *A. geminipuncta* Haw. in our local reedbeds about 1970, both in the pupal stage, and entirely unsuspected by me as they had not come to my lamp. There is a moral to this. The Brick, *Agrochola circellaris* Hufn., was another species never seen at the lamp, but which we found abundant at ivy bloom at the top of this coombe. On one occasion it was very satisfying to see American Wainscot, *Mythimna unipuncta* Haw., at the ivy. The Cypress Pug, *Eupithecia phoeniceata* Ramb., is now resident here in Perranporth.

The foregoing is "all very interesting", but how long can it last? I strongly recommend anyone who has not done so to get a copy of the *New Scientist* for January 22nd, 1981, and read carefully an article entitled "The threat to Wildlife Habitats", by Dr. David Goode, assistant chief scientist at the Nature Conservancy Council. One of the several headings reads: "Deciduous woods: four centuries' loss in 30 years." – which is the very nasty truth, applying in much the same vein to heathland, mosses, bogs and chalk downs, all of which are dealt with in detail. Legislation to protect individual species is spurious if by the end of the century there are no habitats left, and unless Governments wake up and put an end to the lip-service they have so far paid to conservation the outlook is sombre indeed.

In conclusion, may I urge any reader not yet an actively supporting member of his or her County Naturalists' Trust to become one without delay. No part in this conflict is too small to be worthwhile.

CORRECTION. – In the title of the Note by Dr. R. S. Wilkinson on page 225 of volume 92, "Thadeus" should read "Thaddeus", and this correction should similarly apply to the entry in the table of contents. – EDITOR.

PLATE II



The Pupation of *Anthocharis*

THE PUPATION OF *ANTHOCHARIS*

By CHARLES F. COWAN*

Has no one yet described the pupation of *Anthocharis?* I can find no reference to it in any of our butterfly books. Every hair on the larva may be recorded for each instar, yet the pupa gets little more notice than detail of its colour and size. The process of pupation is probably the most traumatic, and one of the most dramatic times in the insect's life, and surely has a bearing on evolution and classification.

I first became interested in this in 1969 when, looking at the pupa, I wondered what on earth the long beak or snout above the eyes was for. It is reminiscent of *Libythea,* yet the *Anthocharis* butterfly has no vestige of a snout or beak (and conversely the *Libythea* pupa has little trace of one). I watched the emergence of the butterfly and was no wiser; the beak was quite empty. So I had to wait another year to watch pupation, and found that the thing was neither a beak nor a snout, but a horn! I did get one snap then, but had to wait until 1980 to secure a series covering the event (see Plate II).

Our little Orange Tip *A. cardamines* (L.) has its larval existence on a Crucifer plant living first on the flower where the eggs are laid, and eating down to mature on the older seed capsules. Then it wanders away to search for a sound pupation site. This will usually be about 30cm above ground on a sturdy, nearly vertical, stem of about 6 or 7 mm diameter. In captivity I find the strong urge to wander at this stage is overcome by supplying one of the green quarter-inch stakes sold for supporting bulbs growing in bowls, which the larva will adopt at once if the stake is firmly set, even if it is cut down to only 15 cm long.

Head-down, the larva prepares a silk platform and then, head-up, slings its girdle. Then it rests for probably two days (fig. 1), awaiting a reasonably warm morning for its ordeal. Occasionally it gives a couple of twitches, and near the end of its wait a few minute drops of brown, viscous liquid fall from its mouth. Then, without warning, the drama begins. As the skin splits dorsally and, assisted by vigorous writhings, slips down the front of the head and feet, it reveals a small horn folded down the front of the face (fig.2). The writhings are so energetic that the horn often hits the stick quite hard. The horn quickly grows, and rises erect (figs. 3-6). Five minutes from the commencement of the skin splitting, it is heaped at the lower end of the abdomen and the pupa starts a fresh series of writhing contortions to disengage the exuviae (fig.6). They continue for some time after the skin drops; an instinctive act to "ensure" their discard, although not always successful. There follow some twists to adjust the girdle as the pupa adopts its familiar pose (figs. 7, 8) before it gradually loses all trace of suppleness. Unlike the pupa of, say, *Pieris* or *Artogeia*, that of *Anthocharis* cannot wriggle its abdomen; it is solid from horn to tail.

*4 Thornfield Terrace, Grange-over-Sands, Cumbria LA11 7DR

The Plate shows the scale for figures 1 - 8, photographed in Cumbria in July 1980, the date and timings being:–

Fig 1,	17th. 0740	Note droplet oozing from mouth
Fig 2 - 5,	1045-1050	Skin splits and slides down as horn rises
Fig 6,	1051	Instant of skin drop
Fig 7,	1130	Home, and
Fig 8,	19th. pm	–– nearly dry
Fig 9,	––	Duponchel, 1832 (see text, at end).

The pupa is bright green at first, but after about two days it usually fades slowly to a pale dull brown. A very few (?5 percent) remain green throughout. I have known four such; two found in the wild and both very conspicuous; one among dry stems in a Hertfordshire garden in the winter of 1970 and the other on a quarter-inch twig low down on an Ivy clad wall, in the lane only 100 yards from my back-door here in Cumbria in August 1980. I have also had two among reared examples in the past. None of these in any way "blended with their surroundings" as they are popularly supposed to do. I suspect that the green pupae, if not genetically controlled, may be "throw-back" relics of the past when, perhaps, the species may have been bivoltine; when the summer brood may have worn the green. I wonder how often this character occurs in South Europe and elsewhere in Palaearctica.

So what is the pupa horn for? It must serve a purpose or it would long since have been lost. The only solution I can yet offer is that it is a protective device against the hazards of its ten-month pupal period. Other Pierids spend far less time as pupae, they are supple, and they have heavy, blunt heads with much shorter horns or spikes. The long, slender *Anthocharis* pupa is rigid and arched in a beautiful cantilever. Its horn will fend off and deflect nearby waving vegetation and falling debris, and might even break up snow or ice sliding down the support. A remote possibility is that, in its early, downcurved moments, it acts as a buffer to protect the formative face from bumping the stem while the pupa writhes to shed its skin. But it is hard to believe that it was evolved solely for that purpose.

"Protective resemblance" has been suggested. Frohawk was so obsessed with the notion that he said, no less than three times, on three successive pages, of his great and beautiful 2-volume "Natural History" (1924: **1**: 37-39) that the pupa resembled a "seed-pod", once going so far as to say "in both form and coloration it so closely resembles a seed-pod that it almost defies detection". But the pupa is seldom slung among seedheads; it deliberately deserts them. They will not survive the winter. Protective resemblance can only be invoked by saying that the pupa resembles the stump of a twig; and the horn adds little or nothing to that resemblance. The mystery remains.

One minor mystery is noted. The habits in Europe were queried above. In (Godart &) Duponchel * (1832, *Iconogr. des Chenilles des Lépid. de France* **1**: 54, pl. 3, fig. 10b) is shown an extraordinary

example of a green pupa (reproduced here at fig. 9.). Of it, Duponchel only says that it overwinters as a pupa, and that the horn is often bent over *(souvent recourbée).* Is it? The plate is vouched for by that experienced artist Paul Dumenil, but Duponchel's footnote on his page 6 suggests that there was some muddle over his earlier artists, and Dumenil's signature may merely indicate a faithful engraving from an unidentified original. My first reaction was that the figure represented a half-way stage in the transformation, but that cannot be since the wing-cases are quite mature. In Boisduval's contemporary work (with Rambur & Graslin, when the name *Anthocharis* was introduced) a fuller and more accurate account is given, and a normal pupa is well figured by the artist Blanchard.

* Godart's name is on the title page, out of deference, and the work is always catalogued against his name, although he died in 1825 and Duponchel alone was responsible for publishing volume 1. Guenée assisted in completing volume 2 (Moths), and his name was added to the replacement title pages issued for each volume in 1849, three years after Duponchel's death.

THE DARK SWORDGRASS: AGROTIS IPSILON HUFNAGEL IN MARCH. – Although Bretherton, Goater & Lorimer *(Moths & Butterflies of Great Britain & Ireland,* Vol. 9) say this species has been recorded in every month of the year save January and February (South says one at least in February), I see that Evans & Evans *(Macrolepidoptera of Croydon)* regarded 12th May 1971 as a date early enough to be worthy of mention. So two in 1981 on March 10 in my actinic light trap here seem to be worthy of record. They were accompanied by a single *Eupsilia transversa* Hufnagel, a species frequent here last autumn at ivy bloom. Since starting the trap in 1978, I recorded several *A. ipsilon* in the autumn of that year and of 1979. In 1980, two came in June and six in August/September, all singletons.

The three nights previous to March 10 this year had produced nil results, though the same weather had continued during this period – a moderate SW wind bringing persistent cloud with rain on and off and temperatures steady between about 10 and 11 degrees C. throughout. I assume that such a record would be regarded as immigrant and not native emergence. The London Weather Centre informed me today that these winds derive from the area of the west coasts of Spain and North Africa and the Canary Islands.

Incidentally, I noted that the antennae of these two moths had male bipectination which very noticeably tapered abruptly halfway leaving the distal half filiform. Bretherton *et al.* above do not mention this but merely describe the male antenna as "strongly bipectinate", although filiform tips are described for some other *Agrotis* species. – R. A. Softly, 12, Parliament Court, Parliament Hill, London N.W.3 2TS, 11.iii.1981.

DISCOVERY OF THE LARVA OF *AGONOPTERIX ASTRANTIAE* (HEINEMANN) IN BRITAIN'

By R. J. HECKFORD* and J. R. LANGMAID**

The first British specimen of *Agonopterix astrantiae* (Heinemann) was taken by Mr. Bainbrigge Fletcher (1935) on 29th July 1933 in a wood in the Stroud district of Gloucestershire. This is in the "British" collection of microlepidoptera in the British Museum (Natural History).

Ford (1949), in his Presidential Address on 28th January 1948, to the South London Entomological and Natural History Society reviewing the microlepidoptera added to the British list since Meyrick (1928), included *astrantiae* and mentioned the specimen taken by Fletcher. He also stated that Mr. B.B. Snell "took three examples in the North of England last year." In the same volume of the Proceedings is a list of lepidoptera shown at the Annual Exhibition of the Society on 25th October 1947. This list refers to an exhibit by Mr. B. B. Snell of *astrantiae* "from North Wales". No mention is made of how many specimens Mr. Snell exhibited nor when the specimens were taken, but these must be the same as those referred to by Ford.

The Ford collection in the British Museum (Natural History) contains three specimens all taken by Mr. B. B. Snell. Two are labelled "Llanarmon, N. Wales. 11.8.1947. B. B. Snell light". The third has a label which is difficult to read but the locality appears to be Llanarmon again. The date looks like "8.8.1948". Therefore Ford's reference to "North of England" appears erroneous.

Mr. H. N. Michaelis tells that in August 1950 he went with Mr. B. B. Snell to Llanarmon where they found four specimens. He also tells us that a Dr. or Mr. Greenwood has taken an example at Grassington, Yorkshire.

Jacobs (1956) states that "odd specimens have been recorded from the southern half of England principally in m.v. light traps". Mr. Jacobs tells us that these records were from one or two people who mentioned the species at meetings of the South London Entomological and Natural History Society. We have not been able to trace any published records between 1948 and 1955, and therefore do not know when and where these specimens were found.

The next and, until now, last recorded specimens were two males and one female taken by Dr. E. Scott (1961) at Westwell, Kent at m.v. light on 2nd, 3rd and 4th August 1961, one of which is in the "British" collection of microlepidoptera in the British Museum Also, until now, it appears that *astrantiae* has not been taken in the larval stage in Britain. On the continent it feeds on *Astrantia major* and *Sanicula europaeus* in June, the imago appearing in late July and August, and not hibernating. It occurs in Sweden, Denmark and is fairly widely distributed in Central Europe, where it appears to be

*67 Newnham Road, Plympton, Plymouth, Devon.
** 38 Cumberland Court, Festing Road, Southsea, Hants.

confined to hilly and mountainous regions (Palm 1973 and Toll 1964).

On 20th June 1980 we visited a wood in Sussex, which for the time being will not be more precisely identified. The ground flora consisted almost entirely of *Sanicula europaeus* with some ivy and bramble. The trees were oaks with some hazel bushes.

One hour's close searching of the *Sanicula* produced several *Tortrix* pupae spun up in the leaves and three larvae. We also found a few empty spinnings but no more than half a dozen.

Two of the larvae appeared to be the same. Our description of them is as follows: larva dull green with the gut showing through as a darker green dorsal line; head and prothoracic plate black, in one larva the plate was bisected longitudinally by a fine white line; pinacula black; anal plate dull green. This appeared to fit the description of *astrantiae* made by Meess (Spuler 1913).

One of these larvae had rolled the edge of a leaf upwards and spun this to another leaf. The other had spun one leaf on top of another. Both were nearly full grown. Unfortunately one produced a parasite. The other pupated on 28th June 1980 and on 17th 1980 *astrantiae* emerged.

The third larva produced *Pandemis corylana* Fab. *Aleimma loeflingiana* (Linn.), *Tortrix viridana* (Linn.) and *Gypsonoma dealbana* (Frol.) emerged from the *Tortrix* pupae. Presumably these had not been feeding on the *Sanicula* but had simply pupated there after descending from the oaks.

While it is impossible to say what had been feeding in the empty spinnings, it is likely that some had been tenanted by *astrantiae.* However it seems that it must occur at low density, at least in this locality. Perpaps this is true wherever the moth occurs in this country. Nevertheless any area where *Sanicula* flourishes may well produce this species.

Acknowledgements

We are grateful to Mr. H. N. Michaelis and Mr. S. N. A. Jacobs for their assistance.

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TERRITORIAL, BEHAVIOUR IN BRITISH BUTTERFLIES – I have been following the articles on territorial behaviour patterns of certain butterflies with interest. The recent article by W. G. Shreeves *(Ent. Rec.,* 92: 267-269) contains a reference to the Purple Hairstreak *(Quercusia quercus* L.) being a "percher" which would also intimate that it also adopted territory, or the male at least. In this country *quercus* is hardly gregarious and in the localities of which I know, is rarely seen in numbers exceeding 5 - 10. In an attempt to stimulate discussion, is it possible that species behave differently in different climatic conditions?

On returning from S. W. France in 1979 we turned off the motorway at Bolléne, north of Orange, in the Department of Vaucluse and stopped at about mid-day for lunch. The air temperature was about 75°F. and there was very little breeze. During a short search to see what was about I disturbed a colony of *Q. quercus* inhabiting an olive tree and took a short series of five males and five females from about 50-60 seen. The numbers of males and females were fairly equally distributed. Only single specimens were seen on other surrounding trees in the neighbourhood. The specimens were fairly fresh although some damaged insects were seen, probably as a result of flying in and out of the tree.

The date was the 5th of August, and I understand the weather had been good so that emergence had not been delayed. The time of appearance would thus be the same as in the U.K. but the gregarious behaviour was a new phenomenon to me. Could this behaviour pattern be in any way connected with the pre-migratory tendencies of some of the Vanessids or was it just the hot weather? – M. S. HARVEY, Highfields House, Highfields, Ashtead, Surrey.

THE LARVA OF EUPITHECIA TRISIGNARIA HERRICH-SCHAFFER. – Brigadier Simson's interesting notes on the British Pugs refer *(antea,* p.10) to the larva of *E. trisignaria* as being readily identifiable by its black head. I had always thought that this was so until finding on 5 Sep. 1976 at Durris, Kincardineshire a single larva on *Angelica* with a green head. Its head remained green until the larva pupated and a normal moth appeared the following July.

Last September at Ceinws, Montgomeryshire, Dr. J. R. Langmaid and I found larvae on *Angelica* some of which had pale brown heads, mottled with darker markings. Normally the dark green longitudinal dorsal and sub-dorsal stripes are characteristic, but some of these larvae had stripes scarcely darker than the ground colour. In this locality a few (normal) larvae were also found on *Heracleum.* – E. C. PELHAM-CLINTON, Royal Scottish Museum, Chambers St., Edinburgh.

THE IMMIGRATION OF LEPIDOPTERA TO THE BRITISH ISLES IN 1980, WITH AN ACCOUNT OF THE INVASION OF THE PAINTED LADY: *CYNTHIA CARDUI* L.

By R.F. BRETHERTON* and J.M. CHALMERS-HUNT**

(Concluded from page 54)

ANNEXE III

The Painted Lady *(Cynthia cardui* L.) in 1980

The invasions of the Painted Lady were the most spectacular features of lepidoptera migration in Britain in 1980. Observers from Cornwall to Orkney wrote of it in terms of "hundreds", "a plague", "great abundance", "the flowers taken over by them". This was, however, for short periods near the arrival points and main tracks of the invaders, and it contrasts with a great number of records of singletons or small numbers, which indicate only a thin spread over most of the country. South west and north England, central Wales, and much of Scotland saw most of it. Numbers in south east England were relatively small, and from many midland and eastern counties we have received no reports of it at all. Eggs, larvae of various sizes on thistles, and a few pupae were seen in many places, also up to the far north; but it seems that, except perhaps near the south coast, in a cold and sunless summer only a very small proportion survived to add to the numbers of immigrant butterflies. Nevertheless, though no close estimate is possible, the records we have received certainly covered several thousand butterflies, and the Painted Lady probably had its best year since 1969 or 1966 and possibly even since 1952 or 1948, for which the Annual Migration Records gave estimates of 6,700 and 30,000 butterflies observed.

Single examples of *C. cardui* were seen on the coast of Sussex on April 2 and 4 and another somewhat inland on May 14; three were seen near Eversley, North Hampshire on May 12. But the first large invasion came with the warm south westerly air stream which reached Britain on June 2. Mr. Mr. L. H. Hare has given a graphic account of their arrival near Newquay, West Cornwall on June 4. The first examples were seen in the morning; but from 8.15 to 9 p.m. hundreds were flying wildly up and down a narrow ride leading to the sea at West Pentire. Fourteen paired couples were counted within ten yards, and the canopy of moving butterflies above the ride darkened the evening sky. On the same day they were abundant round Padstow, a little further north. Reports of 500 on the beach near Start Point, south Devon, ascribed to the end of May or early June, and of abundance round Truro and in the Roseland peninsula, on the south Cornish coast, in the first week of June, may also refer to June 4 or a day or so earlier. On June 4, also,

* Folly Hill, Birtley Green, Bramley, Guildford, Surrey.
**1 Hardcourts Close, West Wickham, Kent.

hundreds were seen at Aberystwyth, Cardiganshire, especially on flowers of cotoneaster; three were noted in the Isle of Man, one at Boat of Garten, East Invernesshire, and the first of many at Handa Island, West Sutherland. On June 7 over 300 were sighted at Old Lighthouse Island, co. Down, across the Irish Sea.

In Cornwall and Devon many butterflies seem to have settled down near their arrival points, and only a slight spread can be traced eastwards along the south coast, indicated by reports of one to three specimens in various scattered places from Dorset to East Kent and South Essex, and inland in Surrey and Middlesex, from June 5 to 9 and later; those which were fairly frequent in the upper Thames valley round Lechlade from June 8 to 16 may also have come from the south west. At Aberystwyth none were seen to remain by June 6, but in the next few days small numbers were seen, mainly on high ground, in Breconshire and across central Wales to Shropshire. It seems that a large swarm passed quickly east and north across Derbyshire and south Yorkshire to the east coast in Northumberland, and also through North Lancashire and Westmorland into south west Scotland at Gartlea, Dumbartonshire, where the first of many was seen on June 5, and Hawick, Roxburghshire on June 6, and later on to the western islands of Coll and Canna. In eastern Scotland *C. cardui* was first seen in Fife, South Perthshire, Kincardine and Aberdeenshire on June 5 and 6, becoming abundant later; in Orkney it was already numerous by the evening of June 5. These dates, together with the large numbers involved, suggest that there were separate invasions of eastern Scotland, coming in winds which had shifted by June 5 from the initial south west to south east. There does not, appear, however, to have been any large influx to the east coast of England at this time.

These warm air streams, which gave temperatures on June 4 at 84° F. in London and almost as high far up both the east and west coasts, gave place on June 6 to some days of much cooler northerly winds, which presumably prevented fresh arrivals in Britain. Lesser warmth was resumed from about June 11 to 18. Fresh immigrant species appeared and others became more numerous in this period, but there seem to have been no further influxes of *C. cardui*, unless a small one is represented by over 20 reported in South Essex on June 13 and a further 27 on June 18, with two in West Suffolk on June 13.

The first instinct of the June arrivals on the coast was to feed on almost any available kinds of flowers, before settling down nearby or moving on in swarms which dispersed more or less gradually elsewhere. After dispersal they became territorial, individually or in small groups, often occupying the tops of hills and sand dunes in south, hills up to at least 1,100 feet in mid Wales, and even the 4,000 feet summits of the Cairn Gorms in Scotland. In a Mediterranean climate natural life of adult *C. cardui* is said to be 20 to 30 days; but here this seems to be often prolonged by inactivity due to cold or lack of sunshine. In south England the number of records fell off sharply after the middle of June, and the last survivors were

probably those reported in Sussex on July 7 and 11; but in central Scotland and Orkney a few worn ones almost overlapped fresh specimens of the second invasion in the last days of that month.

This second invasion came in very clearly from the east or south east. On the evening of July 29 Mr. P. Q. Winter *(Ent Rec.,* **92** : 303-304), returning at mid-night to his home at Muston, near the coast of south east Yorkshire, found four *C. cardui* settled on or flying round his mercury vapour moth trap, and on the morning of July 30 there were ten more inside it. There were none in a second trap ¼ mile away, and only one in another at Rudston, a little further south and inland. On that day he saw 50/60 which, after feeding at thistles, all flew off heading between west and north west. On July 31 there were 12/15 on most thistle patches, where they remained numerous until cooler weather began on August 6, a few lasting until late in the month. Nearby, around Scarborough about 30 were reported from 29 July to mid August, with some in September and several even from October 1 to 7; and at Robin's Hood Bay, near Whitby 50 were seen on August 4/7, and at Brancepeth, co. Durham the species was common on garden buddleia and elsewhere at the end of July and in early August. At Spurn Head Bird Observatory, further south, on July 30 43 *C. cardui* arrived suddenly, one of them in the mercury vapour trap; on July 31 there were 100. Small numbers were seen there through August, dwindling in September to the last on October 13, after some southward flight along with *V. atalanta* had been noticed on October 2. Some internal spread into various parts of Yorkshire was noticed on high ground at Malham Tarn on July 31, Buckden and Arnside in mid August, and in Troutsdale on August 16. In North Lancashire and Westmorland a few records in the first half of the month may have represented further westward spread from the late July immigration; but later the numbers in that area rose sharply, with many sightings in Westmorland from August 22 onwards, 138 counted by the warden at Leighton Moss N. N. R., North Lancashire on August 31, and two in Cumberland on August 31 and September 3. These are strongly suggestive of a further influx from the south west, parallel to one in Cornwall and Devon at the time.

There were also simultaneous invasions at the end of July further north. Many fresh *C. cardui* appeared at Gartlea, Dumbartonshire on July 30, and on the following days a few were seen migrating further westwards; many others settled locally among the thistles, dwindling in number until September 5. The species reappeared at Aberdeen on July 29, and from July 31 onwards it was common widely, both near the coast and inland, with *V. atalanta* in Kincardineshire and Aberdeenshire; numbers fell through September, and the last singles were seen at Banchory on October 2 and 13. On September 28, however, about 20 *C. cardui,* many more *V. atalanta,* and a single *C. crocea* were seen to arrive by sea at Girdlestone Ness, south of Aberdeen, and also at Newtonhill, Kincardineshire. It is not clear whether these represented a southward flight,

possibly of locally bred butterflies, or a small further invasion from the east. In Orkney, *C. cardui* was well distributed on July 30 and lasted well into August; and on October 4 six were seen arriving over the sea in a south west wind. On Handa Island, West Sutherland some were seen from August 1 to 7; but we have no other records from the west coast of Scotland then or later.

In the south no large influx noticed at the end of July or in most of August. All of the many records scattered near the coast from South Essex to Devon, inland in Surrey and Middlesex, and in west Wales, are of singles or very small numbers; these were probably off-spring of the June arrivals. But in the last week of August and the first of September a large rise, to 20 to 30 a day, in adults counted at Slapton Sands, south Devon, and also in Dorset, strongly suggest immigration, along with other species, in the prevailing south westerly winds. This is supported by a reference to "hundreds seen in September coming in from the sea in West Cornwall, sailing against the wind, high up, and floating down like autumn leaves." But the records became few again after the middle of September, and *C. cardui* in all its stages was probably killed off by the cold spell which began on October 1. The latest record received from southern England is of two butterflies seen on samphire blossom in the Isle of Sheppey, East Kent, on October 4. In south west Ireland, however, they lasted longer, several being seen on garden flowers at Killarney on October 12/14.

Local breeding from the early June invaders was well started in fairly warm and sunny weather during most of that month; but larval development was set back in most places by abnormal cloud and cold in the first three weeks of July, before a short-lived heat wave at its end. In most of August and September sunshine and warmth were generally below average in the south and were especially lacking in the west and north of Scotland. The first mention of partly grown larvae of *C. cardui* was at Swanage, Dorset, on July 15, and, as already noticed, it seems that adults began to emerge on the south coast from early August onwards, though not in great numbers, probably some 55 to 70 days after the laying of the eggs. In the north the process certainly took much longer and was less successful. On the island of Canna, Inner Hebrides, many larvae of very varying sizes were seen on July 27. Other observers have commented on this feature of size differences among larvae even on the same or adjacent thistle plants, which appears to be due to some inherent tendency rather than to any large differences in the dates at which eggs can have been laid. In Orkney, larvae were abundant in July and August, and some were noticed to have survived a week of cold gales before August 23; but no butterflies were seen from these later. At Muston, South East Yorkshire, a few larvae were first seen from July 31 to August 6, and a very small, fresh adult seen on buddleia on September 2 and 3 probably resulted from them; larvae from the second invasion were "literally everywhere" in webs on spear thistles in late August and September, and a few were still left on October 9. M. I. C. Christie, who has watched *C. cardui* in all its stages both in 1980 and in 1969 on his

sheep farm at Gartlea and by Loch Lomondside in Dumbartonshire, saw on August 5 several hundred half grown to nearly full grown larvae on Scottish spear thistle *(Cirsium lanceolatum);* but at the end of the month not a single larva or pupa could be found. He attributes this sweeping mortality not only to the severe weather, but also to the fact that the foliage of this early flowering thistle had withered before the larvae could complete their growth. At Gartlea itself, where plenty of Marsh thistle *(C. palustre)* and Creeping thistle *(C. arvense)* were available though apparently less attractive to egg-laying females, there were fewer larvae but some survival to produce perhaps ten distinctively small, dark and very pink butterflies which were seen between September 5 and October 4. The last survivors of the July butterflies had by then disappeared; and no larvae from these were found, despite search. This period of around 90 days from eggs to butterflies is amazingly long for an insect which can be reared in sheltered captivity in half that time, and in the wild in Africa often in less. It shows, however, that the species has considerable power of adjusting its development to weather, which must help it to extend its area of permanent colonisation, even though not in the British Isles.

Both the main invasions of *C.cardui* were accompanied by much smaller numbers of *Vanessa atalanta* and *Nomophila noctuella* and also by swarms of the Yponomeutid *Plutella xylostella.* The first two of these fellow travellers, however, certainly came in at other times also and need not have had the same points of origin as *C. cardui* even though for arrival they shared the same air streams. The first influx of *C. cardui* came from the south west or south, and both date and direction point to a probable origin in north west Africa, though there is at present no direction evidence for this. "Hundreds upon hundreds" were seen about May 25 in Majorca, which must also have been immigrants; but the date seems too early for them to have come on to Britain. The second invasion, at the end of July, certainly came across the North Sea from the east or south east, probably in winds which blew clock-wise round the south side of the high pressure area which had been established for some time over south Scandinavia and northern Europe. This, together with the large numbers clearly involved, suggests a very distant origin, possibly in south west Russia; but, again, there is at present no supporting evidence for this. In the French Pyrenees one of the authors saw only a dozen, mostly worn, at this time.

This account is based on observations received, directly or through intermediaries, from some 80 observers, to all of whom the authors are very grateful. Even so, it is clearly far from complete, and we should be glad to receive supplementary records, especially and which fill gaps in the areas of record or refer to the finding of larvae or pupa and to successful breeding in the wild.

The Record

CORNWALL, E. Roseland Peninsula, first week June, abundant.
CORNWALL, W. West Pentire, 4. 6, first in a.m.; 8.15 to 9p.m., hundreds in lane from the sea; Padstow, 4.6, abundant, and a

plague elsewhere later; Truro area, 4.6., abundant; W. Cornwall, September, hundreds sailing in from the sea.

CUMBERLAND. Cumbrian Fells, last week June/ early July, several singles; E. Curthwaite, 31.8; Bowness-on-Solway, 3.9.

DERBYSHIRE. Holloway, Matlock Moor, Ashbourne, Darley Park, 6.6; Cotmanhey, 7.6; Strakholmes, 8.6; Elvaston, 12.6.

DEVON, N. Halwell Forest, 7.6 (2); Lucket Lydeford and Black Torrington, 12.6 (3).

DEVON, S. Lannacombe Beach, end May or early June, c. 500; Slapton Sands, 6.6 (10); Teignmouth, c.10.6; Slapton Sands, 24. 8 (16), 31.8 (17), 1/14.9 (128 on six days).

DORSET. Uploders, 7.6; Eggardon Hill, 7.6, 8.6 (2); Hod Hill, 7.6; Verwood, Cranborne Chase, 11.6 (2); Swanage Head, 12.7, one larva, small; St. Albans Head, 23.8; Studland, 3.9(c.15).

DURHAM. Brancepeth, end 8, early 9, many on buddleia, and common generally.

ESSEX, N. Fingringhoe, one at light, n.e.d.

ESSEX, S. Bradwell-on-Sea, 5.6, 12.6 (4), 13.6 (21), 18.6 (27); 4.8(2), 5.8, 7.8, 10.8 (24), 16.8 (25), 20.8 (3), 25.8, 26.8 (13), 27.8 (28), 30.8, 31.8, 6.9, 14.9, 24.9 (3) – 185 in all; Fambridge, c.10.6, on valerian; Canvey Is., 8.6.

GLOUCESTERSHIRE, N. Lechlade, 8.6, fairly frequent to 16.6, none after.

HAMPSHIRE, N. Eversley, 12.5 (3).

KENT, E. Canterbury, 6.6; West Blean Woods, 12.6; Folkestone, Middle Hill, 7.6 (three, 7.30 p.m., flying inland); Hawkhurst, 5.8; Dumpton Gap, 7.8 (two at 7.50 a.m.); Ramsgate, frequently later.

KENT, W. Knockmill nr. Swanley, 7.6; Woolwich Common, 12.6; West Wickham, 23.8.

LANCASHIRE, N. v.c. 60, Lytham St. Annes, 8.6(7 or 8 on dunes); St. Annes-on-Sea, 8. and 9.6 (20 on dunes); Hoghton, 8.6(4), 1.8; Lancaster, 15.6; Silverdale, 22/31.8 (18 seen); Leighton Moss, 31.8 (131 counted by warden, some also earlier); nr. Lancaster, 2/9.9 (5 on disused railway).

LANCASHIRE, S. Blackburn, 6.6 (3).

ISLE OF MAN. Ballakaighen, 4.6 (3), 6.6 (2), 8.6 (4), 9.6 (2), 12.6.

MIDDLESEX. Hampstead, 6.6, 3.8, 21.8, 7.9; Broad Street station, 20.8

NORFOLK, E. Foxley Wood, 24.8 (very worn); Hickling, 24.8.

NORTHAMPTONSHIRE. Duddington, 28.8 (in a lay-by).

NORTHUMBERLAND, N. Alnmouth, 7.9 (several); Craster, 11.9.

NORTHUMBERLAND, S. Spindlestone Haugh, Budle Bay, 10.6 (c.100).

NOTTINGHAMSHIRE. Attenborough N. R., 15.6.

SUFFOLK, W. Lakenheath, 13.6 (2).

SHROPSHIRE. Pontesbury, c.8.6; Cressage, c.8.6.

SURREY. Reigate, 8.6; Ranmore Common, 9.6; Dunsfold, 25.8; Tatsfield, 15.8; Bramley, 27.8, 29.9, very worn; Leigh, August/ September, regular in garden; Selsdon, 1/8.9, several daily in garden.

SUSSEX, E. Seaford, 2.4, 4.4; Ninfield, 14.5, 8.6, 7.7, 11.7, 9.8, 15.8, 25.8, 26.8, 31.8/6.9 (11 in six days); Peacehaven, 27.7, 3., 7, 2.8, 3.8(5), 7.8, 16.8(2), 21.8 (2), 27.9; Brighton, 4.8, 16.8, 15.9, 20.9, 27.9; Westfield, 7.8; Crumbles, 15.8(5), 30.8(6); Hastings Cliffs, 19.8 (5 on hemp agrimony), Pett Level, 21.8; Lewes, 30.8; Wilmington, 2.9.

SUSSEX, W. Shoreham, 15.8(2), 26.8(2).

WESTMORLAND/FURNESS, v.c. 69. Beetham, 8 and 9.6(4), 22.6, 8.8(2), 16.8, 23.8, 12.10; Underbarrow, 8.6(4); Milnthorp, 8/22.6(6); Grange-over-Sands, 17.6; Sedbergh, June; Smardale, 14.8(2); Arnside Knott, 3/10.7 (4 worn); 6/8.8 (9); 22/27.8(14); 10.9; Ulverstone area, 22/30.8 ("a fair number"); Arnside Knott, late 8, several pupae.

YORKSHIRE, N. E., v.c. 62, Scalby, 7.6; Pickering, 9.6, fresh looking examples; Cloughton and Staintondale, 22.6(2); Scarborough environs, 29.7/26.8 (c. 30), 1/7.10 (several singles); Troutsdale, 16.8 (4).

YORKSHIRE, S.E., v.c. 61, Spurn Bird Observatory, 6.6 (4, and occasionally later in 6); Muston, 7.6, 28.6; Humanby Gap, 13.7 (very tattered); Tadcaster and Selby, June/July, generally common, also in August; Muston, 29/30.7 (5 around m.v. light trap at mid-night and 10 more inside in a.m.; 30.7 (50/60 feeding at thistles, then flying N. and NW, 31.7, abundant on thistles. Larvae, in varying sizes, first found 31.7, more later, small imagines 1 and 10.9); larvae from July influx abundant September, pupating indoors early October. Rudston, 29/30.7 (one at light); Filey, 2.8 (2), 16.8. Spurn, 30.7 (43, one in m.v. trap), 31.7 (100), 13.8(4), 14.8(42); Scarborough coast, 6.6 (3), 28.9(9), fewer in 9, last 13.10.

YORKSHIRE, S.W., v.c. 63, Potteries Carr, 7.6; Leeds, 7.6 ("the big day"); Old Rossington, mid 6; Ilkley Moor, 1.8, on sedum.

YORKSHIRE, CENTRAL., v.c. 64, Fountain Fell nr. Malham, 31.7(4); Buckden and Arncliffe, mid. 8, a few on the highest ground.

Ireland

DOWN. Old Lighthouse Island, Copeland Group, 7.6, over 300 sighted.

KERRY, N., v.c. 2, Killarney, 12/14.10, a few at michaelmas daisies.

Scotland

ABERDEENSHIRE, N. Loch of Strathbeg, 5.6; Old Meldrum, 6.6; by 9.6 at Bullers of Buchan, Ellon, etc., many; Strathbeg, Old Meldrum, 31.7, also in 9.

ABERDEENSHIRE, S. Aberdeen, 6.6; Tillyfourie, 6.6; by 9.6 many at Staloch, Benachie, Scolt, and throughout the area; Cairn Gorm tops, 4,000 ft., 16.6. Aberdeen, reappeared 29. 7; reported in 8 at Torry, Auchleven, Benachie, becoming scattered in 9; Girdelstoneness, 28.9, c.20, very tired, arriving from the sea, with more *V. atalanta*.

ARGYLL, S., v.c. 97, Easdale, 11.6; Glen Lonan, 11.6, 2.8; Tayallich, 29.7, "last of first invasion".

BANFFSHIRE. c.10.6.

CAITHNESS. Freswick, 11.6.

DUMBARTONSHIRE. Gartlea, 5.6, 6.6 (4), 10/15.6, 10/15 daily on thistles on few fine days, tailing off before 20.7. Gartlea, 30.7, second invasion, 31.7, 2.8, many seen flying off W., thereafter 20/25 settled among marsh thistles, last seen 5.9. Lomondside and Gartles, many eggs in 6 and larvae 8, but few survivors: c.10 native adults at Gartlea, 5.9/4.10.

DUMFREISSHIRE/KIRKCUDBRIGHTSHIRE. Between Dumfries and Gatehouse of Fleet, numbers in many places, up to four together, before 20.6.

EAST LOTHIAN. N. Berwick, 1.8 (c.15).

EASTER ROSS, v.c. 106, and SUTHERLAND, S.E., v.c. 107, Muir of Ord, 16.6, not again until 3.9/3.10, one to five on buddleia on 13 days (41 in all).

FIFE. St. Andrews, 6.6, in abundance in gardens, lilac the main attraction; 8.8; Saline, 6.6, "everywhere, mixed with *V. atalanta*"; Tentsmuir, 8.8.

INNER HEBRIDES, v.c. 104. Isle of Canna, 9.6 (2), 10.6, 11.6 (5), 12.6, common; 26.7, many larvae of differing sizes; North Rona, 23.6.

INVERNESS-SHIRE, E., v.c. 96. Boat of Garden, 4.6; Loch Ness, 9.6.

INVERNESS-SHIRE, W., v.c. 97. Appin, 11.6; Loch Arkaig, 12.6; Mallaig, 17.6.

KINCARDINESHIRE. Banchory, 6.6, a few, and until 23.6; 31.7 (c.20), and common along the coast; in September, daily, last 2 13.10; Durris, 6.6; Newtonhill, 28.9 (6 on sedum).

MULL and COLL, v.c. 103. Isle of Coll, 7/14.6, c.12 daily, apparently well settled.

ORKNEY. Orphir, 5.6, by evening numerous throughout the islands; 31.7, well distributed; larvae common on thistles in 8, some surviving 28.8 after cold spell, but no adults seen later; Mull Head, 4.10 (6 seen arriving over sea in SW wind).

OUTER HEBRIDES, v.c. 110. Shiant Is., 21.6, 22.6.

PERTHSHIRE, S. Crieff, 5.6 (1 or 2); 6.6, "wherever something on which to feed, in particular aubretia, valerian, lilac"; 7.6, "the bugle patches taken over"; 31.7, "a mass emergence, continuing in profusion until mid August, last straggler 27.8; 14.9 to 12.10, a further brood, in vastly reduced numbers.

ROXBURGHSHIRE. Hawick, 6.6 (6); June, widely spread in good numbers, many eggs found.

SUTHERLAND, S.W., v.c. 108. Handa Is., 4.6, 12.6 (15 plus), 14.6 (14 plus); mid 6/1.8, one/five on 23 days, last 6.8; Tongue, 10.6; Airdtorrisdale, 10.6; Cape Wrath, 16.6 (3).

WESTER ROSS, v.c. 105. Torridon, 8.6.

WEST LOTHIAN. Winchburgh, 12.6, 16.8, only two seen.

Wales

BRECONSHIRE. Ffowydogg Common, 650 ft., 5.6; Treflys,

8.6 (6 on bluebells), Garth near Llan gammarch; Gorse Bank, 8.6 (two on clover), 13.6 (2), 16.6; Cym-gn Fawr, 600 ft., 12.6.
CARDIGANSHIRE. Aberystwyth, 4.6, hundreds on flowers, none left by 6.6; Coedmore, 9.8, 13.8, 16.8, 26.8, 28.8.
DENBIGHSHIRE. Abergele, 6.6(2), 9.8(4), 15.8(3); Llandulas beach, 15.6 (2).
MERIONETHSHIRE. Dolgelly, 8.6 (6 seen over two acres).
MONMOUTHSHIRE. Peterstone sea wall, 7.6; Wentwood, 10.6; Newport docks, 20.8; Usk, 2.9 (2 on buddleia).
PEMBROKESHIRE. Moylgrove, 26.8 (2), 28.8; Martingrove and Marloes, 11.10 (2).
RADNORSHIRE. Coles Hill nr. Presteigne. 1097 ft., 12.6.

SOME NOTES ON EREAATOPHYES ALEATRIX DIAKONOFF (LEP.: OECOPHORIDAE) – In May 1973, a Dutch collector caught a specimen of the family Oecophoridae along a road south of the town of Nijmegen (Province of Gelderland), which appeared to be new to science, and which Dr. A. Diakonoff described (in *Ent. Ber.,* Amst., **35**: 187-189) as *Eratophyes aleatrix*. For several years after no other specimen was observed and the biology of the species remained unknown, until by pure chance this gap in our knowledge was filled. Brother V. Lefeber, a keen hymenopterist, had collected in Limburg for several years dead wood from which to breed Hymenoptera, and from old birch wood not only did these insects appear, but also a number of *E. aleatrix* (cf. Diakonoff and Lefeber, *Ent. Ber.,* Amst., **40**: 38-40). It became clear, therefore, that the *E. aleatrix* has the same biology as many other species of the family, and in later years *aleatrix* was also bred from willow branches, so that it is not restricted in its choice of wood.

In April 1980, accompanied by Mr. L. I. P. van Aartsen, I collected pieces of decaying wood from dead birch trees with a diameter of 10-15cm., taking care not to collect wood inhabited by ants as they eat everything alive they meet. I selected pieces with the bark still attached, although this was sometimes as thin as paper, owing to the long time the wood had lain on the ground. I kept the wood in a bag with a net on top and closed by a zip-fastener, and placed it in a wheelbarrow in the shed. During sunny periods, the wheelbarrow was placed outside to expose the bag to the sun. I was very lucky, for in the latter part of May and in June a number of *aleatrix* appeared; also some *Oecophora bractella* (L.) and *Nemapogon personella* (Pierce & Metcalfe) made their appearance, as well as of course numbers of beetles, flies and wasps.

The species must lead a very concealed life, which is no doubt the reason for its late discovery. Therefore, I should recommend British lepidopterists to try their luck by collecting dead wood in the spring, and even if they do not obtain *Eratophyes aleatrix*, there is of course always a real chance of other good species. The moth is very beautiful, and its discovery in Britain would be well worth attempting. – J. B. WOLSCHRYN, Beatrixweg 8c, 8181 Le Heerde, Holland.

THE B.C.S. WARREN COLLECTION AND ITS TYPE-MATERIAL

By R. I. VANE-WRIGHT and P. R. ACKERY*

(Continued from page 3)

List of type-material in B. C. S. Warren Collection

aequalis Warren, 1936: 239, pl. 83, figs 1152, 1153, 1159, 1160 (as f. of *Erebia theano pawloskii).* USSR: Ht ♂ , 1 ♂ Pt, Sajan Mts. [Preps 14909 (Ht), 14911 (Pt)].*__alcmenides__ Sheljuzhko, 1919: 126 (as ssp. of *Erebia sedakovic* [sic]); Warren, 1936: 145, pl. 31, fig. 302. CHINA: 2 ♂ Sts, Mandzhuria or., Pogranitschana. [Preps 15015, 15016].*__alpestris__ Warren, 1936: 192, pl. 78, figs 1033, 1034, 1039, 1040 (as nom. nov. for *Erebia medusa altissima* Warren, 1931, a primary homonym of *Erebia pronoe altissima* Goltz, 1930). See *altissima* Warren. **altissima** Warren, 1931: 98 (as race of *Erebia medusa);* 1936: 192 (homonym; name replaced by *alpestris* Warren). SWITZERLAND: 2 ♂ Sts, Pontresina, Engadine; 1 ♂ St., Schafberg, Grisons. [Prep. 14416]. **approximata** Warren, 1930: 56 (as race of *Erebia pawloskii theano).* USSR: Ht ♂ , Altai, Korgon Mts. [Prep. 14924].*__approximata__ Warren, 1931a: 171 (as ssp. of *Erebia theano);* 1936: 237, pl. 83, figs 1149, 1156. See *approximata,* above.*__arctica__ Poppius, 1906: 5, pl., upper fig. (as var. of *Erebia euryale);* Warren, 1936: 73, pl. 62, figs, 630, 631, 634, pl. 26, fig. 256. USSR: 1 ♂ Plt, Kannin. [Prep. 15108]. Lt. des. Warren, 1936: pl. 62*__balcanica__ Warren, 1926: 97, pl. 29, figs 7 - 12 (as ssp. of *Hesperia serratulae*). YUGOSLAVIA: 2 ♂ , 2 ♀ Sts, Cetinje, Montenegro. [Prep. 14051]. **bedei** Loritz, 1951: 231 (as ab. of *Erebia euryale adyte*). FRANCE: Ht ♂ , Col-Colombart. **benacensis** Warren, 1933: 40 (as ssp. of *Erebia ottomana*). ITALY: 7 ♂ Sts, Monte Baldo. [Preps 15167, 15168]. Primary homonym and synonym of *E. tyndarus benacensis* Dannehl, 1933.*__berninae__ Warren, 1939: 96 (as ssp. of *Erebia pluto*). SWITZERLAND: Ht ♂, 12 ♂ , 3 ♀ Pts, Val Minor, Grisons; 5 ♂ , 1 ♀ Pts, Schafberg. Grisons; 1 ♂, 1 ♀ , Languard Tal, Grisons. *__boehmerwaldensis__ Warren, 1930a: 147 (as race of *Erebia euryale);* 1936: 58. W. GERMANY: 2 ♂ , 1 ♀ Sts, Mader, Böhmerwald. [Prep. 15142].*__bureschi__ Warren, 1933: 40 (as ssp. of *Erebia ottomana*); 1936: 282, pl. 89, figs 1296, 1297, 1302. BULGARIA: 5 ♂ , 1 ♀ Sts, Ali Botusch, Macedonia, S. Perim Mts.*__campestris__ Warren, 1955: 231 (as ssp. of *Erebia cassioides*). AUSTRIA: Ht ♂ , 9 ♂ , 3 ♀ Pts, Path to Hochalmblick Hut, Carinthia; 8 ♂ , 2 ♀ Pts, Jamnig Alp, Carinthia. [Preps 15894, 16036, 16041, 16044, 16045, 16046, 16058]. **cebennica** de Lesse, 1947: 105 (as race of *Erebia epiphron pyrenaica*). FRANCE 1 ♂ Pt, Gard, Mt Aigoual.*__chapmani__ Warren, 1926: 41, pl. 11, figs 5-10 (as sp. of *Hesperia*). USSR: 1 ♂ , 1 ♀ Sts. Sajan Mts. [Preps 14191, 16136]. **churchillensis** Warren, 1936: 388 (as ♀ f. of *Erebia theano canadensis*). CANADA: Ht ♀ , Ft Churchill, Manitoba.*__clorinda__ Warren, 1927: 81 (as ssp. of *Hesperia cinarae).* SPAIN: 1 ♂ St, Tragacete; 1 ♂ St, Huelamo; 1 ♀

* Department of Entomology, British Museum (Nat. Hist.), London.

St, Villacabras. [Prep. 14150]. **confusa** Warren, 1930b: 27 (as ab. of *Erebia dabanensis*); 1936: 246, pl. 84, figs 1179, 1185. USSR: Ht ♀, Mondy, Sajan Mts.*__connexa__ Warren, 1930b: 28 (as ssp. of *Erebia pawloskii*); 1936: 233, pl. 82, figs 1139, 1140, 1145, pl. 40, fig. 372. MONGOLIA: Ht ♂, 1 ♂ Pt, Schawyr, Tannuola Mts. [Preps 14908 (Ht), 14912].*__coreanus__ Warren, 1957: 371, pl. 2, fig. 23 (as ssp. of *Pyrgus malvae*). KOREA: Ht ♂, 2♂, 3 ♀ Pts, Hakugan; 1 ♀ Pt, Kantairi. [Preps 16154-16159 (Pts), 16160 (Ht)]. **cribelloides** Warren, 1926: 156, pl. 58, figs 1, 4, 8 (as ab. of *Tuttia tessellum).* USSR: 1 ♂, 1 ♀ Sts, Uralsk; 1 ♂ St, Sarepta. [Preps 14075, 14188]. **crollensis** de Lesse, 1947: 110 (as race of *Erebia gorge gorge).* FRANCE: 1 ♂, 1 ♀ Pts, Dent de Crolles.*__demmia__ Warren, 1936: 235 (as ssp. of *Erebia theano).* USA: 1 ♂, 1 ♀ Pts, Colorado, N. Ridge Chicago Bas. Tr., Laplata Co.*__dissimulata__ Warren, 1931a: 169 (as ssp. of *Erebia embla*); 1936: 167, pl. 75, fig. 962, pl. 34, fig. 320. USSR: 1 ♂, 1 ♀ Sts, Sajan Mts. [Prep. 15150].*__dolomitica__ Warren, 1936: 192 (as ssp. of *Erebia medusa*). ITALY: 8 ♂, 5 ♀ Sts, Dolomites, Prossliner Hut, Seiser Alp; 4 ♂, 1 ♀ Sts, Karer Pass, Ostertag Hut.*__durmitorensis__ Warren, 1932: 166 (as race of *Erebia ottomana)*; 1936: 283. YUGOSLAVIA: 5 ♂, 1 ♀ Sts, Montenegro, Durmitor. **elisabethae** Warren, 1936: 267 (as f. of *Erebia gorge gorge*). ITALY: 16 ♂ Sts, south-western end of the Rosengarten range in the Dolomites. **exannulata** Warren, 1936: 288 [footnote] (as ab. of *Erebia tyndarus*). SWITZERLAND: 1 ♀ St, Simplon Pass. **extensa** Warren, 1920: 51 (as ab. of *Hesperia alveus*); 1926: 122, pl. 38, figs 7-12. SWITZERLAND: 1 ♂ St, Tanay; 1 ♂ St, Gemmi Pass; 2 ♂ Sts, Lenzerheide; 1 ♂ St, Albula Pass; 1 ♂ St, Zermatt. **extensa** Warren, 1920: 51 (as ab. of *Hesperia amoricanus*); 1926: 127. SWITZERLAND: 1 ♂ St, Follaterre. **extensa** Warren, 1920: 51 (as ab. of *Hesperia carlinae)*; 1926: 105, pl. 35, figs 7-11. SWITZERLAND: 1 ♂ St, Kandersteg; 1 St, Simplon; 1 ♂ St, Val d'Hérens. 1 ♂, 1 ♀ Sts, no locality. **extensa** Warren, 1920: 51 (as ab. of *Hesperia serratulae)*; 1926: 100, pl. 30, fig. 4. SWITZERLAND: 1 ♂ St, Kandersteg. **fasciata** Warren, 1926: 106, pl. 35, fig. 12 (as ab. of *Hesperia carlinae*). 1 ♀ St, no locality. **fasciata** Warren, 1926: 48, pl. 13, fig. 8 (as ab. of *Hesperia centaureae*). USSR: 1 ♀ St, Altai. [Prep. 16131].*__festiva__ Warren, 1931a: 170 (as ssp. of *Erebia disa*); 1936: 171, pl. 37, figs 975, 976, 981, 982, pl. 34, fig. 322. USSR: Lt ♂, 1 ♀ Plt, Yablonoi Mts. [Prep. 15151]. Lt. des Warren, 1936: pl. 75. *__fogarasica__ Warren, 1931: 99 (as race of *Erebia aethiops*); 1936: 143, pl. 71, figs 868, 874. HUNGARY: 1 ♂ St, Fogaras Mts. [Prep. 15120].*__freija__ Warren, 1924: lvi (as sp. of *Hesperia);* 1926: 52, pl. 14, figs 5, 6. SWEDEN: 1 ♀ St, Lapland. [Prep. 16086]. **frigida** Warren, 1944: 46, pl. 32, figs 168-177, pl. 14, figs 52, 54-56, pl. 15, figs 57-59 (as f. of *Boloria napaea napaea*). NORWAY. Ht ♂, 3 ♂ Pts, Maalselven. [Preps 15469 (Ht), 15470-15472].*__gavarniensis__ Warren, 1913: 276 (as sp. of *Erebia*). FRANCE: 7 ♂, 6 ♀ Sts, Val d'Ossue, Gavarnie.*__gavarniensis__ Warren, 1926: 139, pl. 49, figs 6-8 (as race of *Powellia sertorius*). FRANCE: 14 ♂, 1 ♀ Sts, Gavarnie. [Preps 14225, 14226].*__guadarramensis__ Warren, 1925: 77 (as race of *Powellia sao*); 1926: 139, pl. 50, figs 1-8. SPAIN: 1 ♂ St, La Granja.

*herculeana Warren.1931b: 49 (as race of *Erebia ligea*); 1936: 47, pl. 58, figs 538, 539, 544-548, 551, 552, pl. 24, fig. 243. HUNGARY: 2 ♂Sts, Herkülesfürdö. **ignotoides** Warren, 1937: 14 (as ab. of *Erebia alcmena minschani* f. *szetschwana*). CHINA: Ht ♂ , 2♂ Pts, Kansu mer. or., Lihsien, Peilingschan. [Prep. 15281 (Pt)]. **immaculata** Warren, 1926: 70, pl. 23, fig. 1 (as ab. of *Hesperia carthami*). SWITZERLAND: 1♀ St, Follaterre.* **inalpina** Warren, 1949: 103 (as ssp. of *Erebia sudetica*). SWITZERLAND: Ht ♂ , 1♂ , 1♀ Pts, Grindelwald; 1♂ Pt, Bern. Alp; 1♂ Pt, Gt Scheidegg. [Preps 15647, 15652, 15669].*ioan Warren, 1926: 42, pl. 12, figs 3, 4 (as sp. of *Sloperia*). TURKEY: 2 ♂ Sts, Mardin, Taurus Mts. SYRIA: 1♀ St. 1♂ St, no locality. [Preps 14076, 14189, 14190].*jurassica Warren, 1926: 121, pl. 42, figs 9-12 (as race of *Hesperia alveus*). SWITZERLAND: 1♂, 1♀ Sts, Geneva; 1♂, 2♀ Sts, Eclépens. [Preps 15811, 15812]. **lanceolata** Warren, 1933a: 23 (as ab. of *Erebia dabanensis*); 1936: 247, pl. 84, fig. 1180. USSR: Ht ♀ , Sajan Mts.*lozerica Warren, 1932: 165 (as ssp. of *Erebia neoridas*); 1936: 345, pl. 96, fig. 1476. FRANCE: 2 ♂ , 1♀ Sts, Mende, Causse, Lozère. [Preps 15105, 15106].*mediterranea Warren, 1933a: 23 (as ssp. of *Erebia aethiopellus*); 1936: 275, pl. 88, figs 1271, 1272, 1277. ITALY-FRANCE: 5♂ Sts, Limone Pass. FRANCE: 3♂ Sts, St Martin, Vesubie. [Preps 14714-14716, 15096].*microcarthami Verity, 1928: 140 (as nom. nov. for *Hesperia carthami pyrenaica* Warren, 1926, a primary homonym of *Hesperia malvae pyrenaica* Tutt, 1906). See *pyrenaica* Warren. **novaki** Moucha, 1956: 64 (as f. *Pieris bryoniae marani*). CZECHOSLOVAKIA: 1♂ , 2 ♀ Pts, Belanské Tatry. **obliterata** Warren, 1931a: 168 (as ab. of *Erebia jeniseiensis*); 1936: 75, pl. 63, figs 668, 674, pl. 26, fig. 258. USSR: Ht ♂ , Sajan Mts. [Prep. 15149]. **passosi** Warren, 1968: 63, pl. 4, figs 3-6 (as sp. of *Pieris* [hybrid *P. oleracea* x *P. hulda*]). USA: 2 ♂ , 1 ♀ Sts, Alaska, Palmer. **penultima** Warren, 1936: 239 (as ab. of *Erebia theano pawloskii*). USSR: 1♂ St, Sajan Mts. **punctata** Warren, 1913: 277 (as ab. of *Erebia manto*); 1936: 89, pl. 65, fig.706. SWITZERLAND: 1♀ St, Rochers de Naye.*pyrenaica Tutt, 1906: 225, 296 (as var. of *Hesperia malvae*); Warren, 1926: 81. FRANCE: 1♀ St, Vernet-les-Bains. **pyrenaica** Warren, 1926: 69, pl. 23, figs 9, 10 (as race of *Hesperia carthami*) (homonym; name replaced by *microcarthami* Verity, 1928). FRANCE: 6 ♂ , 1♀ Sts, Gavarnie. **pyrenesmiscens** Warren, 1944: 79, pl. 44, figs 296, 297, pl. 45, figs 298-301, pl. 27, figs 134, 135, pl.28, figs 136-141 (as ssp. of *Boloria pales*). FRANCE: Ht ♂ , 8 ♂ , 10♀ Pts, Gavarnie; 1♂ Pt, Eaux Bonnes. [Preps 15467 (Ht), 15421, 15423-15426, 15464-15466, 15468]. Junior homonym and subjective synonym of *Boloria pales pyrenesmiscens* Verity,1932. **reducta** Warren, 1920: 51 (as ab. of *Hesperia andromedae*); 1926: 54, pl. 17, figs 10-12. SWITZERLAND: 1♂ St, Lenzerheide; 2♂ Sts, Kandersteg. **reducta** Warren, 1920: 51 (as ab. of *Hesperia cacaliae*); 1926: 59, pl. 19, figs 3-5, 9, 10. SWITZERLAND: 1♂ St, Lenzerheide; 1♂ St, Parpaner-Rothorn; 1 ♂ St, Upper Engadine; 2 ♀ Sts, Stätzerhorn. **reducta** Warren, 1920: 51 (as ab. of *Hesperia carthami*); 1926: 70, pl. 23, fig. 7. SWITZER-

LAND: 1♂ St, Branson. **reducta** Warren, 1920: 51 (as ab. of *Hesperia onopordi*); 1926: 90, pl. 27, fig. 5. 1♂ St, no locality. **retyezatensis** Warren. 1931b: 51 (as race of *Erebia epiphron transsylvanica);*

(To be concluded)

UNDUE ALARM OVER PARASITISM (HYM.) OF CLOSTERA ANACHORETA (D. & S.). – With reference to K. G. W. Evans' speculation *(Ent. Rec.* **92**: 253) that the hymenopterous parasites which attack young larvae of *Leucoma salicis* (L.) and *Euproctis* species at Dungeness, Kent, may turn their attentions to *Clostera anachoreta* (D. & S.). I wish to point out that because most of the parasites of these economically important and therefore well-studied lymantriids are highly restricted in host range, this interesting possibility is unlikely to come to much. On my only visit to Dungeness (2.vii.1979) I saw *E. chrysorrhoea* (L.) only as pupae, but I collected large samples of *L. salicis* (L.) and *E. similis* (Fuessly) larvae purely to investigate their parasites. From *L. salicis* I reared two species of Braconidae: *Apanteles melanoscelus* (Ratzeburg), known to be confined to certain Lymantriidae, and *Aleiodes pallidator* (Thunberg) which is completely host-specific to *L. salicis. (A. pallidator* was previously known in Britain only from the Lancashire coast (Shaw, *Ent. mon. Mag.* **113**: 81) but in 1979 I reared it from *L. salicis* at Portsmouth as well as Dungeness, and it now seems likely that it will prove to be widespread among long-established populations of its host). From *E. similis* I reared two different braconids: *Apanteles inclusus* (Ratzeburg) and *Protomicroplitis connexus* (Nees), which are both restricted to *Euproctis* species. There are undoubtedly other Braconidae *(Apanteles lacteicolor* Viereck and *Meteorus versicolor* (Wesmael) spring to mind) and Ichneumonidae that attack Lymantriidae among a range of more or less hairy arboreal caterpillars which may (or not) include *C. anachoreta,* but I found no evidence that these rather less host-specialised parasites occur at Dungeness. Just as the good Mr. Evans smarts when collectors are blamed by the ignorant for despoiling animal life, I feel bound to wince on behalf of parasitic Hymenoptera when they are unfairly accused of causing real or, as in this case, imaginary declines of Lepidoptera. May I just add that I would be extremely pleased to be sent any parasites reared from *C. anachoreta* or, indeed, any other host. – Dr. M. R. SHAW, Department of Natural History, Royal Scottish Museum, Edinburgh EH1 1JF.

UNUSUAL FEEDING OF COLEOPHORA IBIPENNNELLA ZELLER. – On 10th April 1981 at Keston Common, N. W. Kent, I noticed a small case of *Coleophora ibipennella* Zell. on a male catkin of birch *(Betula pendula* Rott.). The tree was in leaf, but there were no obvious signs of feeding on the adjacent leaves. Subsequent examination under a microscope showed that the larva was feeding on the catkin, but consuming only the stamens. Feeding continued in this manner for two days, by which time the pollon had ripened, and the larva moved on to a leaf. – PAUL SOKOLOFF, 4 Steep Close, Orpington, Kent.

LEPIDOPTERA OF ABERDEENSHIRE AND KINCARDINESHIRE

By Dr. M. R. YOUNG * R. M. PALMER ** and Dr. P. D. HULME ***

3rd Appendix

The following list is intended to bring up to date the list of lepidoptera in Vice Counties 91-93. The main list contains details of 26 spp. which are recorded for this first time and 17 rediscovered species which are mentioned in the old lists of William Reid and others (these old records are included). Three corrections to previously published data have also been made. Additional information has been provided on some of the macrolepidoptera which were included in previous parts of the list but which are rare or extremely local. A supplementary list contains species which, whilst not new to the area as a whole are previously unrecorded from one or more of the Vice-counties therein. All the records have been gathered since the publication of the previous appendices *(Ent. Rec.* **89**, 239 (1977) and *Ent. Rec.* **90**, 237 (1978)) and are those of the authors unless otherwise indicated. In addition to thanking those whose names appear in the text for their records the authors acknowledge with much thanks the continued help of E. C. Pelham-Clinton who has identified many of the species.

(1) NEW OR RE-DISCOVERED SPECIES

[*Eriocrania haworthi* Bradl. Mis-identification, there are no recent records of this species]
– substitute:
E. unimaculella Zett. S. A. Skene.

Lampronia praelatella D. & S. S. A. Recorded from Newburgh by D. Hockin *(Ent. Rec.* **91**, 285).

Bucculatrix nigricomella Zell. K. Muchalls.

Calybites auroguttella Steph. Braemar (Cruttwell, 1907) K. St. Cyrus N. N. R., bred from larvae on *Hypericum perfoliatum.*

Phyllonorycter messaniella Zell. S. A. Aberdeen, bred from mines on *Quercus ilex.*

P. emberizaepenella Bouche N. A. Woodhead nr. Fyvie, bred from mines on *Lonicera periclymenum.*

P. geniculella Rag. K. St. Cyrus N. N. R., bred from mines on *Acer pseudoplatanus.*

Argyresthia semitestacella Curt. S. A. Inverurie (The old record of Reid (1893) – not uncommon among birch – suggests a mis-identification).

Cedestis gysseleniella Zell. S. A. Near Aberdeen (Reid 1893); Dinnet Muir N. N. R., bred from spinnings on *Pinus sylvestris.*

* Department of Zoology, University of Aberdeen.
**2 Glenholme Gardens, Dyce, Aberdeen.
***10 Nethermains Road, Muchalls, Kincardineshire.

Ocnerostoma piniariella Zell. S. A. Braemar (Cruttwell, 1907); Dinnet Muir N. N. R., bred from mines on *Pinus sylvestris.*

Coleophora gryphipennella Hb. K. St. Cyrus N. N. R., cases on *Rosa* sp..

C. idaeella Hofm. K. Powlair, nr. Strachan bred from cases on *Vaccinuim vitis-idaea.*

C. juncicolella Stt. S. A. Dinnet Muir, Tyrebagger Forest, Elrick Hill; cases common on *Calluna vulgaris.*

[*C. frischella* Linn. Delete this species]
substitute:

C. paripennella Zell. S. A. Aberarder; bred from cases on *Cirsium heterophyllum,*
N. A. Ellon; bred from cases on *Centaurea nigra.*

Elachista subocellea Steph. K. St. Cyrus N. N. R..

Biselachista eleochariella Stt. N. A. Wartle Moss.

Esperia sulphurella Fabr. N. A. Loch of Strathbeg (S. Palmer).

Diurnea phryganella Hb. S. A. Dinnet oakwood N. N. R..

Depressaria badiella Hb. K. St. Cyrus N. N. R. (M. Harper).

D. weirella Stt. K. St. Cyrus N. N. R..

Monochroa tenebrella Hb. N. A. Clashindarroch Forest.

Teleiodes notatella Hb. S. A. near Kemnay,
N. A. Wartle Moss.

T. sequax Haw. Near Aberdeen (Reid, 1893). K. Muchalls and Dunnotar; bred from larvae on *Helianthemum chamaecistus.*

Reuttia subocellea Steph. K. St. Cyrus N. N. R..

Capua vulgana Frol. S. A. Drum Castle woods and nr. Monymusk.

Olethreutes olivana Treits. Aberdeen links (Reid, 1893),
N. A. Wartle Moss.

Hedya nubiferana Haw. K. St. Cyrus N. N. R.,
S. A. Udny.

[*Endothenia oblongana* Haw. – delete] the inclusion of this species was the result of mis-interpretation of the old nomenclature – substitute:

E. marginana Haw. S. A. Dinnet Muir N. N. R., one, 1971 (E. C. P.– C.).

Anclyis uncella D. & S. S. A. Near Aberdeen (Reid, 1893); Dinnet Muir N.N.R..

Epinotia immundana F. v R. Braemar (Reid, 1893),
N. A. Loch of Strathbeg.

E. fraternana Haw. S. A. near Kemnay.

Epiblema farfarae Fletch. Near Aberdeen; Pitcaple, common among *Tussilago farfara* (Reid, 1893),
K. S. Cyrus N. N. R..

Cydia internana Couen. K. Forest of Birse.

Eudonia pallida Curt. N. A. Loch of Strathbeg (S. Palmer); Wartle Moss.

E. lineola Curt. Near the mouth of the River Don (Reid, 1893),
K. St. Cyrus N. N. R..

Nomophila noctuella D. & S. Generally rare (Reid, 1893b), S.A. Aberdeen 9.6.80 one, N.A. Loch of Strathbeg 8.79, 8.80 (S. Palmer).

Ephestia cautella Walk. S.A. Aberdeen, one, 18.11.79.

Amblyptilia punctidactyla Haw. Braemar (Reid, 1893), N. A. Woodhead nr. Fyvie.

Idaea dimidiata Hufn. K. near Stonehaven (Dalglish, 1894); St. Cyrus N. N. R..

Xanthorhoe ferrugata Cl. Kintore (Cowie, 1902), N. A. Wartle Moss.

Eupithecia valerianata Hb. S. A. Near Monymusk, bred from larvae on *Valeriana officinalis.*

Clostera curtula Linn. S.A. Muir of Dinnet N.N.R., (P. Marren, *Ent. Rec.* **92**, 154).

Diaphora mendica Cl. K. Common in Kincardineshire (Reid, 1893); Cove Bay, larvae not common, usually on *Plantago lanceolata.*

Ochropleura fennica Tausch. N. A. Barthol chapel, one, 20.8.77 (Marsden, C. & Young, M. R. *Ent. Rec.* **90**, 84).

Sideridis albicolon Hb. Aberdeen links (Reid, 1893), K. St. Cyrus N. N. R. (N.C.C. survey), N.A. Cruden Bay (N.C.C. survey).

Lacanobia contigua Rare, Banchory (Reid, 1893), S.A. Dinnet Muir N. N. R. (P. Marren, *Ent. Rec.* **92**, 154).

(2) ADDITIONAL RECORDS OF SCARCE OR MIGRATORY SPECIES

Colias croceus Geoffr. S. A. Bay of Nigg, one, 28.9.80 (P. Mills).

Erebia aethiops Esp. Although this butterfly is much scarcer here than in the neighbouring counties of Banffshire and Inverness, two further colonies are now known in western parts of Aberdeenshire. Near Braemar where it was recorded by Trail (1878) the butterfly was seen again in 1978, and it is also found at New Aberdour.

Orthonama vittata Borkh. N. A. Loch of Strathbeg (S. Palmer).

Eupithecia centaureata D. & S. K. St. Cyrus N. N. R. (D. Carstairs).

Cleorodes lichenaria Hufn. S. A. Near Monymusk, N. A. Loch of Strathbeg (S. Palmer).

Omphaloscelis lunosa Haw. N. A. Sands of Forvie N.N.R. (R. Davies).

Mormo maura Linn. N. A. Sands of Forvie N. N. R. (R. Davies).

Apamea exulis Le Feb. S. A. Udny, one, 26.8.77.

Plusia putnami gracilis Lempke. N. A. Loch of Strathbeg (S. Palmer).

(3) SUPPLEMENTARY LIST OF NEW VICE-COUNTY RECORDS

(a) New to Kincardineshire (91: *Elachista luticomella* Zell., *Scrobipalpa samadensis plantaginella* Stt., *Dichrorampha acuminatana* L. & Z.

(b) New to S. Aberdeenshire (92): *Stigmella floslactella* Haw., *Phyllonorycter kleemannella* Fabr., *Philedone gerningana* D. & S., *Epinotia nisella* Cl., *Eudonia angustea* Curt..

(c) New to N. Aberdeenshire (93): *Incurvaria pectinea* Haw., *Parornix loganella* Stt., *P. torquilella* Zell., *Phyllonorycter quercifoliella* Zell., *P. corylifoliella* Hb., *Elachista kilmunella* Stt., *E. alpinella* Stt., *E. pulchella* Haw., *E. bisulcella* Dup., *Schiffermuelleria similella* Hb., *Agonopterix angelicella* Hb., *Exoteleia dodecella* Linn., *Caryocolum marmoreum* Haw., *Mompha locupletella* D. & S., *Pancalia latreillella* Curtis., *Clepsis spectrana* Treits., *Acleris sparsana* D. & S., *A. rhombana* D. & S., *Olethreutes mygindiana* D. & S., *Eudonia truncicolella* Stt..

(d) Species now recorded from all three Vice-counties: *Trifurcula immundella* Zell., *Stigmella anomalella* Goeze, *S. hybnerella* Hb., *S. magdalenae* Klim., *Aspilapteryx tringipennella* Zell., *Parornix scoticella* Stt., *Phyllonorycter oxyacanthae* Frey, *Argyresthia curvella* Linn., *Pseudoswammerdamia combinella* Hb., *Ypsolopha dentella* Fabr., *Plutella porrectella* Linn., *Epermenia chaerophyllella* Goez, *Coleophora albicosta* Haw., *C. murinipennella* Dup., *C. alticolella* Zell., *Elachista apicipunctella* Stt., *E. rufocinerea* Haw., *Depressaria daucella* D. & S., *Agonopterix ciliella* Stt., *Bryotropha similis* Stt., *Scobipalpa acuminatella* Sirc., *Acompsia cinerella* Hb., *Ypsolopha dentella* Fabr., *Plutella porrectella* Linn., *Epermenia chaerophyllella* Goeze, *Coleophora albicosta* Haw., *C. murinipennella* Dup., *C. alticolella* Zell., *Elachista apicipunctella* Stt., *E. rufocinerea* Haw., *Depressaria daucella* D. & S., *Agonopterix ciliella* Stt., *Bryotopha similis* Stt., *Scrobipalpa acuminatella* Sirc., *Acompsia cinerella* Cl., *Hypatima rhomboidella* Linn., *Clepsis senecionana* Hb., *Acleris variegana* D. & S., *Apotomis betuletana* Haw., *Lobesia litoralis* H. & W., *Epinotia subocellea* Don., *Rhopobota naevana* Hb., *Dichrorampha plumbana* Scop., *Pyla fusca* Haw..

HELOPS CAERULEUS L. (COL.): CORRIGENDUM AND ADDENDA – There is a misprint in the last line of my recent notes on this species (footnote, *antea:* 276): for *melanus* read *melanura.*

When writing these notes I unfortunately omitted to consult a relevant work – Brendell, M. J. D., 1975, *Handb. Ident. Brit. Ins.*, **5**(10) – in which (p.8) further records are given appearing to extend the range of *H. caeruleus* beyond that generally recognized earlier. The farthest north is for Carlisle (before 1907) – possibly originating from introduced pit-props? – and another, more remarkable perhaps, for the Isle of Man. However, these two far-north occurrences, with no others on the west side between them and South Wales, suggest casual introductions outside the natural range. Mr. Brendell gives also a record for S. Lincs., probably the north-eastern limit; and for two more inland counties, Cambs. and Herts. – A. A. ALLEN.

THE CANARY ISLANDS REVISITED IN 1979

By H. G. Allcard, F.R.E.S.* and
Anthony Valletta, F.R.E.S.**

As early as the last week in February we planned a two-week holiday in the Canary Islands for the last week of August and the first of September. This time we left together from Manchester on the morning of the 23rd August. At 8.40 we were already in the air and at 13.15 we landed at Los Rodeo airport in Tenerife where we intended to spend our holiday and observe the insect fauna.

We stayed at the same hotel as in 1977 because it was easier for us to visit the wooded mountains in the north of the island. By 2.15 we were in the hotel at Santa Cruz, and while enjoying a cup of tea on the lawn of the hotel and drawing up the programme for the next day, we noticed a slow moving shadow on the turf, and looking up saw the first butterfly which happened to be *Danaus plexippus* (L.). It was flying in the direction of the huge African Tulip Tree *(Spathodea campanulata)* which was covered with beautiful, red flowers and adorned a section of the hotel gardens. Not much later, we also saw another butterfly, this time the African migrant *Catopsila florella* Fab., sipping the flowers of the bougainvillea. Later inthe afternoon we visited the nearby park and there, on almost every Cassia bush, we saw several empty cases of pupae of this butterfly on the defoliated branches. This butterfly was first recorded in Tenerife in November of 1966 with the introduction of a species of Cassia from Ethiopia, and since then it has settled also in the Gran Canaria and La Palma. It gives several broods and it is interesting to note that the female may be whitish or yellowish. In Tenerife, wherever there is a Cassia, one may find the eggs or the larva quite easily.

Later in the evening we had a call from our friend Sẽnor Morales, who told us that the Director of the Natural History Museum, Dr. Josef M. Fernandez was seriously ill and that there was no hope of seeing him again at the Museum, in fact at 8.30 a.m. of the following day, we had a telephone call and he informed us that Dr. Fernandez passed away during the night. This was not at all good news, as we were always welcomed at his office whenever we called.

Friday the 24th. We tried to visit Monte de las Mercedes 900m. and some 20 km. away, the habitat of the endemic and most beautiful butterfly *Gonepteryx cleobule* Huebner, but as we overpassed the old city of La Laguna and were half way up the mountain, we noticed, as in 1977, that clouds were moving in and very soon we found ourselves enveloped in thick mist. Thus we had to go back and try another locality. We decided to take the road which leads to Teide the highest mountain in the island which is about 12,000ft high, and reaching a height of about 2000m, we found ourselves

* Gainsborough, Park Drive, Hale, Altrincham, WA 15 9DH.
** 257, Msida Street, B'Kara, Malta.

above the clouds in bright sunshine surrounded by the greenery of *Pinus insignis* and *P. canariensis.* It was very hot and being somewhat thirsty we walked to the popular fountain but hardly had we turned on the tap than hundreds of bees and wasps, coming as if from nowhere, swarmed to the flowing water which made it impossible for us to open our mouths unless we risked swallowing a couple of these stinging insects! In 1977, this locality was the best place for the other endemic butterfly *Pseudotergumia wyssii* Christ., but this time only two worn females were seen. On the bushes we noticed a good number of the lycaenid *Cyclyrius webbianus* Brullé, and now and again, *Colias crocea* Fourc. crossed the road at a reasonable speed, but no more butterflies were seen that day.

Saturday the 25th. We took the coach to Puerto de la Cruz some 38 km. away, as the mountains were still covered by clouds. It was an enjoyable drive, as one could admire the ever changing views of the countryside and the sea, and the extensive plantations of banana trees, especially in the valley of Orotava. It soon became cloudy when we reached our destination. We walked towards Taoro Park, passing by so many villas with the front gardens nicely planted with all sorts of flowering bushes and climbers. *Danaus plexippus* was flying slowly from garden to garden as if choosing the best flower to get the best drink. Projecting from the railings of one of these gardens, we noticed the flowers of the milkweed *(Asclepias curassavica)* and strange enough, we counted nine larvae of different sizes feeding lavishly on the leaves and dropping their excreta on the pavement. Further on, flying a few centimetres above the ground on some rubbish dumped in a secluded corner, we noticed several restless *Ziziera knysna* Trimen flying from one place to another as if they were after a mate. When we reached the park we just stared at each other! What a change! What was an attraction to so many insects is now a parking place, and several pitches for different kinds of sport; but still the flowering climbers of bougainvillea and plantago which cover the wire-netting of the tennis courts, and the bushes of the lantana and hibiscus along the pathways still attract a few butterflies; in fact we saw odd specimens of *C. florella, P. rapae, P. daplidice, L. phlaeas, A. cramera* and *D. plexippus.* The micros *Hymemia recurvalis* Fab. and *Duponchelia fovealis* Zeller were very common on the lantana. The huge fly *Promachus vexator* Beck (Diptera: Asiliidae) was seen resting on dry branches. Very few butterflies were seen this time and only one species of hymenoptera – *Bombus terrestris canariensis.* As regards other insects, the grasshoppers *Aiolopus strepens* (Latr.) and *Acrotylus patruelis* (H.-S.) could not be missed.

We wondered why *P. cheiranthi* Huebner was so rare on this occasion and after some time looking for eggs on Nasturtium – *(Tropaeolum majus)* we still could not find any.

Sunday the 26th. A sunny day with a clear sky. We left the hotel at 10.30 a.m. and drove to Monte de las Mercedes. One could see La Palma in the distance. As the day got warmer the beautiful *G. cleobule* Huebner started to fly about, resting now and again on the flowers of the endemic *Cedronella canariensis* and on those

of *Rubus ulmifolius* Schott. As this mountain is one mass of *Rhamnus glandulosa,* the foodplants of this species, this is the best habitat. Other species seen that day were *C. crocea, P. rapae. P. xiphioides, L. phlaeas* and *C. webbianus.* The micros *Agriphila trabeatellus canariensis* Rebel and *Uresiphita polygonalis* Hubn. were quite common. Other commoh insects were *Bombus terrestris canariensis* and the Sand Wasp. *Podalonia tydei* Guill. (Hym. Sphecidae); whilst the former was after the flowers available, the latter, in various sizes, was hopping or walking on the bare ground looking for its prey. Flying at a reasonable height, we also came across the small endemic long-horn beetle, *Leptura palmi* (Col. Cerambycidae).

Monday the 27th. The weather kept fine so we visited another locallity north of the Las Mercedes, Las Carboneros. As we arrived there close to noon, the sun was fairly hot though at an altitude of 800 m. and the butterflies seemed quite thirsty as they tried to visit every flower that came their way, especially *Cedronella* and *Hypericum.* Again *G. cleobule* was seen quite often especially females. *P. xiphioides* was emerging and perfect males flew about short distances to return to the same place as we walked on. Here we came across *Maniola jurtina fortunata* Alph., all females which had already passed their best and a single *Lampides boeticus.*, also, a female *C. webbianus* patronised certain bushes and *C. crocea* and *P. rapae* kept flying from one direction to another always at a good speed. At 16.00 we returned to the hotel.

Tuesday the 28th. Prof. J. Bacallado of the University of La Laguna took us for a drive to different localities. The first stop was at Lagunetas 1400 m.: unfortunately it was very windy there and no butterflies were on the wing except odd specimens of *C. webbianus* in a cosy spot. We noticed a few species of Orthoptera: *Mantis religiosa* L., *Oedalus decorus* (Germ.), *A. strepens* (Latr.) and *Calliptamus plebeius* (Walk.). The next visit was to Cumbe de Arafo 1700 m. We could hardly recognise the locality, as a wide road had been constructed since our last visit in 1977 through a good part of it, which when visited then produced a lot of wild flowers and plenty of Lycaenids. This time there were more grasshoppers about than butterflies. We saw only a couple of *A. cramera* (Ersch.) and a few *L. phlaeas.* Missing were the endemic beetle *Heteger transversus* Brullé, and the large earwig *Annisolatus maxima Brullé.* As we were close to the fountain we visited on the 24th, we tried to have another look for *P. wyssii* but not a single specimen was seen; however, the bees and the wasps were still there waiting for somebody to open the tap!

Wednesday the 29th. Though the mountains were clear, a strong fresh breeze was blowing making it difficult for the butterflies to fly. We tried a further locality on the other side of Pico del Inglis, but only fresh *P. xiphioides, C. crocea* and *P. rapae* were flying, all close to the ground. At a point, we saw a donkey on a long lead grazing; as soon as he saw us he sniffed heavily making a queer sound and all of a sudden a boy came out from a nearby cave and seeing two men he retired. We went back not to disturb the donkey.

After half-an-hour we returned to the same place and again as the donkey saw us he emitted the same noise; the boy looked out and went in again. This time we proceeded as we had to take that way; in the meantime a car appeared coming from behind and as soon as the donkey saw it he lustily brayed a cacophonic serenade. This time the boy jumped out and ran down the blind corner of the road. We noticed later that a cow was grazing down the road and the boy ran out to drive her aside . . . . an excellent watch-dog of a donkey, and a clever one too, using two different codes to give the alarm!

Thursday the 30th. Cloudy and windy; we stayed at Santa Cruz and in the afternoon visited the Museum of Natural History, where we were shown a few butterflies, which a member of an expidition patronised by the Museum to Cape Verde Islands that month had brought back with him; these included *Danaus chrysippus* L. and the form *alcippus, Hypolimnas misippus* male and female, *V. cardui, L. boeticus* and *Papilio demodocus* (one fresh and two worn.

Friday the 31st. We wanted to spend at least two days on the nearby island of Gomera, but unfortunately the only hotel at San Sebastian was all booked up, so the only alternative, was to go there for the day. This was somewhat risky, as so much depended on the weather. It was a tiresome venture too, as we had to get up at least at 6.00 a.m., take a light breakfast in our rooms, hire a taxi to drive us to the coach terminus to catch the 7.30 a.m. coach to Los Cristianos, a distance of 74 km. and take the 9.00 a.m. ferry-boat to San Sebastian, Gomera. The coach journey down south took over one hour and as all this area is very arid there was little to see of interest. We reached San Sebastian just after 11 a.m. The first thing was to hire a taxi and luckily enough, the driver understood quickly the purpose of our mission when we mentioned to him "El Cedro". The first impressions one forms of this island is a mass of high, barren mountain, but on penetrating further inland, one discovers that it is an island of contrast with varied relief and deep ravines. The drive up to El Cedro took us over 1½ hrs, going up and down along the only winding and narrow bends and tunnels. All the way the sky was overcast and we had little hope of seeing any insect on the wing; however, by 13.30, the clouds drifted away and the sun cheered us up. It was quite hot at 14.00. On the favourite flowers of the Cedronella, *G. cleobule* and *P. xiphioides* were enjoying a drink. We came across very few insects; *Bombus terrestris* was very common on the ubiquitous *Rubus ulmifolius* as well as *Cerceris concinna* Brulle; *Podalonia tydei* was seen several times. At 16.30 we had to leave El Cedro to be in time for the return ferry-trip at 18.00. By 20.30 we were back at Santa Cruz de Tenerife, tired but looking forward to a good dinner and a long rest.

Saturday the 1st September, turned out to be an exceptionally nice day. We were accompanied by Sĕnor M. Morales and his son who is studying botany. The mountains were very clear, so we had an 8 km. walk from Monte de las Mercedes to Las Yedras and Carboneras, which we did in four hours stopping now and again to

observe the different flora and fauna that we came across. *G. cleobule* was out in great numbers resting on every available flower, mostly on the Cedronella; we counted up to five specimens sipping on a single plant, and one could have taken any by the fingers had one wanted to. *M. jurtina fortunata* was still on the wing but all females and very worn, *P. xiphioides* was on the increase and females started emerging; *C. webbianus* and *C. crocea* were on the move as well. Here, besides the *Bombus,* we came across as singtons several species of hymenoptera, such as *Amegilla quadrifasciata* (Villiers), *Anthidium manicatum* (L.) and *Cerceris concinna* Brullé, all of which were visiting *Mentha pulegium* and in large number, *P. tydei.* The Diptera were represented by the Sirphids *Chrysotoxum triarcuatum (May)* and *Eristalis tenax* L.; the Tachinids by *Pseudogonia fasciata* Wied, *Gonia bimaculata* Wied and other species were *Villa nigrifrons* Macq. (Bombilidae) and *Chrysomyia albifrons* Wied (Calliphoridae). One could not escape the Orthoptera represented by *Aiolopus strepens* (Latr.), *Acrotylus patruelis* (H-S.) and *Ariagona margaritae* Kr. Sunday the 2nd. a day of rest. We had a late breakfast and later a walk down town.

Monday the 3rd. Once more we took the coach to Puerto de la Cruz. We roamed about the beautiful villas admiring the various climbers and bushes which at this time of the year were in full bloom. Aristolochia with flowers as big as a bread plate, Tecomas, Plumbagoes, Bougainvilleas of various shades, Poinsettias, Strelitzia, and Cassia which attracted *D. plexippus* and *C. florella.* However, *P. cheiranthi* was still conspicuous by its absence. We had a drink in the garden of one of the hotels and admired the paradise of flowers, the gigantic Cannas and Asters, the hanging Wisteria and the white flowers of the Datura, the foodplant of *Acherontia atropos,* but no larvae were seen as it was still too early.

Tuesday the 4th. As the day of our departure was getting nearer and nearer we could not resist the temptation to have another go on the mountains. Once more we visited the north side of the Mercedes. It was very hot and unfortunately A. V. forgot his hat at the hotel. There was nothing to do but to tie knots to the corners of the hankerchief and use it as a cap; still that was not enough. The hot rays of the sun forced him to find some shade but the only little space available out of the sun, was that provided by a notice-board which warned the holiday-makers "No tire cerillas, peligro de incendio". Whilst having a rest on a stone which other persons had used as an improvised seat to shelter from the sun, he felt something touching his wet hankerchief. . . believe it or not . . . it was a *G. cleobule* . . . was the the butterfly thirsty or inquisitive? The only butterfly not seen before was *C. crocea* var. *helicina.* Beating the vegetation we disturbed a few micros: *Agriphila trabeatellus canariensis* Rebel, *Pyrausta aurata* Scopoli, *Psara bipunctalis* Fab. and *Endotricha rogenhoferi* Rebel another endemic species.

Wednesday the 5th. . . the last day. As the following day we had to be at the airport by noon, we did not want to miss the last chance

of a clear day. Again we visited a part of the locality we explored on the 1st Sept. with Sēnor Morales. We came across the same species of butterflies but more females of *G. cleobule* were flying slowly in search of flowers. We also came across *L. boeticus.* The endemic long-horn *Leptura palmi* was more common and *P. xiphioides* was at its best. As clouds were moving in we decided to return to the hotel. Thus a restful and enjoyable holiday on the peaceful mountains of Tenerife came to an end, but as usual we had a delay in leaving Tenerife, though by 14.30 we were in the air and after a stop of 45 minutes at Santiago, we reached Manchester at 19.45.

Acknowledgements

Our thanks are due to Sēnor M. Morales Martin, Prof. J. J. Bacallado Aranega, Prof. A. Machado, Dr. G. Oretega and Dr. M. Baez for their help given to us during our short stay in their interesting island.

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THE DOTTED RUSTIC: RHYACIA SIMULANS HUFNAGEL IN LONDON A single specimen of this moth appeared at my trap here on the 30th July 1980. – R. A. SOFTLY, 12, Parliament Court, Parliament Hill, London N.W.3 2TS. [Our correspondent enclosed a coloured photograph of the specimen in question. The species appears to have increased its range in south-east England during the past few years, and we wonder if this is the first record of its occurrence in London. – J. M. C. -H.]

A FURTHER SYNONYM IN THE GENUS *CONICERA* MEIGEN WITH A REVISED LIST OF THE BRITISH SPECIES
(Diptera: Phoridae)

By R. H. L. DISNEY*

I have recently (Disney, 1980a, 1980b), reported new synonymies in th genus *Conicera* Meigen. The purpose of the present note is to report a further synonym and to provide a revised check list of the British species. Borgmeier (1963) remarks of the genus *Conicera* "mistakes are comprehensible in such a difficult genus". The findings of the present paper futher confirm my experience that the difficulties encountered in this genus have largely been created by taxonomists!

What is Conicera fallens Schmitz?

Schmitz (1953) separates the coffin fly, *C. tibialis* Schmitz, from *C. fallens* (and three other species) by the couplet "Vordertarsen ♂ nicht oder ganz unbedeutend langer als tI. Die *Conicera* der menschlichen Leichen und särge, auch im Freien . . . . . *tibialis* Schmitz. – Vordertarsen langer als tI, mindestens im Verhältnis 5 : 4 . . . . ."

Borgmeier (1963) likewise distingushes *C. tibialis* from *C. fallens* (and other species) on the relative lengths of the foretarsus and tibia thus "Fore tarsus subequal to tibia (9:8; ♂ ♀). . . . . *tibialis* Schmitz.

–Fore tarsus longer than tibia . . . . . ."

In the descriptions given by these authors the ratio of the foretarsus to the tibia is given as 1.12 – 1.13:1 in the male and 1.14:1 in the female for *C. tibialis.* In *C. fallens* the figure for the males is 1.25:1, and for the females 1.38:1.

In my collections I have a pair of this section of the genus *Conicera* caught *in copula* (at Chilmark, Wiltshire, 8 August 1977). The front leg ratios are 1.12:1 for the male and 1.24:1 for the female. Thus on the information given by Schmitz and Borgmeier the male is *C. tibialis* and the female is intermediate between *C. tibialis* and *C. fallens.*

In two males, indistinguishable from the above male in terms of genitalia and other features, from Germany (from Rhineland, sent to the author by Dr. M. Boness) the ratios are 1.22:1 and 1.12:1. That is to say the first is closer to *C. fallens* and the latter is in agreement with *C. tibialis*.

In view of this unsatisfactory situation I have recorded the ratios for a series of 48 males caught in a single day (3 June 1980) in one water trap set on the Tarn Close (Malham Tarn, North Yorkshire, Grid ref. 34/894671). The ratios varied from 1.02 – 1.29, with a mean of 1.14 (S.D. = 0.06). These flies were clearly a single species in terms of their genitalia and the sensory organ on the

*Malham Tarn Field Centre, Settle, North Yorkshire, BD24 9PU.

middle leg. The only other *Conicera* in the water trap were a single female of the same species and a single male of *Conicera similis* (Haliday). The observations on the males of the first species are plotted in Fig. 1. On the horizontal axis the fore-leg ratios for *C. tibialis* and *C. fallens,* according to the literature, are indicated. In the sample examined it is evident that the mean is just within the definition of *C. tibialis.* The definition for *C. fallens* is within the expected distribution about this mean but outside the limits of its standard deviation. This would account for the rarity of *C. fallens* in collections, and the data suggest, therefore, the *C. fallens* represents one extreme of a range of variation in *C. tibialis.*

In the light of the above observations I have examined (through the co-operation of Dr. H. Ulrich, Zoologisches Forschugsinstitut und Museum Alexander Koenig, Bonn) the holotype, a paratype and other specimens of *C. fallens* determined by the late Fr. Schmitz. I can detect no consistent difference between these and specimens of *C. tibialis.* I conclude, therefore, that *C. fallens* is a synonym of *C. tibialis.*

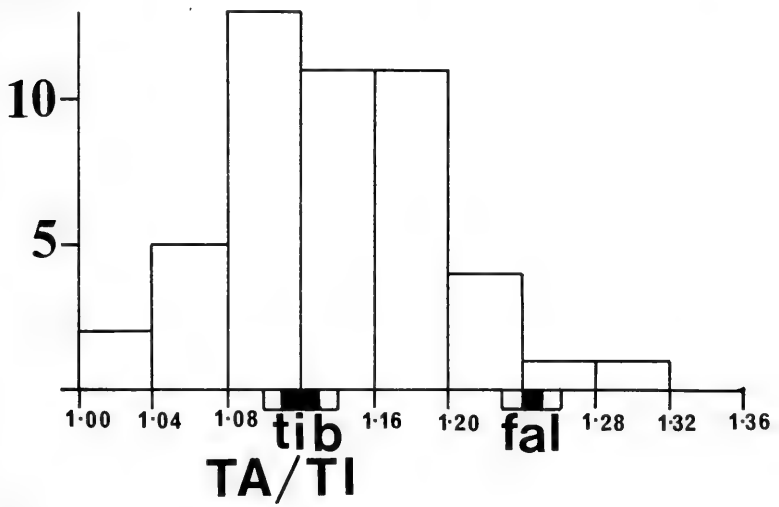

Fig. 1. Frequency histogram for ratio of foretarsus to foretibia (TA/TI) of the right forelegs of a sample of 48 *Conicera tibialis* procured in a water trap on 3 June 1980. tib = ratio for *C. tibialis* according to literature, fal = ratio for *'C. fallens'* according to literature.

Revised Check List of British Conicera

The latest Check List (Colyer and Smith, 1976) gives 9 species of *Conicera* for Britain. The following amended list gives 6 species as follows:

CONICERA Meigen, 1830
S. CONICERA S. S.
dauci Meigen, 1830)
atra (Meigen, 1830)

S. HYPOCERINA Malloch, 1913
floricola Schmitz, 1938
similis auctt., nec. Haliday, 1833
minuscula Schmitz, 1953;
schnittmanni Schmitz, 1926;
tarsalis Schmitz, 1920;
S. TRITOCONICERA Schmitz, 1952;
similis (Haliday, 1833);
pauxilla Schmitz, 1920;
tibialis Schmitz, 1925;
fallens Schmitz, 1948. syn nov.

Acknowledgements

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THE FROSTED GREEN: POLYPLOCA RIDENS FABRICIUS AB. FUMOSA WARNECKE – While trunk-hunting at Brickett Wood, Hertfordshire on 16th April 1981, I was delighted to find at rest on a birch, an extreme melanic form of this local thyatirid in excellent condition. Reference to the R.C.K. collection in the BMNH showed it to conform to ab. *fumosa* Warnecke, which is represented there by four examples, three of which are also from Hertfordshire (Tring, two, 1965; Harpenden, one, 1952), and a single specimen from Woking, Surrey, 1976. Ab. *fumosa* appears nearest to ab. *unicolor* Cockayne (cf. original description in *Ent. Rec.*, **63**: 31, plt. 2, fig. 7), but is more extreme. The fact that it may not have been recorded prior to 1952, and its apparently rather restricted distribution, may indicate that *fumosa* is of only relatively recent occurrence in Britain. – J. M. CHALMERS-HUNT.

THE LARGE TORTOISESHELL: NYMPHALIS POLYCHLOROS L. IN KENT. - I captured a male Large Tortoiseshell at St. Margaret's Bay, Kent on the 28th of August 1980, and exhibited it at a meeting of the Kent Lepidopterists' Group at Maidstone Museum on 21st March 1981 – A. D. HOWELL, 12, Harrow Dene, St. Peters, Broadstairs, Kent.

FURTHER SCOTTISH RECORDS OF CONIFER-FEEDING *PACHYNEMATUS* (HYM., TENTHREDINIDAE)

By A. D. Liston *

Summary

All three British conifer-feeding *Pachynematus* Konow are now known to occur in Scotland. *P. imperfectus* (Zaddach & Brischke) is recorded in North Britain for the first time. New Scottish areas are recorded for the other two species.

Three introduced *Pachynematus* feeding on Coniferae are recorded as occurring in Britain by Benson (1958). Larvae of *Pachynematus montanus* (Zaddach & Brischke) and *scutellatus* (Hartig), species which are both recorded as Scottish in Liston (1980), feed on *Picea* and *Abies*. The third known British species, *P. imperfectus* (Zaddach & Brischke), attacks *Larix*. Only the first two species have been recorded as pests in Europe: *imperfectus* is normally too scarce to prove troublesome. All species are spring fliers with a single generation per year.

In addition to the records already published, I can now add the following.

P. imperfectus (Z. & B.)

2 ♀♀, 19.v.1980, Cademuir Plantation, Glentress Forest, Peebleshire. Larvae have also been found at this locality. Previously only from Devon, Gloucestershire, Surrey and Hertfordshire (Benson, *l.c.*). In the collection of the Forestry Commission (Alice Holt Research Station) there are specimens from the following additional areas: Radnor (Wales) and Mortimer Forest (Hereford) (Dr. D. J. Billany, *pers. comm.*). *P. imperfectus* probably has a much wider British distribution than previously thought. It is native to the Central European Alps (see Pschorn-Walcher & Zinnert, 1971) and should be able to adapt well to conditions in North Britain. On the Continent it has been introduced to North Germany, Denmark and Sweden. It is apparently also present in East Siberia on Siberian Larch (Vershutskij 1966).

P. scutellatus (Hart.)

My record (Liston, *l.c.*) of male *scutellatus* "beaten from *Larix*" should read *"Picea"* The specimen recorded from Corstorphine Hill, Edinburgh, I now think to have originated in my garden on Corstorphine Hill. Males were common from 14.v. to 20.v.1980 around a single Norway Spruce. On the first day I estimated 14 specimens to be present, and about 20 on the 18th. No females were found, though protandry was allowed for. Cocoons were presumably present in the soil around the roots when the tree was

*99 Clermiston Road, Edinburgh EH12 6UU.

brought from Bolton Muir Wood, East Lothian, in the winter several years ago.

P. montanus (Z. & B.)

2 males found on same tree in garden on 15.v.1980 and single males on every day up to and including 21.v. No females of this species could be found. Males of *scutellatus* invariably flew between ground level and 2 metres above ground. *P. montanus* flew from above this level to the leader of the tree. A ladder had to be used to obtain specimens of the latter species. If similar separation of flight activity occurs under natural conditions, this might explain why *montanus* is usually recorded as scarcer.

3 ♂♂, 1 ♀, 19.v.1980, Cademuir Plantation, Glentress Forest, Peebleshire. *P. scutellatus* does not appear to occur at this locality. It is of interest to note that the first Scottish record of *Cephalcia lariciphila* Wachtl (Hym., Pamphiliidae), an important pest of larch elsewhere in Britain (Billany & Brown, 1980), was made at Cademuir Plantation (Liston, *l.c.*). In my experience, this locality has an unusually rich fauna of conifer-sawflies for Scotland. It is to be hoped that *C. lariciphila* does not prove to be well established here, for these pamphiliids have good dispersal ability.

Acknowledgement

I am most grateful to Dr. D. J. Billany for information on the distribution of *Pachynematus imperfectus.*

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Vershutskij, B. N. 1966. Pilil 'shchiki Pribaikal' ya. "Nauka", Moscow. 164 pages.

THE GRAYLING: HIPPARCHIA SEMELE L. IN KENT IN 1980. – I noted a single specimen of this butterfly at Cretway Down, Folkestone on the 21st of August 1980. It was a large example and appeared to be female. – R. N. HOBBS, 15, Greenacres, Westfield, Hastings, East Sussex TN35 4QT. [The Grayling has become exceedingly scarce in Kent, and this is only the second report of its occurrence in the country since 1976. – J.M.C.-H.]

Practical Hints — June

On a solitary *Rhamnus* bush in a wood near here (Bushey, Herts), the larvae of *Philereme vetulata* D & S. (Brown Scallop) and *P. transversata* Hufn. (Dark Umber) are to be found in early June. The former spins a leaf into a pod, and the latter feed exposed, resting on a twig among the leaves by day and are very procryptic. In 1979 I could find neither, but instead found green, stripy geometer larvae resting along the midribs of the leaves, on the under sides. My suspicions were confirmed when I bred a series of *Triphosa dubitata* L. (Tissue), which I had never seen in the district before (Goater).

The early part of June is the best time to search for larvae of Archer's Dart *(Agrotis vestigialis* Hufn.). Patches of Yellow Bedstraw growing behind sandhills on the coast should be examined. Look between the plants for small circular holes in the sand $\frac{1}{8}$" diameter, then scoop down to about 2", and the larva will pop out. On being disturbed it will roll into a semicircle, but then immediately attempts to rebury itself, usually pushing itself between ones fingers with considerable vigour. The larva is a rather oily greenish grey, with a dark dorsal line and dark prothoracic plate and has black spiracles. It is important to locate the right type of holes in the sand. Large squarish holes usually harbour small sand ants nests, and very small holes, beetles. The larva, like most of those of this group, appears to be entirely subterranean and probably feeds on the roots of sandhill plants. Despite the "entrance" hole, I have not found the larva at night, even when searching the same area where I uncovered them by day. Keep the larvae in several inches of sand in the breeding container, and do not disturb. A few roots of bedstraw etc. should be buried in the sand (Platts).

If you are in a locality for the Welsh Clearwing *(Conopia scoliaeformis* Bork.) during the second half of June or early July, and the morning is warm, examine the trees carefully for freshly emerged specimens. The presence of empty pupa cases is a sure sign the moth is around, as they soon disintergrate. At 1345 hrs. on 22nd July, 1979 (a very late season), we found a tree with three freshly emerged moths on it, together with two males which had assembled to one of the females; a little later there was another female on the same tree (Goater).

Imagines of *Discoloxia blomeri* may be found on beech trunks in woods where there is a good growth of wych elm. They can be very lively (Richardson).

On the Lincolnshire coast, *Eupithecia pygmaeata* Hbn. (Marsh Pug) is associated with *Cerastium arvense.* It flies over the plants by day, alighting on the flowers to feed, and is difficult to follow. The best plan is to walk very slowly among patches of foodplant, watching carefully for the moths to move (Goater).

In late June and early July, examine sallow bushes at night for larvae of *Epione repandaria* Hufn. (Bordered Beauty), which you may find suspended by a short silken thread from leaf or stem,

and by gently tapping the bush others may appear in similar fashion (B.K. West).

The Lunar Hornet *(Sphecia bembeciformis* Hbn.) must be a very common moth, for I am always finding the old exit holes inthe boles of sallows; often they have been ravaged by woodpeckers. However, I can only find occupied burrows in stems less than 10cm. diameter, on which the bark is smooth. On these, the 'caps' are just visible. The pupa is above the cap, so cut a good length above it, place the stem in damp sand and the moths will emerge: up to half a dozen per stem, if you are lucky (Goater).

The pale reddish brown form of *Lasiocampa trifolli* D & S. (Grass Eggar), which is native to Hayling Island, may be found as larvae on the Sea Lupins there in early June (Wild).

Adults of the long-horn moth, *Adela rufimitrella* Scop., should be searched for in the flowerheads of Lady's Smock or Hedge Mustard. In mid-June, the well camouflaged larvae of the plume moth *Marasmarcha lunaedactyla* Haw. may be located on the shoot tips and upper surface of leaves of Rest Harrow; plants growing on the Downs or on coastal sandhills are often productive, but patience is needed. *Acleris sphepherdana* Steph. larvae spin together the shoots of Meadowsweet *(Spiraea),* and if such spinnings are collected in mid-June this and other species may be reared (Watkinson).

Flower heads of garden thrift showing signs of larval spinnings may, if picked in early June, produce many adults of *Lobesia littoralis* H. & W. a few weeks later. Also in early June, spun shoots of *Lotus* should be gathered since these might contain larvae of the pretty gelechiid *Syncopacma cinctella* Clerck (=*vorticella* Scop.). In late June, the large inflated blotch mines of *Aspilapteryx tringipennella* Z. can be found on the upper surface of leaves of plantain *Plantago lanceolata,* even in plants well covered by surrounding grass (Watkinson).

Current Literature

The World of the Tent-Makers by **V. G. Dethier**, illustrated by **A. Rorer**. 148pp, 14 illustrations. University of Massachusetts Press 1980. $12.50 (boards) ; $5.95 (limp).

A natural history, written for the lay reader, of the Eastern tent-maker caterpiller, *Malacosoma americanum* Fab., a Lasiocampid related to our own lackey moth. The text describes the life history of the moth, taking the reader through the seasons and examining the various problems that confront the insect. These include such diverse topics as the weather, growth and development, disease, parasites and predators. Speculation also occurs on the problems of navigation, colour perception, biological clocks and many other phenomena. The text is narrative in style – sometimes philosophical and often lyrical.

The volume concludes with a glossary defining the most basic terms, a detailed bibliography with references to original papers and a list of recorded foodplants and parasites. The concluding detail is a little suprising in a volume that makes no mention at all of the scientific name of the subject! However, for those that can ignore the irritations of anthropomorphism, so often found in popular works, this volume makes interesting and often entertaining reading. – PAUL SOKOLOFF.

Handbooks for the Identification of British Insects, Vol. X, Part 5(c): **SEPSIDAE (Diptera, Cyclorrhapha, Acalyptrata)**. By **A. C. Pont.** Royal Entomological Society, London 1979. [Price not indicated]

Collectors and students of British Diptera will unreservedly welcome this latest addition to the series, both for its intrinsic excellence and for its being the first work to deal at all fully with our species of this small and previously much neglected family. Dipterists have for some time realized that the available keys for Sepsid identification are unsatisfactory, in large measure because of the failure to grasp certain deceptive kinds of intraspecific variation occurring in the family. Thanks to Mr. Pont's fruitful labours, these difficulties (and any others) are now cleared away; and with the detailed keys and the wealth of clear figures of critical structures, it will be found a straightforward matter to arrive at secure determinations. The plurality of characters given in the keys is highly commendable. Ten pages of preliminary matter amply cover biology and immature stages, habits and behaviour, and morphology. The remaining 23 comprise the keys, bibliography etc., and ten plates of figures.

(The transfer by Hennig of the robust, strongly-built kelp-fly *Orygma* from the Coelopidae (where it would seem naturally located) to the present family of much smaller, slender, ant-like flies (where it appears utterly out of place), adopted here, is not accepted by all recent authorities, as Mr. Pont points out – and no wonder. The reviewer feels that such an extraordinary re-location is only acceptable if the grounds upon which it is proposed are firm and convincing beyond reasonable doubt. Unfortunately they are not stated here, but the author allows that *Orygma* is anomalous within the Sepsidae, and in defining the characters of the family exceptions have continually to be made for it. This does nothing to allay one's doubts; and meanwhile some of us will remain sceptical! It is all very well to try to account for such a case by "convergent evolution", but pushed beyond a certain point this becomes implausible.)

Any faults are very few and minor. The term *sympatric* is twice used where the context makes it quite clear that *syntopic* is required (pp. 8, 20).* In the description of *Saltella* (p.11) it might have been helpful to mention the unusual variation in colour of scutellum – which could puzzle a novice – or at least to refer to p.8 where it is briefly noted. Perhaps also the dark copper colour of the tergites

*Sympatric ("sharing the same fatherland") = having a similar world distribution; syntopic = sharing the same habitat or biotope.

in *Sepsis,* contrasting with the matt black thorax, could with advantage have been included among the more readily seen features of the genus. Though development-media are listed in some detail (p.3), one of some importance is omitted, viz. heaps of cut grass, garden compost, etc., which must replace cowdung as the source of the considerable populations of Sepsidae in the suburbs of London and other towns where there are no cattle but many gardens; common species of *Sepsis* and *Nemopoda nitidula* often abound in the vicinity of such heaps in the ammoniacal stage of decomposition. – A. A. A.

Notes and Observations

APROPOS MR EVANS' NOTE. – Mr K. G. W. Evans is to be congratulated on the stand he has taken on behalf of collectors *(Ent. Record,* **92**: 253). The days are gone when collectors took huge series of any one particular species in the field. The great majority of collectors want only perfect insects for their cabinets, which means that bred specimens are much preferred to wild ones, and from one female caught in the wild a very large number of insects can often be bred. Nearly all collector-entomologists are conservation-minded, and will often return bred material surplus to their requirements to their original locality. When this is a long distance from home, I know that they will often contact an entomologist from that area and ask him to return it to a particular site. In this way, many collectors are putting more back 'into the pot' than the anti-collectors.

I find the carping of some anti-collectors very wearisome. Their arguments against collecting are often illogical and never convincing. – ROBERT A. CRAMP, "Lea Hurst", 11, Wray Park Road, Reigate, Surrey RH2 ODG.

COMMENT ON THE NOTE ON HALVED GYNANDROMORPH OF THE PURPLE HAIRSTREAK. – Following W. Lockyer's note (*Ent. Record,* **93** (1), 12) on rearing a halved gynandromorph of the Purple Hairstreak, *Quercusia quercus* (L.), from a larva taken at Pamber Forest, Hampshire, on 9th June 1979, Mr. Chalmers-Hunt comments that this is probably only the second British example. I would like to draw attention to an example from north of the border, which was beautifully illustrated in 1855 in J. O. Westwood's *The Butterflies of Great Britain with their Transformations Delineated and Described.* Taken in Scotland by Mr. Weaver in 1854, this specimen had the two wings on the right masculine and those on the left feminine. Apparently it was not absolutely symmetrical for, according to Westwood, the antennae and forelegs on both sides were decidedly feminine. This specimen could possibly have been in the Samuel Stevens Collection by 1899 but is more probably a third example. – K. P. BLAND, 35, Charterhall Road, Edinburgh, EH9 5HS.

THE DATE OF THOMAS MARTYN'S THE ENGLISH ENTOMOLOGIST: 1792 OR 1793? – S. C. S. Brown (**91**: 64), commenting on my bibliographical description of Martyn's book (**90**: 263-264), is the latest to call attention to a significant anomaly. Although the engraved titles (English and French) bear 1792 dates, the English dedication is dated 21st March 1793. My study of many copies of the English and French editions and their combinations led me to summarize a tangled problem in short space by suggesting that the work had a "complex printing history." In fact I was unable to determine precisely when each of the various lingual editions was issued, although we know from watermark dates that copies of Martyn's book were still being printed (with the "1792" engraved titles unchanged) early in the nineteenth century. Since Mr. Brown's query I have conducted a much wider search in eighteenth-century newspapers and other contemporary sources, but I still have not found a precise date of first appearance of *any* of the Martyn editions.

There is, however, a likely explanation. The copperplates for Martyn's title-pages were certainly finished and dated in 1792, but at least some of the components were not completed and ready for publication until the following year. We know that this was true in the case of the English material because of the 1793 dedication date. The French preface contains some evidence; although it is undated, it includes a discussion of Martyn's publication plans "dans le cours de l'annee 1793," which, significantly, did not materialize. Martyn, who was no more concerned about absolute bibliographical precision than most other eighteenth-century authors, may not have been inclined to 'redo' his title-pages, which saw service with unamended date for at least a decade. (In copies printed at a later time, the 1792 titles are sometimes printed on paper with later watermark dates.)

At least at present, there appears to be no evidence that the lingual editions of Martyn's book were issued in parts or fascicles. So, in citations to wholly English copies, or to copies with English and French components combined, bibliographers may wish to follow the 1792 title date with a bracketed [1793], reflecting what seems to have been the date of first publication of such copies. In deference to the absence of evidence about the French edition, with its undated dedication and differing preface, the more cautious student might choose to retain the 1792 date alone until more data are at hand.

The English Entomologist is not the only one of Martyn's works to have provided scholars with headaches; it was preceded by the once notoriously difficult *The Universal Conchologist,* frequently cited as (London, 1784 [-92]) but now interpreted to have had its first edition completed by 1787; and some of the questions raised by the bibliographically fascinating *Psyche: Figures of Non descript Lepidopterous Insects* (London, 1797) are still unanswered. – R. S. WILKINSON, The American Museum of Natural History, New York City, New York 10024.

BEMBIDION QUINQUESTRIATUM GYLL. (COL.: CARABIDAE) AGAIN AT BLACKHEATH; WITH TWO FURTHER RECORDS. – While stripping loose bark off lopped branches of dead elm in the front garden of a deserted house on the Charlton side of Blackheath, S.E. London, on 4th October last, I was pleased to come upon a specimen of this interesting little ground-beetle. I had previously taken it but few times, always singly; and in a good many years' collecting in the district only two others had occurred to me, one beaten out of ivy on a wall of my former garden (1952, *Ent. mon. Mag.*, 88: 147) and another some years later in the house (of obscure provenance). I regard the species as rare in general, though occasionally numerous at a particular spot. Its true biotope is somewhat problematic, and its frequent association with old walls (attested by the records) often remarked upon. The single examples usually met with are doubtless for the most part casuals, away from their proper habitat. In June 1960 my mother caught and passed to me a specimen running on a table-cloth in a hotel at Marlborough, Wilts – possibly a new county record; and on 5.x.64 one was found under bark of a large fallen elm in Windsor Great Park, constituting an addition to the list of Windsor Forest Coleoptera. – A. A. ALLEN.

Obituary

CAPTAIN A. P. GAINSFORD

Peter Gainsford died on July 29th 1980 after a protracted illness which he bore with great fortitude. The calmness and courage which characterised the latter years of his life, and which arose out of his strongly held Christian beliefs, could not fail to impress all who knew him during that time.

Peter was born in Sheffield on May 28th 1915 and was educated at Kelly College, Tavistock, where he first started collecting butterflies. His army career was with the 43rd Wessex and 11th Armoured Division in Europe and he was awarded the Croix de Guerre during the B.L.A. advance from the Seine to Antwerp. A chartered architect for 32 years he had private practices in Plymouth, Winchester and Kenya.

The British butterflies were Peter's main entomological interest and he built up a magnificent collection which included *Venessa virginiensis* Dru., a unique aberration of *Anthocharis cardamines* L. and a series of extreme vars. of *Mellicta athalia* Rott. All of these he took himself. The remarkable ab. *berviniensis* of the Small Copper which he took at Wembury Point in 1969 is in the British Museum (Natural History) but the remainder of this collection was sold in 1975 and is in the National Butterfly Museum at Bramber Sussex. Afterwards he formed another collection of butterflies, all beautifully set and arranged and containing some fine vars. taken during the last few years of his life.

All who knew Peter Gainsford will want to extend their sympathy to Pamela his wife and his three sons. – C. J. LUCKENS

THE ENTOMOLOGIST'S RECORD
AND JOURNAL OF VARIATION

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

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THE FATE OF *HELIOTHIS PELTIGERA* D. & S. IN SUSSEX.

By COLIN PRATT*

From the earliest of times this migratory moth has been known in England, although it was usually rare. Records came mainly from along the south coast, but when larvae were found they often occurred in abundance on a variety of different foodplants – probably largely on *Ononis repens* and *Senecio viscosus* (Restharrow and Sticky Groundsel). Nevertheless, despite the profusion of larvae when found, the adult insect was even during the halcyon days of the 19th century "for some unexplained reason . . . . rarely seen" (Barrett).Breeders soon found that an enhanced temperature, compared to the British Isles, of about 30 degrees Centrigrade sometimes yielded good results, and during the second world war Kettlewell (1944) conducted the still famous series of experiments, using this temperature to investigate the effects on pigmentation in imagines and the preceding pupal reactions. Nevertheless, the successful breeding of *H.peltigera* has far from consistently been achieved, even in recent times – the reason being undetermined.

On August 12th 1980, larvae were again discovered near Eastbourne, by Bernard Skinner, this always being a favoured area. As previously, local enthusiasts encountered varying degrees of success when breeding through to the adult stage; whilst some lepidopterists bred fine series by raising the temperature to 26 or 38 degrees Centigrade, others, using a more British lifestyle, experienced a high mortality rate with many cripples – and some failed completely. The success rate for larvae bred indoors with a temperature of 12 to 15 degrees Centigrade was up to 15%.

The larvae found in mid August were almost full grown and the previous stage had therefore been deposited, presumably by a primary immigrant, during June – although an adult was noted seven miles away at Ninfield on April 10th. All being well, it was expected that adults would emerge from the shingle in early October, but several visits with mercury vapour light were to prove fruitless. Nevertheless, according to Bretherton and Chalmers-Hunt (1981), there is evidence to suggest that at least one adult successfully completed its life-cycle on English soil during this summer – at Looe Bar in East Cornwall. At the time he wrote his article, Kettelewell thought the species established in southwestern England but at the present, despite some sequential records in Sussex (Pratt, 1981) and elsewhere, the insect is thought unable to withstand our winter climate. Therefore it was expected that when larvae encountered our winter weather death would be the result – but not in the manner described later.

*5 View Road, Peacehaven, Newhaven, Sussex.

During the autumn, larvae were again found very commonly in the same place as previously, and to my knowledge a total of almost 250 caterpillars were taken by various collectors from this one spot at this time. On October 4th 1980, my wife and I collected 51 variable larvae during an hour, from a band of Sticky Groundsel growing on the sea-shore at the soon to be built upon area near Eastbourne. Buckler (1895) illustrates six larval forms (Vol. 6:Plate 99:2 to 2e) of which only one was not noted on that day – 2b. One parasite cocoon was soon discovered, with its hosts skin, attached to the foodplant; this emerged on October 17th into a fine Ichneumonid of the subfamily Campopleginae.

The caterpillars collected were in various stages of growth; 17 were in their final instar, 18 at the penultimate, and 15 were only one centimetre in length. Ten larvae in the penultimate instar were replaced outside at my home address, under net, on Marigold and Sticky Groundsel. All commenced feeding on the leaves, flowers, and seed heads. After two weeks had elapsed, five had apparently pupated, but by the time another similar time period had elapsed, the remaining half had died. These larvae were found hanging from a pair of abdominal legs and exhibited brownish/black discoloured blotches on their bodies, giving the appearance of small localised burns and singes. This syndrome was also present on the hairs and feet and could be seen a few days before death. No odour was discernable at this stage, although later an offensive smell was present; this was probably due to a secondary bacteriological attack and was determined as a gram negative rod type bacteria. Other obvious characteristics of the syndrome included a fragile skin and liquified contents.

A month later, on November 29th, the earth was carefully investigated for the remaining insects. Of the five larvae to go below ground only one had attained the pupal stage; this pupa was shiny black, very fragile, and contained myriads of pale white nematode worms, 0.55 mm in length. The other four larvae had died before pupation and had succumbed to the symptoms described earlier. Thus, none of this group survived outside, although all apparently continued to feed and live normally for some time after experiencing a night temperature of minus two degrees Centigrade six days after collection. According to Sacharov (1930), larval death in lepidoptera due to cold (as opposed to starvation due to prolonged immobilisation) is largely dependant upon the amount of fat present in individuals; this, and body salts, considerably lowering the freezing point of skin contents.

From the 51 larvae brought home, the remaining 40 were kept indoors and placed in an environment at a steady 19 to 20 degrees Centigrade. Sufficient water was added to the potted Marigold and Sticky Groundsel to ensure plant health but, that apart, a dry environment was aimed for. Two early instar larvae died after a week had elapsed, but by the 19th October, all the

rest had apparently pupated. Emergences commenced four weeks later on the 17th November, and continued through until 1st December, by which time 10 adults had been noted. Of these, three dark males and three dark females emerged successfully, whilst four failed to inflate their hindwings.

The earth from which these adults had emerged was then investigated for the remainder of the brood. All had attained the pupal stage, but 16 suffered from similar symptoms as those larvae placed outside – namely a liquifying of body contents. However, the insects had been well advanced to emergence as post mortems revealed several recognisable features, including antennae and wing scales. All 12 remaining pupae were still quite green, alive, and seemingly healthy at this stage.

Once these rather distinctive larval and pupal mortalities commenced, after consulting the illuminating section dealing with insect diseases, in volume 1 of *British Moths and Butterflies* by Rivers (1976), a virus disease was suspected. For confirmation, samples were forwarded to the National Environment Research Council's Institute of Virology at Oxford where Mr. C. Rivers kindly arranged for their examination. His report confirmed that a nuclear polyhedrosis virus (NPV) was responsible for the deaths and perhaps also the high proportion of cripples -- certainly, according to Neilson in Canada, the effects of a virus infection on adults can include wing cripples as experienced by the author and by Kettelewell nearly 40 years ago.

The virus was very similar to that used in America as a pest control measure for *Heliothis* species, it being extremely infectious, and was thought may be present as an attenuated infection in many individuals within a species but that a lowering of resistence is needed to allow multiplication and therefore to incur overt, and life-affecting, symptoms. This lowering of resistence would be precipitated by any adverse conditions met with and in the case of *H. peltigera,* as the species is at a speculative best at the edge of its range in England (failure to survive our winter being much more likely), our climate would surely provide just such a set of unsuitable circumstances.

Over the weeks following the adult emergences, three pupae dried up and another became distended with liquified contents; also, at the end of January, a white fungus started to attack three further pupae, sending up vertical columns of excrescence quite a centimetre in height. By the middle of February, although five pupae were still healthy, it seem likely that no further emergences would be forthcoming in the short term, unless a different approach was made. Kettlewell encountered this in his experiments, and stated that some pupae derived from Kent, had to experience a previous period of cold before the application of heat became successful – this being attributed to a hibernatory phase. The remaining five pupae were therefore placed in a domestic refrigerator at 7 to 8 degrees Centigrade for 5 weeks, and then incubated at 26 to 28 degrees Centigrade over damp sand. All pupae survived the artificial

winter, and after just over a month had elapsed at the higher temperature, these five final survivors suddenly coloured up. Two very light coloured females emerged on April 26th, but the last three pupae died containing millions of microscopic polyhedra characteristic of a NPV. Even these two final emergences were not completely free of the crippled hindwing symptoms noted earlier, although this was now minimal.

Summary

Inconsistency has always dogged the breeding of *H.peltigera* in Britain, both in the wild and by collectors, with often unexplained high mortality rates; having regard to the causes of death found in feral larvae from Sussex in 1980, it is postulated that in addition to the more usual hazards encountered, NPV's have always accounted heavily for this phenomenon – especially as traces of some pathogenic micro-organisms can remain infectious for many years under certain conditions.

Attempts by others to breed the species through, using the same stock, at temperatures of 26 and 38 degrees Centigrade enjoyed a near perfect success rate. However, of 40 larvae placed in an artificial environment at 19 to 20 degrees Centigrade, 65% showed severe symptoms of, or eventually died from, the presence of a NPV; 15% either dried up or succumbed to fungal attack in the pupal stage; whilst 20% attained the adult state successfully. Total lethality was experienced by collected larvae, which continued to be exposed to the "normal" autumn conditions encountered on the Sussex coast in 1980; excluding a single mortality due to the presence of nemotodes, all died from the symptoms of a NPV.

Thermal inhibition of NPV's, on a very similar temperature range, in some insects was noted more than 25 years ago by Bird (1954), and later by Tanada and Tanabe (1965), and others. Whilst larvae survived temperatures below the freezing point of water, low temperature seemed to be the main factor allowing virus multiplication.

Acknowledgements

As the author is not an expert in the highly specialised field of insect pathogens, recourse was made to Mr. C. F. Rivers, of the Institute of Virology at Oxford, whose disease identification and advice on some virological aspects of this paper was invaluable. My thanks are also due to Mr. Bernard Skinner who kindly supplied details of his temperature experiments.

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CEUTHORHYNCHIDIUS RUFULUS DUF., ETC., (COL.: CURCULIONIDAE) IN S. E. LONDON. – As this little weevil is considered very local, and I have always found it to be so (occurring as a rule by odd specimens only), it may be worth noting that it belongs to the fauna of this suburban part of N. W. Kent; especially as the four localities given in the VCH list for that county (Fowler, 1908) are far east of here. I have taken solitary examples at roots of low herbage at Upper Charlton (my garden), Lower Charlton (Thamesside), and Kidbrooke (on a field bank). Its foodplant – species of *Plantago* – was not noticed at any of the places, but was probably present in all. Elsewhere I have met with *C. rufulus* at Mickleham Downs (Surrey) and Clayton Downs (Sussex), by sweeping. I may mention further that *C. barnevillei* Bris., the prettiest of the group, also occurs in my district but extremely sparingly, despite the abundance of its foodplant (*Achillea millefolium* L.); the localities are Blackheath (twice) and Charlton, at roots of yarrow. East of here I have taken it singly at Erith Marshes and Faversham Creek; and once swept several from its host-plant in a very restricted spot in the Lea Valley at Cheshunt, Herts. – A. A. ALLEN.

ORANGE-TIPS IN PEEBLESHIRE. – Two specimens of *Anthocharis cardamines* L. were seen by Mr. David G. Long of the Royal Botanic Garden, Edinburgh, on 12th May 1981 at Dawyck Garden, by a stream in the Tweed valley south of Stobo, VC78, and NT13. Both sexes were seen. This observation confirms the recent spread and establishment of this butterfly in Scotland. – A. G. LONG, 33, Windsor Crescent, Berwick upon Tweed, TD15.

PUPAL SPINES OF *PIERIS BRASSICAE* (L.)

By DR. JOHN FELTWELL F.R.E.S., F.L.S., MIBiol.*

Abstract

Pupal spines of *P.brassicae* do not appear to have been witnessed very often and have been described only a handful of times from England, India, Morocco and Sweden. They occur as a pair of spines on the dorsolateral side of the third abdominal segment. Here fresh observations of spines, this time from French specimens, are presented and weighed up in light of the scanty information recorded previously. Unpublished observations by Allcard and Feltwell make it likely that predators influence spine development.

New Observations

In September 1978 larvae of *P.brassicae* feeding on cabbage were brought back to England from the Cévennes mountains in France (Gard, 30440). From a total of 251 pupae, 239 developed spines, thus making a high percentage of 95.2% with spines. The distinctive spines measured up to 2mm in length, were uniform in structure throughout the batch and the distal half was always black (Figure 1).

Previous Accounts

The first account of pupal spines in *P.brassicae* is that of William Buckler (1886) who stated that 'there is a variety in which this second prominence becomes quite a spike'. He also stated that a Dr. (R.C.R. ?) Jordon sent him some similar specimens in 1874. The phenomenon has also been seen in India as Ghosh (1914) says of *P.brassicae* pupae that 'at the spiracular region on each side of the second, third and fourth abdominal segments there is a ridge which protrudes into a spine on the third abdominal ridge.'

Two short accounts of *P.brassicae* spines were published by Green (1927) who noted a single specimen found 'attached to a bramble leaf, in a country lane, far from any cabbage patch,' and Main (1937) who collected 16 out of 46 pupae with spines from a garden 'in the Epping Forest district.'

A more detailed study of *P.brassicae* spines was made by Johansson (1959) who also attempted to explain their function. Using a sample of 603 pupae collected in Oslo and Copenhagen between 1950 and 1953, he found that there was a greater tendency for non-diapausing pupae to possess a spine. However, he admitted that his results were not clear cut, and that the presence or absence of spines could not be relied upon to separate non-diapausing pupae.

*Marlham, Henley Down, Catsfield, East Sussex TN33 9BN

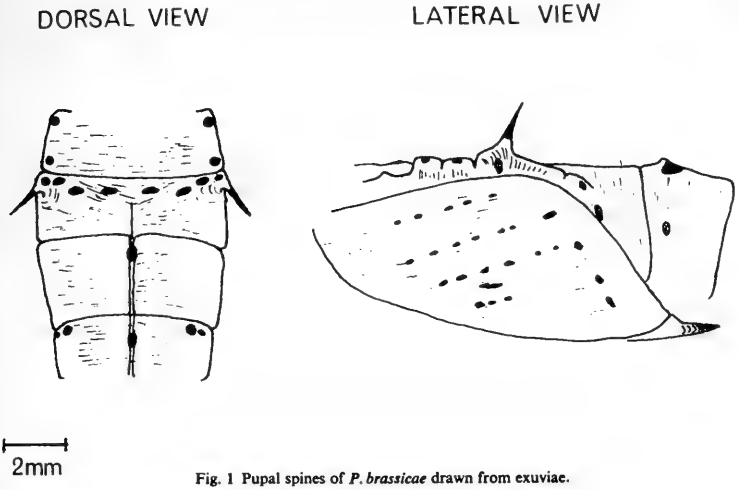

Fig. 1 Pupal spines of *P. brassicae* drawn from exuviae.

Factors Affecting

A number of observations or apparent correlations have been made between the occurrence of spines and various physiological features, but little has been written on the extrinsic or intrinsic factors affecting spine development.

(a) *Diapause*

It was the belief of Johansson (1959) that non-diapausing pupae of *P. brassicae* would be more likely to have spines than diapausing ones. He pointed out that the reason why textbooks on European butterflies never illustrate *P. brassicae* wiht spines is because they always depict the readily available diapausing ones. Further south in Europe he argues, there is a chance that spines may be found on non-diapausing pupae and draws attention to observations made in India by Ghosh (1914) that the pupae have 'a ridge which protrudes into a spine on the third abdominal segment'.

Certainly the spines found by Allcard in Morocco (April) and Feltwell in France (September) were non-diapausing and would support Johansson's views. However, experience has shown that non-diapausing pupae reared in continuous culture do not have noticeably larger spines compared with diapausing pupae. There is the possibility though that various characteristics of the wild forms of *P. brassicae* may have been bred out during the last 20 years of inbreeding in the laboratory.

(b) *Sexual differences*

There appears to be no corrrelation between sexes and presence or absence of pupal spines (Johansson, 1959). Equal

numbers of each sex were hatched from spiny pupae by Main (8:8 hatched end of September) and by Feltwell (83:83 hatched 9th October onwards).

(c) *Larval characteristics and diseases*

No correlation could be made between non-spiny and spiny pupae and their setal arrangement or colour of the fifth instar larvae. Some of the larvae and pupae suffered from virus disease and were later found to have microsporidia and a granulosis virus, both in high concentrations, by the Unit of Invertebrate Virology at Oxford.

(d) *Foodplants*

In the French specimens the larvae had been eating cabbage. This is particularly interesting as the larvae were collected from different gardens but they were all reared on the same cabbage. It is not thought likely that rearing techniques influenced spine development.The spiny pupae from Morocco had been eating the very large leaved Nasturtium (*Tropaeolum* sp.).

(e) *Genetic similarities*

The pupae of the subspecies *Pieris brassicae cheiranthi,* which live on the Canary Islands, have pupal spines (Gardiner, 1979 *pers. comm.*). The isolation and speciation of this subspecies on these islands has evoked considerable attention, but is does not appear that evidence of a mainland origin has ever been found.

(f) *Predators*

It has been proposed by Allcard (1979, *pers. comm.*) that the pupal spines of *P.brassicae* may have been evolved for protection against predators, and that they occur only in areas where there are many lizards. This is also in accordance with observations made by Feltwell in France. Here there are many lizards, the most numerous being the Common Wall Lizard *(Podarcis muralis)* followed by the large and impressive Green Lizard *(Lacerta viridis).* These lizards frequent the stony countryside and find ample refuge in the rock walls of the hill-terracing, as well as being found in the small gardens from which the larvae were collected. Another influence on larvae on wild crucifers may also be from chickens which roam free-range around the garden area but outside the growing crops. These birds have eyes like eagles for anything which moves, for they have literally to scratch an existence from the life in and on the soil and plants. Outside the terrace gardens, everywhere is constantly nibbled down by goats and sheep, so it is possible that general grazing as well as feeding stimuli from reptiles and birds is involved in spine determination.

As Allcard points out, there is little spine formation in

Madeira where *P.brassicae* feeds on cabbage grown at 2,000 -2,500 ft (609-762 m) on northern slopes where fewer lizards are found. He also mentions that small birds may be involved and that there are a 'number of small birds on the Canaries and many more in Morocco'.

Acknowledgments

I would like to thank Mr. H. G. Allcard for sharing his observations and ideas about spines in *P.brassicae* and Linda Spencer of the Unit of Invertebrate Virology at Oxford for supplying details about virus infections.

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THE BRIMSTONE BUTTERFLY OVIPOSITING ON DOCK. – On the 15th April 1981, I was walking about my local gravel pit here, when I saw a female Brimstone *(Gonepteryx rhamni* L.) flying along a large hedge of buckthorn (*Rhamnus catharticus)* and hawthorn *(Crataegus monogyna),* and shortly after noticed she had begun ovipositing in characteristic manner. She also seemed quite interested in the hawthorn, and was seen three or four times, through binoculars, curling her abdomen on its leaves, but it was too high up for me to find any eggs, if laid.

After I had collected two eggs from the buckthorn, I lost sight of the butterfly for two or three minutes, and when re-sighted it was about 20 yards away flying along a similar habitat but lacking buckthorn. I then followed her for a short distance and to my amazement she began to oviposit on a species of dock (later identified as Broad-leaved dock: *Rumex obtusifolius).* Although it curved its abdomen three times on separate leaves, only one egg was found, in the typical place along the mid-rib and near the tip of the leaf. The early date of ovipositing is also exceptional I believe, since most books give the normal time for this as occurring in May. – D. FROST, "Yelkonan", 14, Chauncer Way, St. Ives, Huntingdon, Cambs PE17 4TY.

A VISIT TO CLONBROCK, 1976

By J. P. O'CONNOR*

In August 1976, I received a letter from Mr. Luke Dillon-Mahon concerning his late uncle's (R. E. Dillon) entomological collection at Clonbrock House, Ahascragh, Co. Galway. In it, Mr. Dillon-Mahon informed me that the house and its contents were shortly to be auctioned. He invited me to examine the insects before the sale.

R. E. Dillon, later Lord Clonbrock, was the centre of a major entomological controversy in Ireland. He recorded, or Kane recorded on his behalf, the capture of a very large number of species of Lepidoptera new or rare to this country. Many of these have been found since to be quite unreliable and have been omitted from the Irish list (Baynes, 1964). Beirne (1953) states that P. P. Graves wrote for permission to see Dillon's collection and was refused, and on visiting Clonbrock was refused entry to the house. The material does not appear to have been inspected since the beginning of the controversy. During my visit in 1976, I made some brief notes concerning the composition and arrangement of the collection. In view of the mystery surrounding it, these may be of some interest.

I arrived at Clonbrock House on the 25 August. Mr. Dillon-Mahon brought me upstairs to a room where the collection was housed. He allowed me to study it at my leisure; a pleasant experience enhanced by the Dillon-Mahon family's hospitality which included dinner and later tea and buttered scones.

The collection was housed in four cabinets as follows:-

(1) a cabinet of mainly tropical Lepidoptera of which only a few carried data labels. It is likely that they were purchased. There was also a mixed assemblage of British or/and Irish moths in a few drawers but they were unnamed and disorganised. A few bore green printed labels with "Clonbrock". The bottom drawer contained scorpions and a Customs' declaration form. All the specimens were in good condition.

(2) The second cabinet was a double one with a Watkins and Doncaster plate. It held Irish and other Lepidoptera. The specimens were neatly arranged with printed labels cut from a label list. A variety of pins had been used including white, black, Continental, English, cut etc. The only extensive data labelling was of "Clonbrock" specimens. These labels were mainly printed on green paper. In several drawers, unused "Clonbrock" labels were lying loose. In a few instances, handwritten labels were evident. Other labels (e.g. Kerry and a few other localities) were present but they were very sparse. A large proportion of the specimens in the cabinet had no labels. Specimens with labels were often mixed in the same row with ones without labels. All the material seemed to be well preserved undoubtedly because of well-fitting lids. It did not appear to

*National Museum of Ireland, Dublin 2.

have been disturbed for a long time possibly not since Lord Clonbrock's death in 1926. In some drawers, dead Australian Spider Beetles (*Ptinus tectus* Boieldieu) were evident but they had caused no obvious damage. There was a little mite and mould damage.

(3) This cabinet held a mixture of insect groups including Hymenoptera, Coleoptera, Hemiptera, Trichoptera and Odonata. Nearly all the specimens had been named but few had data labels. The species appeared to be mostly ones which are widely distributed.

(4) The fourth cabinet contained Lepidoptera which were probably collected on the Continent. They were also named but lacked data.

There are various views as to why Dillon was responsible for so many discredited records (Beirne, 1953; Huggins, 1953). However, after over fifty years since his death, it is now unlikely that the truth will be ever ascertained. Nevertheless, my examination of his collection does indicate that careless labelling may have been responsible for some erroneous records. Whether it contributed to a significent degree must remain unknown.

There are voucher specimens representing most of Dillon's doubtful records preserved in the National Museum of Ireland.

Acknowledgement

I am very grateful to Mr. Luke Dillon-Mahon for giving me the opportunity to examine the R. E. Dillon collection and for making my visit such a pleasant one.

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ACLYPEA OPACA L. (COL.: SILPHIDAE) IN WEST KENT — To judge from the records (or rather, the lack of them), this phytophagous Silphid has become decidedly rare with us during the latter half or more of the present century, though formerly it seems to have been less uncommon. In the course of some 50 years I have met with it but three times; one of these finds (of several on beet and goosefoot at Burwell Fen, Cambs.) was briefly mentioned in 1950, *Ent. mon. Mag.*, **86** : 43. In June 1943 I took an example by sweeping at Byfleet, Surrey, the locality being next door to Woking whence Fowler (1889, *Col. Brit. Isl.*, 3: 50) records it. My first capture however was as long ago as August 1930, when a pair occurred in a rotten stump on Seal Common in the Sevenoaks district. I have seen no published record of *A. opaca* for West Kent; Fowler (1908, VCH list) gives only Whitstable and Deal, both in the eastern vice-county. — A. A. ALLEN.

THE NORTHERLY DISTRIBUTION OF *CALOPTILIA RUFIPENNELLA* (HÜBNER) (LEPIDOPTERA: GRACILLARIIDAE) IN BRITAIN.

By M. R. SHAW

The discovery of the sycamore-feeding Gracillariid *Caloptilia rufipennella* (Hübner) in vice-counties 19, 25, 26, 29 and 54 in East Anglia (Emmet 1971, 1972, 1975) was soon followed by the detection of a possibly independent population of the moth around the Scottish borders (Emmet 1979). In both areas it is evidently well-established and appears to be expanding its range, and the purpose of these notes is to record the present known distribution of the northern population to provide a basis for monitoring future changes.

During 1980 *rufipennella* was found to be widespread and generally abundant in the "new" VCs 82 (East Lothian) and 83 (Midlothian), and also in VCs 68, 78, 79, 81 from which (with VC 72, which I did not visit during 1980) Emmet (1979) had already recorded it. Indeed, in these vice-countries it was easily found wherever there was a good, searchable growth of *Acer pseudoplatanus*. Other new VC records were 84 (West Lothian), where it was found to be locally abundant but patchy (E. C. Pelham-Clinton), and cones were found with difficulty at single sites in 88 (Mid Perthshire: Methven Wood, NN 0526) and 99 (Dunbartonshire: Endrick Mouth N.R., Loch Lomond, NX 4388) by K. P. Bland. During a journey south from Edinburgh I searched for it in VC 67 (South Northumberland) and found a very few cones (R. Blythe, NZ 2178) after two failures in promising places further north, but I was unable to find it during single stops further south, in VCs 66 and 65. After this failure to link the two populations in Britain I paid it no more attention on the journey. It should be added that, apart from a brief and unsuccessful search in VC 85 (Fife) by E. C. Pelham-Clinton, and a more detailed but equally unsuccessful search between Moffat and the Devil's Beef Tub in the already-recorded VC 72 by K. P. Bland, it has not been sought in further vice-counties in northern Britain in 1980 as far as I am aware. Thus the above summary includes all we know of its current negative distribution.

As a result of his initial discovery in VC 29, Emmet (1971) obtained 14 larvae, none of which was parasitised. He interpreted this as suggesting that the moth was a recent arrival. During 1980 my interest in *rufipennella* chiefly concerned its hymenopterous parasites, and samples, each of about 30 penultimate and final instar larvae, were collected at Stenton (VC 82), Port Seaton (VC 82), Blackford Hill (VC 83) and Newington cemetary (VC 83) for rearing. Although about 10%

*Royal Scottish Museum, Edinburgh EH1 1JF

died as larvae (and a few more as pharate imagines) none appeared to be parasitised, and I similarly failed to detect parasitism in over 200 final and nearly 150 smaller cones examined at these and other sites. Concurrent collections of the cones of other species of *Caloptilia* at Blackford Hill and Stenton revealed high levels of parasitism by a range of both monophagous and more-or-less genus-specific parasites. I have little doubt that Emmet (1971) is correct that the arrival of *rufipennella* in its present areas of abundance is relatively recent, and that this may account for its apparently not being attacked by the more polyphagous of the specialist parasites of *Caloptilia*. However, I was surprised to find no parasitism at all, and it will be of interest to note how quickly, or if, a parasite complex develops. The only record of parasitism in Britain is of one cocoon from VC 25 recorded by Emmet (1972) to yield an unnamed parasite, but this could have been one of the highly polyphagous parasites of small cocoons that would be expected to include *rufipennella* as a facultative host.

It is worth adding that predators appear to have adapted to the new resource rather better. Although cones pecked by birds were few, very many cones had one or more nymphs of the predatory cimicid bug *Anthocoris nemorum* (L.) lying in wait outside and, although a proportion may have been merely seeking shelter before moulting, these were seen to have killed many *rufipennella* larvae as they emerged from their cones.

Acknowledgements

I am grateful to Dr. K. P. Bland and Mr. E. C. Pelham-Clinton for allowing me to use their unpublished records.

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PHYLLONORYCTER GENICULELLA RAG. IN CORNWALL. – With reference to the blotches found in sycamore suckers here in October 1980, which I mentioned in my article and thought might be those of *P. geniculella* (see *Ent. Rec.*, **93**: 95), this can now be confirmed as one of this species has hatched. Dr. F. H. N. SMITH, Turnstones, Perrancoombe, Parranporth, Cornwall TR6 0HX.

ADDITIONS TO THE MICROLEPIDOPTEROUS FAUNA OF THE ISLES OF CANNA AND SANDAY, INNER HEBRIDES

BY M. W. HARPER* AND M. R. YOUNG**

In July 1979 we were able to visit Canna and Sanday with the kind invitation of John L. Campbell, in order to record microlepidoptera. J. D. Bradley has already assembled a good list (Bradley 1958) following a visit to the Island in 1956, and John Campbell himself has very adequately covered the macrolepidoptera (Campbell 1970, 1972, 1975 and several short notes). As well as this there are various other records available, all of which were kindly provided for us by E. C. Pelham-Clinton, and the purpose of this article is to bring all these additional records together, so as to update fully the list of microlepidoptera.

For our visit the weather was predictably poor, most of the days being dominated by a fine, drenching rain and mist. However, two days were fine and the scene was transformed to the vivid colours for which these verdant, basaltic islands are so justly renowned.

The additional records provided by E. C. Pelham-Clinton fall into several categories. There are those recorded by E. C. Pelham-Clinton during a visit in September 1969; those sent as specimens or records by J. L. Campbell to E. C. Pelham-Clinton; those from J. L. Campbell's collection which were mostly identified by E. C. Pelham-Clinton and a few recorded in a letter from J. D. Bradley to J. L. Campbell in 1956. These sources are indicated in the list of species as: 1969 (E.C. P-C.); (J.L.C. to E.C. P-C.); (J.L.C.) and (J. D. B. to J. L. C.) respectively. All other records are our own.

None of the species recorded here are especially rare, except perhaps *Scobipalpa clintoni,* which may be greatly under-recorded, but a very interesting feature is the many species associated with trees. Many of these may be recent arrivals as the island had few trees until J. L. Campbell began to plant more in the 1940's and 1950's. The vegetation of the islands is well described by Campbell (1970).

It is clear that many species which must certainly be present have not yet been found. Some families, such as the Nepticulidae or Coleophoridae, are very underworked and there remains much scope for useful work on the moths of these charming and interesting islands.

Species List (Nomenclature after Bradley and Fletcher 1979).

*Cherry Orchard, Bullen, Ledbury, Herefordshire.

**Department of Zoology, Aberdeen University, Tillydrone Avenue, Aberdeen.

Nepticulidae

Stigmella salicis Stt. One mine on *Salix atrocinerea* 8.9.1969 (E.C. P-C.).

Tineidae

Nemapogon cloacella Haw. 7.1979 A singleton near Tighard.
Tinea semifulvella Haw. 1969 (J. L. C. to E. C. P-C.).

Gracillariidae

Caloptilia elongella L. Mines on *Alnus glutinosa* leaves in plantation near Tighard. Moths reared in September 1979.
C. syringella Fabr.: A few mines on *Fraxinus* 7.9.1969 (E.C.P-C.).

Yponomeutidae

Yponomeuta evonymella L.: 1970 (J.L.C.).
Ypsolopha vittella L.: 1970 (J.L.C.).
Prays fraxinella Bjerk: Moths near Tighard disturbed from *Fraxinus* 7.1979.
Argyresthia conjugella Zell.: A few moths near Tighard.

Coleophoridae

Coleophora potentillae Elisha: A few cases on *Potentilla erecta* 7.9.1969 (E.C.P-C.).
C. striatipennella Tengstrom: A single moth taken (7.1979) confirmed by genitalic examination.

Oecophoridae

Depressaria daucella D & S. A few larvae present in flower heads of *Oenanthe crocata* 7.1979, Sanday. Moths subsequently reared 9.1979.
D. pastinacella Dup. 1970 (J.L.C.): larvae found in flower heads of *Heracleum.* 7.1979.
Agonopterix heracliana L.: Larvae in *Anthriscus* leaves (7.1979).
A. ciliella Stt. 1969 (J. L. C. to E.C.P.-C.): Larvae found locally in leaves of *Angelica sylvestris* on the far western shore of Canna (7.1979).
A. subpropinquella Stt. Larvae on leaves of *Cirsium vulgare* on Canna and Sanday 7.1979. A few moths reared in 8.1979.
A. nervosa Haw. Single moth 7.9.1969 (E.C.P.-C): 1975 (J.L.C. to E.C.P.-C.): Larvae found in some numbers on *Ulex* 8.1979.
A. yeatiana Fabr. 1956 (J.B.D. to J. L. C.): We searched *Daucus carota* but failed to find any larvae of this species or other Oecophoridae.

Gelechiidae

Scrobilpalpa clintoni Pov. 2 pupae in stems of *Rumex crispus* Sanday 8.9.1969 (E.C. P-C.).

Momphidae

Blastodacna hellerella Dup. Single moth in light trap. 6.1971 (J.L.C. to E. C. P-C.).

Cochylidae

Aethes piercei Obraz. 1969 (J.L.C. to E.C. P-C.). This species is now recorded for the first time. J. D. Bradley recorded *A. hartmanniana* (Clerck) in 1958, but subsequently noted that all Scottish records are unconfirmed and may refer to *A. piercei* (Bradley, Tremewan and Smith 1973).

Tortricidae

Pandemis cerasana Hb. 1969 (J.L.C. to E.C.P-C.).

P. heparana D. & S. 1969 (J.L.C. to E.C.P-C.).

Archips rosana L. 1975 (J.L.C. to E.C.P-C.): Larvae abundant near Tighard on *Rosa* and *Malus* 7.1979.

Pseudargyrotoza conwagana Fabr.: 1969 (J.L.C. to E.C.P-C.).

Tortrix viridana L. 1969 (J. L. C. to E.C. P-C.): 2 moths in light trap 18.7.1956 (J. L. C. to E. C. P-C.).

Acleris laterana Fabr. 1969 (J. L. C. to E. C. P-C.).

A sparsana D. & S. 1956 (J. B. D. to J. L. C.): 1969 (J. L. C. to E. C. P-C.). Larvae common in spun leaves of *Acer pseudoplantanus* around Tighard 7.1979.

A. rhombana D. & S. 1975 (J. L. C. to E. C. P-C.).

A. aspersana Hb.: 1975 (J. L. C. to E. C. P-C.). Moths were bred from larvae found on *Salix repens* on Sanday 7.1979.

A. variegana D. & S.: 1975 (J.L.C. to E.C.P-C.). Moths were bred from *Malus* 7.1979 at Tighard.

Bactra furfurana Haw.: A few moths seen on Sanday 7.1979 amongst its foodplant *Eleocharis.*

Epinotia tenerana D. & S.: A few moths disturbed from alder plantation near Tighard 7.1979.

E. immundana F. v. R. One moth 7.9.1969 (E.C.P-C.). Larvae common on *Alnus glutinosa* and a single moth bred from *Rosa,* Tighard 7.1979.

Zeiraphera diniana Guen. 1973 (J. L. C. to E.C.P.C.).

Epiblema uddmanniana L. 1970 (J. L. C.).

E. scutulana D. & S. 1969 (J. L. C. to E.C. P-C.).

E. costipunctana Haw.: Single moth seen on Sanday 7.1979.

Pammene regiana Zell.: 1969 (J.L.C. to E.C.P-C.).

Cydia gallicana Guen.: A single moth at rest on flower of *Daucus carota* on the western shore of Canna and one similarly on Sanday.

C. aurana Fabr.: A few moths on Sanday 7.1979.

Dichrorampha petiverella L.: Seen on Sanday 7.1979.

Alucitidae

Alucita hexadactyla L.: 1956 (J.D.B. to J.L.C.).

Pyralidae

Crambus nemorella Hb.: 1969 (J.L.C. to E.C.P-C.): Also 7.1979 on Sandy and Canna.

C. geniculea Haw.: 1975 (J.L.C. to E.C.P-C.).

Catoptria margaritella D. & S.: 1970 (J.L.C.).

Scoparia pyralella D. & S.: Single moth at rest on a wall in Canna 7.1979.
Eudonia mercurella L.: 1975 (J.L.C. to E.C.P-C.).
Evergestis forficalis L.: 1969 (J.L.C. to E.C.P-C.).
Eurrhypara hortulata L.: One moth 13.7.1971 (J. L.C. to E.C.P-C.).
Udea ferrugalis Hb.: 13 moths in light trap 20.10.1969 (J.L.C. to E.C.P-C.).
Nomophila noctuella D. & S.: 40 moths in trap 20.10.1969 (J.L.C. to E.C.P-C.): one 1975 (J.L.C. to E.C.P-C.). These last two species are migratory, and have no residential status.
Aphomia sociella L.: 1970 (J.L.C.).
Pyla fusca Haw.: 1970 (J.L.C.).
Dioryctria abietella D. & S.: 1969 (J.L.C. to E.C.P-C.).

Pterophoridae
Platyptilia gonodactyla D. & S.: 1970 (J.L.C.).
Stenoptilia pterodactyla L.: 1975 (J.L.C. to E.C.P-C.).

This list of fifty seven species of microlepidoptera can now be added to the sixty five recorded by J. D. Bradley, bringing the total to one hundred and twenty two.

Acknowledgements

We are very grateful to Mr. J. L. Campbell for entertaining us so hospitably on Canna and to Mr. E. C. Pelham-Clinton without whose generous help with additional records this paper would have been greatly diminished.

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SATURNIA PAVONIA (L.) ON POTENTILLA PALUSTRIS (L.) SCOP.—In response to the query raised by K. Porter concerning foodplants of *Saturnia pavonia* (*Ent. Rec.* **92,** 175) I would like to report finding final instar larvae of *S. pavonia* feeding on *Potentilla palustris* (marsh cinquefoil) near New Galloway, Kirkcudbrightshire in the summer of 1979. At home I successfully transferred the larvae on to garden rose.—DR. P. D. HULME, 10 Nethermains Rd., Muchalls, Kincardineshire.

SPRING BUTTERFLIES FROM THE GREEK ISLANDS OF PAROS AND SIPHNOS

By JOHN G. COUTSIS*

The island of Paros is situated in the Aegean sea, at a latitude of about 25 degrees North and belongs to a group of islands known as the Cyclades. Its area is approximately 195 square kilometres and its highest peak, known by the name of Aghios Ilias, has an altitude of 746 metres. Its distance from Mainland Greece is close to 120 kilometres, whilst its distance from the two islands closest to it, Naxos and Antiparos, is about seven and one and a half kilometres respectively.

Paros is rather dry and rocky, with a low rainfall and very little running water. Only certain areas in the north of the island are fairly flat and somewhat intensely cultivated, the rest being mainly characterized by the presence of garrigue (phrygana), which tends towards maquis along the lower reaches of ravines and gulleys. Sizeable olive groves are also present in more or less wind-protected areas.

The butterflies recorded on Paros were, as expected, few in species, but surprisingly many in individuals, quite in contrast with the island of Siphnos (Coutsis, 1978), where butterflies were found to be rather a rare sight.

Collecting was carried out between 22nd and 28th April 1981 and the following butterflies were recorded:

Papilionidae

1. *Papilio machon* Linnaeus

   In fair numbers and generally distributed.

2. *Iphiclides podalirius* Linnaeus

   Quite common and generally distributed.

Pieridae

3. *Pieris brassicae* Linnaeus

   Very common everywhere.

4. *Euchloe ausonia* Huebner

   Generally distributed, but most common near Aghios Minas. All specimens were of the so called first brood. Some individuals quite large and with extensive yellow suffusion on HW underside, but with nacreous spots. A single aberrant female with large black, fuzzy-edged, blotch, in place of usual FW discoidal spot.

*4, Glykonos Street, Athens 139, Greece.

5. *Colias crocea* Fourcroy

Generally distributed and common.

6. *Gonepteryx cleopatra* Linnaeus

In fair numbers, near Aghios Minas and near Lefkes. All specimens worn and almost without doubt from hibernation. All the females recorded were of the greenish-white morph.

Lycaenidae

7. *Callophrys rubi* Linnaeus

Locally in fair numbers. Recorded from Voutakou and from near Aghios Minas.

8. *Lycaena phlaeas* Linnaeus

Local but quite common. Recorded from Voutakou and both from near Lefkes and Aghios Minas.

9. *Celastrina argiolus* Linnaeus

A single specimen recorded from near Lefkes.

10. *Glaucopsyche alexis* Poda

Found in fair numbers in places where *Calicotome villosa* Poiret (Spiny broom) grows; perhaps this association denotes that this is a larval food-plant for *alexis*.

The recorded specimens were never as large as some of the larger individuals captured on Mainland Greece. Males upperside with relatively narrow black marginal borders, females entirely black. Underside of both sexes very often without postdiscal black spots on HW.

11. *Pseudophilotes vicrama schiffermuelleri* Hemming

Locally in fair numbers. Mostly near Aghios Minas.

12. *Polyommatus icarus* Rottemburg

Locally quite common. Recorded fom Voutakou and both from near Lefkes and Aghios Minas.

Nymphalidae

13. *Vanesa atalanta* Linnaeus

A few recorded from near Lefkes.

14. *Cynthia cardui* Linnaeus

Very common in all localities visited.

15. *Polygonia egea* Cramer

One recorded from near Lefkes and another from Parikia.

Satyridae

16. *Maniola jurtina* Linnaeus

Generally distributed and common. Large specimens; males most often with orange-brown markings on FW upperside. Females near form *fortunata* Alpheraky, brightly coloured and with much extended orange-brown markings above.

17. *Lasiommata megera* Linnaeus

A single specimen recorded from near Parikia.

Hesperiidae

18. *Carcharodus alceae* Esper

In fair numbers near Lefkes and near Aghios Minas.

19. *Thymelicus acteon* Rottemburg

A single male captured in Voutakou, at sea level.

20. *Gegenes pumilio* Hoffmannsegg

A few males captured on the stony bottom of a ravine, near Lefkes. Identification confirmed by the genitalia.

During a second visit to the island of Siphnos in April 1979 the following two species were recorded that had not been included in my previous list of 1978: *Papilio machaon* and *Gegenes pumilio,* both captured near Chrysopighi.

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THE PALE FORM OF THE PEARL BORDERED FRITILLARY: BOLORIA EUPHROSYNE L. AB. PALLIDA SPULER.—During a short stroll through Parkhurst Forest, Isle of Wight, on May 27 1981, I came upon a clearing where *B. euphrosyne* was flying plentifully, some of which were in fresh condition. After a few minutes I noticed a very pale example which immediately flew away rapidly. But it was then getting late so I resolved to return the following day. The next morning, having located the clearing, by a curious coincidence the first *euphrosyne* noted was the pale form and after netting it I saw it was a male ab. *pallida*.—F. H. CLOUTER, Helice, Glendale Road, Minster-in-Sheppey, Kent.

A FEW THOUGHTS ON AN ASPECT OF THE DISPERSAL PROBLEM

By A. A. ALLEN, B.Sc., A.R.C.S.*

Mr. A. J. Showler (*antea:* 199-200) raises a fascinating and baffling question: how does a butterfly – or, in principle, any insect – in the case of a species of relatively sedentary habits and restricted or specialised habitat, expand its range from time to time into previously uncolonized areas, often over quite long distances? I do not know the answer; but as Mr. Showler invites suggestions, here is one line of approach that appears to me plausible.

I think I am right in saying that we know, or at any rate strongly suspect, that the large migrations which take place at irregular intervals are the response to an environmental pressure – a build-up of population putting a strain on the equilibrium or balance of biological forces within that population. The most obvious factors will include overcrowding and food-shortage causing ultimately acute competition-pressure, weakening of the stock, perhaps disease, etc. Here the causal factors are fairly clear and apparent response to them a natural and 'logical' one, even if the exact mechanism by which it occurs is obscure or conjectural.

But now suppose that essentially similar responses are capable of being initiated by *other* unfavourable stimuli, besides those provided by overcrowding and its attendant ills. It may even be that *any* such produces, within a few generations, a corresponding degree of restlessness on the part of at least the gravid females, or a proportion of them – a tendency, weaker or stronger depending on the power of the stimulus, to wander (far if necessary) in search of "fresh woods and pastures new". One envisages the stress or stresses as in some way directly acting on the genetic material – a Lamarckian thesis, doubtless, but there are many instances in which something of the sort is now believed to occur. The stressful stimuli would, on this view, include such things as a severe reduction in living-space, and with it, of the foodplant; changes in the local microclimate, slight pollution, etc. It is not hard to imagine how such stresses might develop – all too easy, in fact! When they do so too rapidly, the colony is of course unable to develop the appropriate responses in time.

Something very similar is thought to happen periodically with certain species of beetle which are normally flightless (often with aborted or useless wings). From time to time, either odd individuals or groups develop functional wings – an apparent adaptive means to enable the species to disperse and effect re-colonization whenever this becomes requisite for survival.

The cases of expansion of range over wide fronts seem somewhat different, for there it should rather be a matter of accumulation of factors *favourable* to the species with

*49 Montcalm Road, Charlton, London SE7 8QG.

consequent access of vigour and dispersive power. The end result is not dissimilar but of course on a greatly magnified scale.

RE-APPEARANCE OF THE EMPEROR MOTH IN EPPING FOREST. – An Emperor Moth *(Saturnia pavonia* L.), the first in Epping Forest this century, was recorded at Epping Forest Conservation Centre (TQ 413981) on 8th May 1981. The specimen is a female, in perfect condition and once captured it proceeded to lay 24 eggs which are now being reared. de Worms *(Lond. Nat.,* **1953**: 129) described the Emperor as fairly numerous on the outskirts of London, but refers to the *Victoria County of Essex* (1903) as the last record for Epping Forest. Emmet (1979, *The Lepidoptera – a historical perspective, in* Corke, D., edit., *The Wildlife of Epping Forest)* carried out a review of the literature concerning the moths of Epping Forest and found no records at all of the Emperor Moth between 1950 and 1977, and also stated that 'it is surprising that the Emperor has not been recorded lately because it is not uncommon elsewhere in the county'.

On checking with the Biological Records Centre at Monks Wood, it appears that although the moth has been recorded in areas surrounding the Forest (Chigwell in 1964-67, Roydon in 1968), in the last 10 years, there are no such records for Epping Forest itself. Apparently therefore, I have to report the first Epping Forest record of the Emperior Moth since 1903.

The insect was caught in a Robinson MV trap (125 W) which has been used to record moths in the Epping Forest Conservation Centre grounds for the last six years, the results of which survey are soon to be published. The light trap is set up on a mound surrounded by sallow and Scots pine. The grounds themselves contain approximately two acres of rough grassland, a pond, and gardens, within a border of lime trees interspersed with silver birch. Epping Forest Conservation Centre is well situated in the middle of Epping Forest, the surrounding forest consisting mainly of pollarded beech trees and small areas of open heath. – Miss L. PALFRAMAN, Epping Forest Conservation Centre, High Beech Loughton, Essex.

LARVAL HABITS OF CARCINA QUERCANA FABR. – I was interested in the Note by H. N. Michaelis (in *Ent. Rec.,* **93**: 61) on this species that it might possibly overwinter as a larva, and in which he states that he had found larvae on *Hypericum hidecote* in March.

For three years now, I have bred this moth from spinnings collected from a species of garden *Pyrracantha,* in Eastbourne. The larvae in their silken spinnings occur on the underside, or in very rare instances, on the topside of the leaves feeding on new growth as it sprouts in the spring. The larvae have been collected from January to May in most years. I have never looked earlier as the larvae are very small in the early months. As *Pyrracantha* is a species of so-called 'semi-evergreen', I would think it quite likely that the species could overwinter as a larva, at least in the south. – M. HADLEY, Nature Conservancy Council, 19-20, Belgrave Square, London SW1X 8PY.

By JOHN PAUL*

During July 1980 I visited Scandinavia where I observed and collected the Orthoptera. Many of the species found are also known from Britain. Mr. E. C. M. Haes (pers. comm.) believes that a study of the Scandinavian Orthoptera is of importance when considering the origin of the British fauna: the land now submerged by the North Sea may have provided an important link after the retreat of the ice about 8-9,000 years ago when the warm Boreal Phase dominated the climate of northern Europe.

I visited first Abisko in Swedish Lapland. Abisko has the dryest climate in Sweden with an annual precipitation of 298mm. *Tetrix undulata* (Sowerby) was present in good numbers on the bogs of the Abisko National Park. A single male *Ectobius lapponicus* (Linnaeus) (Dictyoptera) was taken on gravel by the railway track. The boreal species *Melanoplus frigidus* (Boheman) occured on dry heath at about 2000ft. Most specimens were adult. I found colonies on Mt. Nuolja and above Jieprenjåkk on the north side of Torneträsk: these sites closely coincided with colonies of the arctic butterflies *Colias nastes* and *C. hecla.* No Orthoptera were found further west in the rather damp Vadvetjåkko National Park. *Melanoplus frigidus* was taken later, but mostly as nymphs, at Hjerkinn in the Dovrfjell mountains of Norway where its habitat extended down to the bogs at valley levels.

Coastal marshes at Helsinki yielded *Metrioptera roeselii* (Hagenbach) and *Chorthippus parallelus* (Zetterstedt). The weather was perfect for collecting when I reached Mariehamn in Åland. *Tettigonia viridissima* (Linnaeus) was singing in and around the cornfields where a single *Tetrix undulata* was taken. *Chorthippus brunneus* (Thunberg) was common in heathland clearings in pine woods. In grassy clearings in deciduous woods I found good colonies of *Pholidoptera griseoaptera* (De Geer) and *Omocestus viridulus* (Linnaeus). *Stethophyma grossum* (linnaeus) and *Chorthippus albomarginatus* (De Geer) abounded in the coastal marshes together with a single female *Decticus verrucivorus* (Linnaeus). In Britain *Stethophyma grossum* is confined to acid peat bogs: the low salinity of the Baltic may account for its tolerance of coastal marshland, which judging from the thick silty deposits on the reed stems is subject to inundation by the sea.

Stethophyma grossum was later recorded at Nelaug in southern Norway. Here its habitat was lush grass by a lake. *Metrioptera brachyptera* (Linnaeus), *Chorthippus brunneus* and *Ectobius lapponicus* were also present. A single *Podisma pedestris* (Linnaeus) was found on the railway track at Nelaug.

In clearings in the deciduous woods around Hässleholm in southern Sweden I found *Metrioptera brachyptera, Chorthippus*

*73 Cambridge Road, Clevedon, Avon, BS21.

brunneus, Chorthippus parallelus and large numbers of a dark form of *Ectobius lapponicus.* A continental element in the fauna was provided by *Chorthippus apricarius.*

Specimens were sent to Dr. D. R. Ragge at the British Museum of Natural History. I thank Mr. James Reynolds (B. M. (N.H.)) for identifiying them.

ANOTHER BRITISH SPECIMEN OF OCHROPLEURA FENNICA (TAUSCHER), EVERSMANN'S RUSTIC. – A female *O. fennica* was captured inside the Armstrong Building of the University of Newcastle-upon-Tyne (NZ 246 652) on the evening of 15th August, 1972. The specimen was in good condition and subsequent examination revealed it to be full of eggs and without spermathecae in the bursa. This appears to be one of only five British specimens of this migrant circumpolar species. Two others were captured in eastern England during August 1972 (Bretherton *et al.,* in Heath & Emmet, eds., *The Moths and Butterflies of Great Britain and Ireland*, Vol. 9, page 151).

This specimen was recently discovered among some examples of other species, as a result of critical examination of some difficult moths prior to submitting a final batch of records to the B. R. C. recording scheme. We are grateful to Dr. M. Hull and to Mr. M. Honey of the British Museum (Natural History) for assistance with identification. The specimen is now in Merseyside County Museum, Liverpool. – I. D. and B. WALLACE, Merseyside County Museum, William Brown Street, Liverpool, L3 8EN.

NORTHUMBERLAND AND CUMBERLAND NEPTICULIDAE. – While entomologising in the north of England in August and September 1980, I collected many nep mines, including those of a number of species that appear to constitute new county records (starred) and new vice-county records as hereunder, and which Col. Emmet has kindly determined.

Cumberland (VC70): **Stigmella magdalenae* Klim. = *nylandriella* sensu auctt., W. bank of Ullswater, on rowan; **S. luteella* Stt., Thirlspot, on birch; **S. ruficapitella* Haw., East Curthwaite, on oak; **S. perpygmaeella* Doubl., East Curthwaite, on hawthorn; **S. ulmivora* Fol., East Curthwaite, on wych elm. N. Northumberland (VC 68): **S. lapponica* Wocke, Chillingham, on birch; *S. crataegella* Klim., Bilton, on hawthorn, *S. sorbi* Stt., Longhaughton, on rowan; *S. marginicolella* Stt., Swinhoe, on elm; *S. hybnerella* Hb., Bilton, on hawthorn; **S. ruficapitella* Haw., Chillingham, on oak; **S. nylandriella* Teng. = *aucupariae* Frey, Chillingham, on rowan; *S. luteella,* Stt., Chillingham, on birch. – J. M. CHARLMERS-HUNT.

TYCHIUS CRASSIROSTRIS KIRSCH, A WEEVIL NEW TO BRITAIN; WITH SOME REMARKS ON THE PROBLEM OF THE BRITISH *"T. HAEMATOPUS"*

By A. A. ALLEN, B.Sc., A.R.C.S.*

Some years ago Mr. D. M. Ackland, when working on parts of the P. Harwood collection of British beetles at the Hope Department of Entomology, Oxford University Museum, informed me that he doubted the identity of the species standing therein over the name of *Tychius haematopus* Gyll. and in fact made it, tentatively, *T. crassirostris* Kirsch – a species not recorded from this country. At my suggestion he sent an example for confirmation to Dr. L. Dieckmann in Germany, who duly returned it as that species. The name consequently appears in the new Check List (Kloet & Hincks, 1977), but the insect has not been brought forward as British until now. Mr. Ackland, who is not a coleopterist, thus deserves most of the credit for this novelty to our list and its correct recognition.

T. crassirostris comes in our fauna between *T. flavicollis* Steph. (=*squamulatus* Gyll.) and *T. junceus* Reich, and shows similarities to both. According to Hansen (1965) it has a small tooth under the hind femora, like the former of these; however, Reitter (1916) says nothing of this character for either species, though the tooth is actually very distinct in *flavicollis* at all events. My single *crassirostris* has no such tooth but only a shallow excavation as in the mid femora. It would appear therefore that the post-femoral tooth, if present, can be very indistinct or easily overlooked; it is evidently unreliable as a character, and in what follows will be left out of account.

The present species is known from its allies (in Britain, the two above named) by a number of features, which lend themselves fairly readily to expression in tabular form. As I have seen no male of *crassirostris* I am relying entirely on Hansen (1965) for the male leg-characters; and with only a single female on which to assess them, it is possible that certain differences given here may not be fully dependable. A few of those mentioned by Hansen are not clear in my specimen. These I omit (the most considerable is the hind femoral tooth – see above). With these reservations, *T. crassirostris* should be easy to recognize from the table which follows. It is, if anything, a trifle longer on an average than the other two species.

The elytral scaling is probably the most important and least comparative character in these species.

The sole locality in Britain that can yet be given for *T. crassirostris* is Charmouth, on the west coast of Dorset, from which place a series was found *in coll.* P. Harwood as above. My specimen, from

*49 Montcalm Road, Charlton, London SE7 8QG.

his duplicates, on which (together with data culled from Hansen) the above diagnosis has been drawn up, was also labelled *haematopus* and was taken there on 6.vi.26. Others from his collection which I saw briefly were dated 1.v.27. Most likely they were taken on or under the cliffs at the locality stated. The species occurs in central and southern Europe, but is generally rare. Reitter and Hansen agree in giving the foodplant as *Melilotus,* especially *M. albus,* whilst the

	flavicollis	*crassirostris*	*junceus*
Rostrum	Long & slender	Short & unusually thick	Intermediate, about usual for the genus
Its apical portion in side view	Not tapered	Strongly narrowed & pointed	Somewhat tapered & pointed
Antennal scape	Strongly dilating from well beyond middle	Strongly dilating from about middle	Gradually & rather feebly dilating
Pronotum	Transverse	About as broad as long	Transverse
Elytral humeri	Rather square & well marked	Little marked, sloping, almost effaced	As *flavicollis* (elytra noticeably short, cordiform)
Individual elytral scales	Short-oblong; on sutural interval still shorter, squarish	Elongate, widest near base, attenuate behind	Linear & more hair-like
Covering of scales on elytra	A thick crust along each interval, striae marked by a very small scale in each puncture	Dense, concealing the striae; some groups of shorter paler scales on suture behind	Less dense; uniform, even on suture & striae, the latter indistinctly visible
Fore & mid tibiae	Inner margin incurved towards apex & ending in a strong tooth, especially in ♂	♂ : inner margin incurved towards apex & set with a row of white outstanding hairs. ♀ : simple, straight, apical tooth very small, hardly visible from above	♂ : about as *flavicollis.* ♀:about intermediate between ♀ *flavicollis* & ♀ *crassirostris*
Underside of fore femora in ♂	Simple	With a fringe of white, pointed, erect scales	Simple or (*teste* A. Hoffmann) with a few setae, not a definite fringe

latter author notes its occurrence in June and August in Denmark and that the larvae live in galls on the leaves. Collectors should look out for it on the south coast on white melilot, etc.

The problem of Tychius haematopus auct. Brit. – Since *T. crassirostris* has been found in a major British collection doing duty for *T. haematopus* Gyll. (introduced into out list in 1910), that could well be the case with others formed during the same period. Some reference should therefore be made to the vexed question of what species was understood by British authors under that name, now the true *haematopus* of Gyllenhal is synonymized with the rather common *T. junceus* Reich *(testibus* A. Hoffmann, L. Dieckmann; cf. Kloet & Hincks, 1977). Yet under these two names, James Edwards (1910) characterized in some detail what would appear to be two distinct species (cf. also Fowler & Donisthorpe, 1913). In this he was followed by Donisthorpe (1910), Joy (1932), and Kloet & Hincks (1945); but challenged by Newbery (1920), who thought there were indeed two species involved (confirmed for him by Bedel and Deville) but that only one of them, *junceus,* was British, and that Edwards had probably been misled by its variation. This drew a prompt rejoinder from Edwards (1920), emphatically restating his view of the matter, and mentioning that his *haematopus* had been named for him by Dr. Everts [in Holland].

I have examined a specimen in the Power collection (BMNH) purporting to be one of Bennett's original batch of "haematopus" from near Hastings, on which Edwards based his diagnosis; and another, separated as that species by Blair from Power's series of *junceus.* Both appear to me to be indistinguishable from the last-named, and the same applies to two others labelled *haematopus* by Joy but *junceus* by Blair. Up to now I have seen nothing to suggest that we have more than one species under these names. (The *haematopus* Gyll. of Reitter (1916), for which he gives as synonyms *junceus* Boh., Bris., non Reich, must be some other species.)

Perhaps the confusion stems in the first place from the fact (pointed out by Hoffmann, 1954) that Bedel was mistaken in attributing to *junceus* a fringe of hair-scales beneath the front femora of the male – in which he was followed by Edwards, whereas Joy assigns this character to *haematopus.*[1] Differences of shape and scaling were also alleged to exist. I have yet to see a male *junceus* possessing such a fringe, whilst the species that *does* have this character is *crassirostris!* It would indeed be a neat solution of the puzzle were our so-called *haematopus* found to be that species, but, despite one or two pointers towards it, the idea is untenable. It looks as though Edwards and other competent coleopterists of his time, both here and abroad, must have been led astray in some way – unless there really is a species next to *junceus* unaccounted for.

[1]As "very fine outstanding pubescence". Presumably, the transposition of this character (thus contradicting Edwards) is but one of the many errors of this sort in Joy's book.

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DEATH OF HYMENOPTERA IN MOTH TRAPS. — I was interested to read J. C. A. Craik's comments on the rather rapid exhaustion and death of hornets in his New Forest moth trap *(Ent. Rec.* 92: 244-245). Most operators of MV traps must have noticed the same phenomenon affecting trapped wasps, and perhaps less obviously males (at least) of parasitic Hymenoptera. The sub-order Apocrita, to which all these insects belong, feed on protein-rich media as larvae but as adults are dependent on very frequent ingestion of sugars (eg. nectar, honeydew, sap, ripe fruit) in order to remain alive, let alone active, at normal summer temperatures. If worker wasps are kept unfed in pill boxes they often die overnight and almost invariably do so within 24 hours, unless their activity and metabolism is slowed down by refrigeration. Males of parasitic Hymenoptera generally do little better, although females of very many species are able to resorb maturing eggs, liberating sufficient nutrients to get them through temporarily hard times by this reversible suspension of their reproductive abilities. Males, and worker vespids, do not in general have access to a substantial food reservoir and their rapid demise in moth traps is probably a combination of their isolation from sugars and the relatively high, activity-inducing temperatures which prevail inside moth traps owing to the "glasshouse effect". — Dr. M. R. SHAW, Dept. of Natural History, Royal Scottish Museum, Edinburgh EH1 1JF.

NOTES ON THE COLEOPHORIDAE: A SEQUEL

By J. NEWTON *

This extension to my notes (in *Ent. Rec.* **91**: 234) concerns two species of Coleophoridae only – *C. milvipennis* Z. and *C. alnifoliae* Barasche.

My appeal to anyone who has bred a specimen of *alnifoliae* from birch and had it confirmed by genitalia examination, has so far produced no response.

From six cases on alder which I over-wintered from August 1978, five moths emerged, June 24th – July 2nd 1979. An examination of the genitalia confirmed that they were indeed *alnifoliae.* Until I get further evidence to the contrary, I believe this species feeds only on alder, and has a one-year cycle only in this country as it is reported to have in other countries.

C. milvipennis Z. My experience shows this species to have a complicated life-history. In May 1979, I collected in Surrey 12 more cases from birch, two of which just after they had been constructed, as they were still quite limp. I was fascinated by the method of construction which was done by the larva mining a strip along the edge of the leaf from the base, in outline the same shape and size of the final adult case. I transferred these to a potted birch plant in my greenhouse and from them nine moths emerged, July 6th – 15th. The three remaining cases I left undisturbed and put out-of-doors for the winter, where they remained exposed to the elements until April 1980, when I returned them to the greenhouse. No further feeding took place and two moths emerged on May 5th.

It would appear then that the majority spend their first winter hibernating in a juvenile case, developing in the spring, and producing moths in July, while a minority hibernate in an adult case for a second winter.

A further complication occurred in Surrey when I visited my site on September 19th 1979, and found to my surprise, five adult cases on birch. Moreover, they had obviously just been constructed, but by a method quite different from that previously described. On this occasion quite a large area of parenchyma had been removed from half a leaf, leaving a thin membranous cuticle. From this membrane a large rounded portion had been removed to form the case. Alongside, on the remaining half of the leaf was the completed case still quite soft. The thought immediately sprang to mind, could these be of *alnifoliae* after all? However, I kept the cases on a separate potted birch out-of-doors for the winter and having removed them to the greenhouse in the spring, all five cases produced moths, May 9th – 12th. A genitalia examination of one of these proved the species to be *milvipennis.*

In Britain, I imagine *milvipennis* to be on the northerly fringe of its European range, and still struggling to adapt itself here. No doubt some time in the distant future, natural selection will work it

*11 Oxlease Close, Tetbury, Glos.

all out and a fixed pattern of behaviour will emerge. Meanwhile, I would like to see the job of sorting out the tangle to be undertaken by a lepidopterist scientifically better qualified than I, and to whom I would willingly give all the help I could from information at my disposal.

Acknowledgement

I am grateful to Dr. J. D. Bradley for checking a genitalia slide which I made of a female *milvipennis*.

ARHOPALUS RUSTICUS L. (COL.: CERAMBYCIDAE) IN KENT AND ESSEX. – Dr. G. A. Neil Horton's record of this longicorn beetle *(as Criocephalus)* from Monmouthshire *(antea:* 52) reminds me that my friend the late G. Shephard obtained the species in the vicinity of St. Margaret's and West Langdon, near Dover, and at Hatfield Forest, near Bishop's Storford, in the 1970s – both occurrences, as far as I know, being new county records. In the former area it was found repeatedly in their house (having presumably flown to light) by relatives of Mr. Shephard, and passed to him; one of these, dated 16.viii.68, he kindly presented to me. At Hatfield Forest he took a single example on a Scots pine log (July or August).

This insect, formerly confined with us as a native to the old pine forests of Strathspey, has within the last 3-4 decades colonized parts of southern England*, where it appears to have been first found at Canford Heath, Dorset, in 1958, by Mr. F. A. Hunter. The Dover record shows it to have now reached the extreme south-east. *A. rusticus* is said to be now more frequent than the very similar *A. tristis* F. *(=Criocephalus ferus* Muls.) in some southern districts, but I understand that they do not normally occur in the same localities.

Arhopalus rusticus requires careful differentiation from its congener *A. tristis.* The shorter tarsi of the former is generally the first thing to strike the eye when similar-sized individuals of the two species are placed together; but perhaps the most reliable character and the least dependent on comparison lies in the hairy eyes of *rusticus.* Duffy (1952, *Handb. Ident. Brit. Ins.,* **5** (12):9) gives size as one of the differences, assigning to *rusticus* a length of only 12-16 mm. This however must be a mistake (overlooked in my review of this work, *Ent. Rec.* **64**: 363), for in fact both species have a size-range up to 30 mm.; cf. Fowler & Donisthorpe, 1913, *Col. Brit. Isl.,* **6**: 152-3. – A. A. ALLEN.

*In this it is closely paralleled by an allied Cerambycid, *Asemum striatum* L., and by the Staphylinid *Nudobius lentus* Grav., both likewise exclusively Highland insects in earlier days. Further, it seems extraordinary that the two *Arhopalus* spp., *Tetropium gabrieli* Weise, and *Melanophila acuminata* Deg. – all conspicuous beetles of coniferous woodland – were entirely unknown in Britain until about the turn of the century.

A SURVEY OF THE SALTATORIA OF THE BRISTOL AREA AND NORTH SOMERSET

BY J. F. BURTON, F.R.E.S. F.Z.S.*

(Continued from page 80)

Grey Bush-cricket *Platycleis denticulata* (Panz.)

This fully winged, grey-brown coastal Tettigoniid is very local indeed in this area, but in spite of its largish size has probably been much overlooked. In fact, there were no recent reports of its occurrence until 2nd September 1977 when Mr. R.S. Cropper (Miller, 1979) discovered a flourishing colony on the southern slopes of Brean Down and established the first record of the species for the North Somerset vice-county (V.C.6). There are several other suitable habitats along the Somerset coast and a search of these may well reveal its presence. Sand Point is one such likely place which I must confess to never having found time to visit. However, I have looked for it along the foot of south-facing cliffs at Clevedon without success.

Some years ago I discovered two female Grey Bush-crickets labelled "Bristol" in the C. Bartlett collection in the Bristol City Museum which were evidently collected early this century. I suspect that these were obtained somewhere along the north side of the Avon Gorge, but so far my searches there have been unsucccessful.

Bog Bush-cricket *Metrioptera brachyptera* (L.)

The Bog Bush-cricket is another extremely local species in this area which ought to be more widespread and has probably been overlooked. The late Mr. J. Cowley (1949) discovered it in the Charity Field on Street Heath in the Somerset Peat Moors in August 1945 and recorded it there again in the two following years, and also in 1949. In 1954 *(pers. comm.)* he also discovered a colony on Westhay Moor, not very far away, which was still flourishing in August, 1957. Then, in late July 1965, while on a visit to the then newly established nature reserve of the Somerset Trust for Nature Conservation on Westhay Moor, I found a very strong colony (mostly the brown form); possibly the same one that Cowley knew. This colony was in good shape when I paid a further visit to the reserve in 1976. It is interesting to note that *Conocephalus dorsalis* is common in the same place.

On the Mendips I have looked for *brachyptera* in vain on the bogs at Blackdown and Priddy.

Short-winged Conehead *Conocephalus dorsalis* (Latreille)

Marshy country is the haunt of this engaging, extremely agile, shiny emerald-green little bush-cricket and since Somerset is well

* 11, Rockside Drive, Henleaze, Bristol, BS9 4NW.

endowed with such country it is commoner there than in most English counties. In fact it is abundant in many parts of the peat moors, levels and coastal salt-marshes of Somerset.

Near Bristol *dorsalis* occurs in plenty on Walton and Weston Moors in the Gordano Valley where I have noted it between 1970 and 1975. One of its sites forms part of the Somerset Trust for Nature Conservation's reserve on Weston Moor. I have also recorded a fairly strong population on the *Spartina* saltings of Clevedon Pill in most years between 1973 and 1976 inclusive, though part of its habitat there has recently been destroyed by the dumping of soil excavated in connection with the construction of the new sluice. It was first found there in July 1952. In August, 1949 the late J. Cowley (1963, *in litt.*) noted the presence of *dorsalis* on the salt-marsh at Berrow, but I have not yet visited this locality at the right time of the year to confirm its continued survival. However, in September, 1979 Mr. Richard Savage *(in litt.)* reported it as very common at Bridgwater Bay.

On 15th October 1962 a BBC colleague brought me a live male which she found in her garden in Stoke Bishop, Bristol – apparently the first record of this species in the West Gloucestershire vice-county. She caught a second specimen a day or two later, but it escaped.

In the Central Somerset Peat Moors I have records of it from the following localities: Sedge Drove, Edington, 1950 (J. Cowley); Catcott Heath, 1947 and 1950 (J. Cowley *et al.*), 1979 (R. Savage); Shapwick Heath, 1952 (J. Cowley), 1963 (J. F. Burton); Meare Heath, 1963 – 65 (J. F. Burton); Oxenpill, near Meare, 1964 (J. F. Burton); Westhay Moor, 1954 (J. Cowley), 1965 – on the S.T.N.C.'s reserve (J. F. Burton); Street Heath, 1948 (J. Cowley); and Walton Heath, 1948 (E. G. Neal), 1955 (J. Cowley).

I have several times found the rare fully winged form (f. *burri* Ebner) on Meare Heath.

Speckled Bush-cricket *Leptophyes punctatissima* (Bosc)

Of all the British bush-crickets, this green medium-sized, wingless species is the one that probably most often comes under the notice of the average person since it often inhabits herbaceous borders in gardens, even those of town suburbs. I frequently found them on Dwarf Michaelmas Daisies, Wild Raspberry, Canterbury Bells and Stinging Nettles in my garden when I lived at Pill (Burton, 1964, 1965) and subsequently at Clevedon, but not so far in the Bristol suburb of Henleaze where I have been living since 1977. Incidentally, Payne (1957) stated that he had received a number of records of Speckled Bush-crickets in gardens in the London area in which Michaelmas Daisies and Lupins were mentioned.

As elsewhere in southern England, *punctatissima* appears to be widely distributed and common in this area, especially on nettles, Wild Hop, brambles, and such hedgerow vegetation. On Church Hill, Clevedon I found a specimen on St. John's Wort in 1971. I have records of it from the following localities (my observations unless

otherwise stated): Batheaston (Blathwayt, 1906); Edington 1945 - 48 (J. Cowley); Great Breach Wood, near Compton Dundon, 1971; Brown's Folly, Bathford, 1971; Clevedon (several places, including the seafront and gardens in the town, and on Court, Church and Wain's Hills), 1971 - 76; Pill, 1962 - 67; Leigh Woods, 1976 - 78; Clifton and Durdham Downs, Bristol, 1963 - 77 and Henleaze, Bristol, 1977.

In his recent paper on the invertebrates of Steep Holm, A. J. Parsons (1978) reported that he found *punctatissima* "moderately common and widespread" and, as with *Pholidoptera griseoaptera,* believed that this was the first published record of the species on this island in the Bristol Channel. In fact, the late J. Cowley found a nymph there on 10th June, 1956. Incidentally, the species has also been recorded in the Bristol Channel from Lundy Island (Kevan, 1961; Ragge, 1965).

CRICKETS (Family Gryllidae).

House-cricket *Acheta domesticus* (L.)

Although not a native species, the House-cricket has long been naturalised in Britain and is the only cricket known to occur in the area covered by this paper. It is much less frequently reported than formerly because of improved hygiene. I have only encountered it at the Ashton Court Country Club, near Failand in North Somerset, where it used to be quite plentiful in the walls surrounding the indoor heated swimming pool from 1963 to 1970 and may still be there, but I have not visited this building since; and also in piles of excavated earth near the new sewage outfall works on the seawall just south of Clevedon in May, 1976.

Also in North Somerset, the late J. Cowley *(in litt.)* recorded *domesticus* "in numbers" in a smouldering rubbish dump between Midford and Monkton Combe in July, 1950 and invading houses near a rubbish dump at Street in July, 1953. The House-cricket can usually only live out-of-doors in this country in rubbish dumps. In the early 1950s there was a serious infestation of House-crickets in refuse in Feeder Road, Bristol.

As well as his records referred to above, J. Cowley heard one singing behind his Aga cooker in his house, Holywell House, Edington, near Bridgwater, on 22nd September, 1949, but did not hear any others there during his residence from 1941 to 1963 (J. Cowley, 1963 *in litt.*).

Blathwayt (1906) recorded *Acheta domesticus* from Batheaston.

GRASSHOPPERS (Family Acrididae)

Large Marsh Grasshopper *Stethophyma grossum* (L.)

This magnificent and beautiful grasshopper, the largest of the native British Acridids, was not apparently noticed in its Somerset haunts until 23rd August, 1942 when Dr. G. A. Walton took a single last instar nymph in a peat bog near Shapwick (Walton, 1944).

The late J. Cowley (1949) subsequently discovered it in abundance in 1947 on Catcott Heath and Street Heath, not far from Shapwick, but failed to find it in apparently suitable habitat on Edington Moor, near his home. Each year, up to and including 1949, however, he noted (Cowley, 1963 *pers. comm.*) its continued presence on Street Heath: "in rough areas between peat cuttings" (Map ref. ST460397) and in the Charity Field (ST464394), a disused area of peat pools with a flora which included Bog Myrtle, Bog Asphodel, Fine-leaved Heath and Cross-leaved Heath. Cowley also refound it on Catcott Heath in 1950 and again in 1958. His precise localities were a "wet hay meadow" (map ref. ST398406), "a nine-acre neglected fen" (ST405414) and "wet rushy pasture" (ST408412).

In 1950, with D. G. Brown and J. H. P. Sankey, he discovered *grossum* at the west end of Shapwick Heath, mostly north of Canada Drove in an area of rough grazing with open Bog Myrtle (ST408410), and noted its continued presence there in 1952. In 1963, I also found it to be quite common at the western end of Shapwick Heath amongst Bog Myrtle on a rather dry area of bog on the east side of the road from Shapwick to Westhay. Unfortunately, as I noted at the time (Burton, 1964), its habitat here was being invaded by Alder carr and in recent years I have failed to refind it.

To the north-east of Shapwick Heath I discovered *grossum* in considerable numbers on Meare Heath in September, 1963 and to the east a single adult male on Ashcott Heath (Burton, 1964). The following year, this species was still numerous in scattered colonies on Meare Heath, especially in boggy areas with plenty of the Great Tussock Sedge *Carex paniculata* L., but two of the best sites had already been destroyed: one through conversion into a rubbish tip and the other because of clearance preparatory for peat-cutting. Nevertheless, *grossum* was still plentiful on some parts of Meare Heath when I visited the locality in 1965, 1967 and 1969, but I failed to find any during a search on 24th September, 1979; it may have been too late and the weather was not propitious, but all my known sites had been destroyed by peat-cutting operations or had become too dry. Neither could I find any at my 1963 Shapwick Heath site or at Cowley's and I fear that *grossum* is close to extinction in the Central Somerset Peat Moors. However, I am glad to report that Mr. Richard Savage *(pers, comm.)* found it in small numbers on roadside verges at Catcott Heath in September, 1979 along with *Conocephalus dorsalis*. Although it is gratifying to know that *grossum* still survives in Somerset, it is clearly endangered and every effort should now be made to locate and safeguard all other remaining colonies.

Stripe-winged Grasshopper *Stenobothrus lineatus* (Panz.)

Although, when mature, this grasshopper is easily detected by its distinctive and continuous song which is quite unlike that of any other British species, it appears to have been much overlooked in Avon and North Somerset until recently. This is quite surprising as there is much apparently suitable calcareous habitat, yet I have searched for it in many likely localities without success. In fact, the

only colony I have found so far was at Woodchester Park, near Nympsfield, Gloucestershire in 1965. However, Mr. R.S. Cropper informed Dr. D. R. Ragge in November, 1979 that he knew of seven sites from North Somerset (Vice-county 6), but had not been able to refind it in two of them, one of which was on boggy heathland in the Peat Moors. He considered that the latter site, being such an untypical one, may have been the result of a deliberate introduction. However, such calcicolous species as the Silver-spotted Skipper butterfly *Hesperia comma,* L. have been taken in these peat moors, so the presence of *lineatus* there may be quite natural.

Woodland Grasshopper *Omocestus rufipes* (Zett.)

The only Somerset haunt of this rare and local grasshopper (although often common where it occurs) so far as I know is Great Breach Wood, near Street, at the eastern end of the Polden Hills (Vice-county 6), where I discovered it in considerable abundance on 17th August, 1971 in almost all the clearings I examined and also along the grassy margins of some of the woodlands rides. On my next visit to this locality on 6th August, 1974, however, I failed to find any at all. The glades and rides where it had flourished only three years previously were almost completely overgrown and the habitat had thus become unsuitable. I did not have time enough to visit all other parts of Great Breach Wood, so it may well survive elsewhere or perhaps in other woods in the district such as Butleigh Wood. Unfortunately, I have not been able to visit these woods at the right season since 1974. Much of Great Breach Wood is nowadays a reserve of the Somerset Trust for Nature Conservation and it is to be hoped therefore that the Trust will take steps to locate and protect any surviving colonies of this nationally rare and attractive grasshopper.

There is an old record of the Woodland Grasshopper from Batheaston, near Bath (Blathwayt, 1906), but as this species has often been confused in the past with the very similar Common Green Grasshopper *Omocestus viridulus,* in the absence of any details, I believe this report should be treated with caution, although *rufipes* may well occur in the woods around Bath. An adult male in his striking black and red livery, and white palps is, however, quite unmistakable.

Incidentally, on the Continent *rufipes* is by no means confined to woodland glades and edges, being common on roadside verges, canal banks and in open country generally. Its specialized habitat in England is no doubt connected with the fact that it is on the north-western limit of its range here.

(To be continued)

THE EARLY GREY: XYLOCAMPA AREOLA ESPER IN FEBRUARY 1981. — Following a very mild January, a specimen of this moth appeared here at a lighted window on the 18th of February. — H. N. MICHAELIS, 5, Glan y Mor, Glan Conway, Denbighshire.

THE B. C. S. WARREN COLLECTION AND ITS TYPE MATERIAL

BY R. I. VANE-WRIGHT and P. R. ACKERY*

(Concluded *from page 115*)

1936: 112, pl. 68, figs 795-797, 802-804. HUNGARY: 4 ♂ Sts, Retyezat. [Preps 15097, 15098]. ***rowlandi** Warren, 1930: 57 (as race of *Erebia lefebvrei*); 1936: 320, pl. 93, figs 1405-1407, 1411-1413. FRANCE: Lt ♂, 7 ♂, 5 ♀ Plts, Eaux Bonnes, Bs Pyrenees. [Prep. 14923 (Plt)]. Lt. des. Warren, 1936: pl. 93. **rubescens** Warren, 1930b: 27 (as ab. of *Erebia kozhantschikovi* [sic]); 1936: 246, pl. 84, figs 1176, 1182, pl. 42, fig. 384. USSR: Ht ♂, Sajan Mts. [Prep. 14904]. ***rudkowdskii** Bang-Haas, 1933: 97 (as ssp. of *Erebia gorge);* Warren, 1936: 264. 2 ♂ Sts, Giewont; 1 ♂ St, Sarnia Skata; 1 ♀ St, Sioala (these localities have not been traced but are apparently all in the 'Tatry' region near the Czech-Poland border). ***sajanensis** Warren, 1931b: 52 (as race of *Erebia sedakovii);* 1936: 147, pl. 72, figs 892, 897, 898, pl. 31, figs 300, 301. USSR: 2 ♂, 1 ♀ Sts, Sajan Mts. [Preps 14913, 15087]. ***semirurina** Warren, 1936: 288 (as ssp. of *Erebia tyndarus).* SWITZERLAND: 4 ♂, 1 ♀ Sts, Kandersteg; 1 ♂ St, Gemmi Pass. [Preps 15205, 15206, 15208-15210]. **serratulaeformis** Warren, 1926: 122, pl. 38, figs 4-6 (as ab. of *Hesperia alveus).* SWITZERLAND: 1 ♂, 2 ♀ Sts, Lenzerheide. ***sheljuzhkoi** Warren, 1935: 4 (as ssp. of *Erebia callias)*; 1936: 307, pl. 104, figs 1645A, B. USSR: 7 ♂, 2 ♀ Sts, Caucasus, Teberda dist., Mt Chatipara. [Preps 15218, 15219, 15221-15224]. **simulans** Warren, 1931a: 171 (as ab. of *Erebia theano approximata)*; 1936; 237, pl. 83, figs 1150, 1157. USSR: Ht ♂, Altai, Usst-Kansk. [Prep. 15146] **simulata** Warren, 1933: 41 (as f. of *Erebia callias sibirica*); 1936: 305, pl. 104, figs 1644, 1646, 1648. USSR: 7 ♂, 1 ♀ Sts, Sajan Mts. MONGOLIA: 2 ♂ Sts, Schawyr, Tannuola. [Preps 15185, 15188, 15195, 15197, 15200]. **slovakiana** Warren, 1936: 189, pl. 78, fig. 1031 (as f. of *Erebia medusa brigobanna).* HUNGARY: Ht ♂, Kaschau. [Prep. 14415]. **splendens** Warren, 1936: 68, pl. 62, fig. 633 (as ab. of *Erebia euryale adyte).* SWITZERLAND: Ht ♂, Laquintal. ***steckeri** Holland, 1930: 153 (as sp. of *Erebia);* Warren, 1936: 170, pl. 75, figs 971, 973, 977-979, pl. 34, fig. 324. USA: 1 ♂, 1 ♀ Pts, Alaska, Kuskokwim River. [Prep. 15160]. **sylvatica** Warren, 1936: 193 (as f. of *Erebia medusa dolomitica)*. ITALY: 9 ♂, 1 ♀ Sts, Hauenstein Forest; 4 ♂, 2 ♀ Sts, Schlern path W. of Ratzes; 2 ♂, 1 ♀ Sts, Seiser Alp path; 2 ♂, 1 ♀ Sts, Ratzes-Prosslinger. ***thomsoni** Warren, 1968a: 301 (as ssp. of *Pieris adalwinda).* UK: 4 ♂, 6 ♀ Pts, Stirlingshire; 1 ♀ Pt, Fifeshire. **tramelana** Reverdin, 1918: 33, pl. 1, figs 4, 5 (as var. of *Erebia euryale);*

*Department of Entomology, British Museum (Nat. Hist.), London.

Warren, 1936: 62, pl. 61, figs 606, 611, 612. SWITZERLAND: 2 ♂, 2 ♀ Sts, Tramelan, Jura Bernois. ***transcaucasica** Warren, 1950: 229 (as ssp. of *Erebia cassioides).* USSR: Ht ♂, 1 ♂ Pt, Borzham; 1 ♂ Pt, Bajburet. [Preps 15287 (Ht), 15286, 15288]. ***transsylvanica** Rebel, 1908: (77) (as var. of *Erebia epiphron);* Warren 1936: 111, pl. 68, figs. 784-787, 790-794. RUMANIA: 1 St, Bucsecs. [Prep. 15067]. **ultima** Warren, 1931a: 171 (as ab. of *Erebia theano pawloskii);* 1936: 239, pl. 83, figs 1154, 1155, 1161, 1162, p. 41, fig. 376. USSR: Ht ♂, Gouv. Irkutsk, Sajan Mts. [Prep. 14910]. ***uralensis** Warren, 1926: 98, pl. 29, figs 1-6 (as ssp. of *Hesperia serratulae).* USSR: 2 ♂, 1 ♀ Sts, Uralsk. [Prep. 14054]. ***varia** Warren, 1932: 165 (as race of *Erebia pronoe);* 1936: 312. W. GERMANY: 15 ♂, 6 ♀ Sts, nr. Krunn, S. of Isar Tal, Bavarian Highlands. [Preps 16417, 16419]. ***warrenensis** Verity, 1928: 140 (as race of *Hesperia alveus).* SWITZERLAND: 1 ♂, 1 ♀ Sts, Alp Scharmoin. [Prep. 14111]. ***warreni** Verity, 1923: 136 (as race of *Erebia flavofasciata*); Warren, 1936: 101, pl. 66, figs 735-738. SWITZERLAND: 7 ♂, 1 ♀ Sts, Piz Tschierva. ***yablonoica** Warren, 1931a: 171 (as ssp. of *Erebia discoidalis*); 1936: 216, pl. 80, figs 1093, 1094, 1099, 1100. USSR: Lt , 1♀ Plt, Yablonoi Mts. [Prep. 15159]. Lt. des. Warren, 1936: pl. 80.

Postscript

In the above list, contrary to the statement in the introductory section, names available from the time of description are indicated in bold preceded by an asterisk, not by bold italics.

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THE PORTLAND MOTH: OCHROPLEURA PRAECOX L. IN SUSSEX – On 18th August 1980, Mr. Dyson and I set up our M. V. lamps in a wood 9 miles north of Brighton; when, to our surprise, a somewhat worn *O. praecox* alighted on my sheet. Mr. Colin Pratt tells me that this is the third record only of this moth in Sussex apart from two larvae found in West Sussex. – Dr. J. V. BANNER, 41, Varndean Gardens, Brighton BN1 6WJ.

THECLA QUERCUS L. (PURPLE HAIRSTREAK): AN UNUSUAL VISITOR TO MV. – On August 15th 1980, MV at Broxbourne Wood, Hertfordshire, attracted, sharp on 11 p.m., a male *T. quercus.* – RODERICK LOVELL-PANK, 33 The Highlands, Hatfield Road, Potters Bar, Herts EN6 4HU.

ADDITIONAL KENT RECORDS OF HERINGOCRANIA CHRYSOLEPIDELLA Z. – Further to my note on this moth (in *Ent. Rec.,* **93** : 71), I found tenanted mines of *H. chrysolepidella* in 1981 on hazel on 12th May at Longton Wood, Thurnham, Kent; and on hornbeam on 21st May at Finch Wood, Bonnington, Kent. – N. F. HEAL, 'Fosters', Detling Hill, Nr. Maidstone, Kent.

Practical Hints — July

Light is all very well, but the merits of sugar should not be forgotten. Sugar a line of fence posts running through patches of bog myrtle in Scotland in July and you will see lovely forms of *Eurois occulta* L. (Great Brocade) on nearly every patch, with few if any at light. Similarly, in the New Forest, the Crimson Underwings, *Catocala promissa* D. & S. and *C. sponsa* L. often come more freely to sugar than to light (Goater).

The larger Wainscots *Nonagria typhae* Thunberg (Bulrush Wainscot), *N. sparganii* Esper (Webb's Wainscot) and *N. algae* Esper (Reed Wainscot) are best obtained by searching for the pupae in reed beds containing Great and Lesser Reed Mace. Look for reeds without seed heads, in which the two centre leaves have turned yellow. Cut off at ground or just below water level, and peel off outer leaves, when exit hole will become visible. *N. typhae* pupates head downwards above exit hole. *N. sparganii* and *N. algae* pupate head upwards below exit hole. Cut reeds down to about a foot and stand in a jar of water in breeding cage. If pupae fall out of stem, place on damp sand. Usually many are stung (Pooles).

In early July, *Plusia putnami gracilis* Lempke (Lempke's Gold Spot) comes freely to light in the Norfolk Broads. It is a more delicate insect than *P. festucae* L. (Gold Spot); among other differences, the first cross line makes an angle with the anterior edge of the first silver spot, whereas in *festucae* the line is continuous with the line of the edge of the spot. It is time someone worked out the life history (Goater).

In a normal year, a visit to North Wales can be highly rewarding. Ashworth's Rustic *(Xestia ashworthii* Doubleday) is often a common visitor to mv. light, although caught specimens seldom compare with bred ones. Larvae are easily reared on sallow and will produce a second brood in the autumn. Weaver's Wave *(Idaea contiguaria* Hbn.) flies over the same ground though far less commonly, but a captured female lays freely and the larvae take readily to knotgrass and will feed up the same year. Day work should not be neglected. Flowerheads of foxglove may be searched for larvae of the western form of the Foxglove Pug *(Eupithecia pulchellata* s.sp. *hebudium* Sheldon); and, the Silky Wave *(Idaea dilutaria* Hbn.) which flies by day over parts of the Great Orme, can sometimes be taken. Larvae of the Belted Beauty *(Lycia zonaria* D & S.) have been found in numbers early in the month on low vegetation on the Conway golfcourse, although there do not appear to be any recent records (Chatelain).

In July, the Northern Rustic *(Standfussiana lucernea* L.) dashes madly about rocks and scree in mid-afternoon, and is extremely difficult to net. At night, however, it flies much more gently, displaying the strongly banded underside of the hindwing in the light of a paraffin lantern. If you can get a net under the tufts of wood sage which sometimes grow among the rocks, shake the tufts an hour after dark, and *lucernea* will fall into the net (Goater).

EUPITHECIA EGENARIA H.-S. – AN ANCIENT RELIC? – Brigadier E. C. L. Simpson *(antea* pp. 33-34) suggests that the monks of Tintern Abbey imported saplings of small-leaved lime *(Tilia cordata)* from France for the benefit of their bees and brought in the pauper pug *(Eupithecia egenaria* Herrich-Schaffer) as a pupa in the soil surrounding the roots. For the monks to have introduced this tree would have been to take coals to Newcastle, for small-leaved lime is one of our most ancient trees and seems to have been dominant in our primeval forests (see Oliver Rackham, *Trees and Woodland and in the British Landscape*, 1976, *etc.;* Richard Mabey *(The Common Ground,* 1980, p. 70) says of it, "This little-known tree may have been the commonest in lowland climax forest") *E. egenaria,* likewise, is probably an indigenous species which was once widespread but has been made scarce by the felling of the foodplant which is not a tree of economic importance. However, pockets of small-leaved lime survive in many localities throughout Britain and its presence is often indicative of ancient woodlands (*e.g.* Bedford Purlieus) and of entomological diversity of species.

Until recently the leaf-miners of small- leaved lime (*Stigmella tiliae* (Frey) and *Bucculatrix thoracella* (Thunberg)) were regarded as west-country species (see Meyrick, 1928, pp. 851 and 816). In 1976 I wrote of *T. tiliae,* "Like its foodplant, it has a western distribution" (MBGBI I:245) – nonsense born of ignorance. Since then the number of vice-counties in which it has been reported has increased from seven to eighteen, including, in the east, all the seven comprising Norfolk, Suffolk, Cambridgeshire and Essex. I know of fourteen localities for it in Essex alone. *B. thoracella* tells much the same story, but it is more local and I have only seven localities in Essex. The point is that if conspicuous species such as the leaf-miners were so long overlooked, the less obvious pugs (and hook-tips) are even more likely to have been missed. *E. egenaria* occurs in Suffolk: it may turn up in other counties, too, if ancient stands of the "little-known" small-leaved lime are located and searched. – A. M. EMMET, Labrey Cottage, Victoria Gardens, Saffron Walden, Essex, CB11 3AF. [Does the Scarce Hook-tip *(Palaeodrepana harpagula* Esper) still occur in East Anglia? One was recorded from Suffolk as having been taken many years ago at Stowmarket by Dr. Bree (see 1937, Morley, *The Lepidoptera of Suffolk,* 98-99) – J. M. C.-H.]

A SECOND LAMPRONIA FLAVIMITRELLA HBN. IN KENT. – Following the capture of the second specimen in Britain of *Lampronia flavimitrella* Hbn. at Hoads Wood on 24th May 1980 by J. M. Chalmers-Hunt (see *Ent. Rec.,* **92**: 195), I planned a return visit for 1981, the first available opportunity being 21st May. The day was stormy and overcast with the sun trying very hard to break through. After an hours intensive search between about 1600 and 1700 hours at a time when concentration and anticipation were beginning to waver, a small moth was disturbed from the masses of

Rubus deep in the wood during a brief appearence of the sun. After a weak short flight it settled on what must be one of the most frustrating of places – in the middle of a bramble patch on the far side of a barbed wire fence – the quarry at last. Fortunately the sun disappeared at that moment, and with shaking hand I was able to cover the moth with a tube and with finger stabbed with thorns recover the moth and leaf together – the third record for Britain. It is a female in slightly worn condition and when seen at rest has a distinctly silvery-grey overall appearance. A further hour's search with renewed enthusiasm proved uneventful. This second record for this locality is surely an indication that it is resident albeit with a very low status level. – N. F. HEAL, 'Fosters', Detling Hill, Nr. Maidstone, Kent.

MILTOCHRISTA MINIATA FORST. (ROSY FOOTMAN) AND BATS. – Can *M. miniata* tune in to bats? Many people will have noticed the tendency of *miniata* to spiral straight upwards above the M.V. lamp: on three different evenings in Devonshire in August 1980 I had the unappreciated assistance of a bat: and on four separate occasions a spiralling *miniata* dropped like a stone into the herbage as the bat approached. It is not possible to estimate the distance since the moths' nosedives and the bat's arrival were almost simultaneous, so that there was no time to glance at the bat's usual approach path. – RODERICK LOVELL-PANK, 33 The Highlands, Hatfield Road, Potters Bar, Herts EN6 1HU.

THE SPREAD AND INCREASE OF ENICMUS BREVICORNIS MANN. (COL.: LATHRIDIIDAE). – It is probably known by now to a number of coleopterists in at all events southern England that this beetle, formerly rare and recorded from few localities, has become comparatively frequent in the last 30 years or so – though I have seen no reference to the fact in print. Not the least notable feature of this increase is the insect's evident spread, presumably from its headquarters in some of our old forest areas, to places of a wholly different character, e.g. the London suburbs, where it was previously unknown but now occurs regularly. In my own district the first specimen turned up in 1951 (see Allen, 1951 *Ent. mon. Mag.*, 87: 254) by sweeping long grass in my former garden at Blackheath. Ten years later another was taken, and thereafter one or two in most years; in varied situations, but always by sweeping. One was in a less unlikely locality – a few miles away in the Shooters Hill woods, under oaks.

Soon after moving to Charlton in 1973 I began to encounter it in my garden there, still at a very low rate of incidence, usually on the foliage of a birch; this has continued to the present time. On 15.vii.77 three examples were swept from willow foliage at Abbey Wood near Plumstead, two of the rare Scydmaenid *Eutheia schaumi* Kies. occurring with them. Finally at Downe, W. Kent, last June, I swept a solitary specimen in beech woodland; a situation far more congruous with its habits as know in the past, especially as there were fungus-infested logs and stumps nearby. However, in none of the above instances has it proved possible to trace the insect to a breeding-source.

The pabulum of the present-day *E. brevicornis* of the suburbs etc. was thus a mystery to me until, some years ago, Mrs. K. Southern (née Paviour-Smith) mentioned in the course of conversation that this *Enicmus* has been found freely (I believe, in several places around Oxford) in association with the sooty mould of sycamore. She suggested that the beetle's increase might well have been in response to a widespread outbreak of the fungus, which appears likely to be the truth of the matter. As I understand that other coleopterists have observed this association in latter years, we shall doubtless be hearing more about it before long. It is curious, however, that the sycamores in this district seem remarkably free from the sooty mould and I have yet to find the Lathridiid on any of them.

To answer the question whether the spread experienced here is part of a larger movement or not, one would of course have to know whether anything similar had been observed on those parts of the Continent nearest to us. If so, the *E. brevicornis* that we are finding here to-day in such unaccustomed numbers may well not be descendants of our native stock, but have a Continental ancestry. — A. A. ALLEN.

RORIPPA SYLVESTRIS [CRUCIFERAE] AS A LARVAL FOODPLANT OF PIERIS NAPI L. — At Dartford, on 29th July 1979, several of these butterflies, mainly males, were seen feeding at the conspicuous, yellow flowers of *R. sylvestris* which grows in small patches within a hospital grounds. However, I also noted a ♀ laying eggs singly upon the plants, and on subsequent occasions in 1979 and 1980 butterflies were observed feeding at the flowers and ♀♀ engaged in egg laying, and I also discovered two medium sized larvae.

R. sylvestris is a somewhat local plant usually associated with wet conditions; the situation referred to is not particularly wet although it lies on the clay outcrop of the Tertiary Thanet Sand of the Joyden Wood area.

R. sylvestris appears not to have been recorded previously as a foodplant of the larvae of *P. napi,* even under its former name of *Nasturtium sylvestre.* In the locality noted this plant is certainly a regular foodplant, although probably for larvae of the second generation only, for in May and June the plants are small and may be obscured by taller vegetation, nor have they reached the flowering stage which is an attraction to butterflies of the summer brood; also, in May and June there are relatively few flowers of other plant species in the immediate vicinity of these patches of *R. sylvestris,* and butterflies are conspicuous by their absence.

The adults of *P. napi* probably play some part in the pollination of the flowers which are apparently self-incompatible and do not produce much fertile seed. — B. K. WEST 36 Briar Road. Bexley, Kent.

CATOPSILIA FLORELLA F., LARVAL COLORATION — Reverting to my recent short note under this title (1980, *Ent. Record,* **92**: 166), I have now been able to rear larvae of this species on the flowers of one of the pink-flowered *Cassia* spp. Green larvae

were transferred from the leaves of a yellow-flowered *Cassia* sp. in their 2nd instar and turned yellow after the moult, exactly the same colour as larvae fed *ab ovo* on flowers of yellow *Cassia* sp. without any trace of pink, and this colour was maintained until pupation. The pupae were green, similar to pupae reared on leaves or yellow flowers. – D. G. SEVASTOPULO, F.R.E.S., Mombasa, 27.iii, 1981.

HENRY J. TURNER'S CORRESPONDENCE AT THE AMERICAN MUSEUM OF NATURAL HISTORY. – A small but interesting collection (ca. 75 items) of the papers of H. J. Turner (1856-1950), lepidopterist and second editor of *The Entomologist's Record,* has been donated to the American Museum of Natural History, New York City. Among the correspondents represented are Lionel Walter Rothschild, F. W. Frohawk, Karl Jordan, Edward Step, T. A. Chapman, J. Herbert Tutt, Louis B. Prout, E. B. Purefoy, Evelyn Cheesman, Roger Verity, Ezra T. Cresson, Charles Oberthür, George Wheeler, A. F. Page, G. A. Boulenger, W. Egmont Kirby, G. T. Bethune-Baker, W. G. Sheldon, Alfred Sich, W. Junk and Rowland E. Turner.

The papers (1904-25) are most numerous from that transitional period in the *Record's* history when Turner had taken the editorship after the death of founder James W. Tutt, and some of the letters elucidate the problems encountered. Sich wrote to Turner on 9 February 1911 about the journal's financial condition, offering to contribute up to £10 immediately to help defray expenses, but cautioning that "the assistant editors will have to do a little of the work and not sit still behind the cover of the Record, like a consulting doctor behind his brass plate." The near collapse of the journal is illustrated by letters such as that of 6 June 1912 from J. Herbert Tutt, apologizing to Turner for recent events and explaining that he could not post the May issue as he had to pay his rent instead. From January to April he had received no money for postage, and had to conduct the mailing himself with his limited funds; he could no longer purchase the stamps unless financial conditions improved.

There is ample editorial correspondence from Turner's assumption through 1925 (in that year, an excellent letter from Verity), and other subjects are documented, such as Turner's exchange of specimens, his collections of current and antiquarian publications, the Verrall Suppers, the Entomological Club, the Wicken Fen Fund, and further concerns. Included in the papers is one lengthy letter to J. W. Tutt, a 1909 account by Oberthür's collector Harold Powell of a season's work in France, including his search for the Large Copper in Aisne.

These letters and ephemera were given to me in 1966 by E. W. Classey, Esq., and have been conveyed to the Museum as part of my personal papers and historical collections. – Dr. R. S. WILKINSON, The American Museum of Natural History, New York City, New York 10024.

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THE ENTOMOLOGIST'S RECORD
AND JOURNAL OF VARIATION

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

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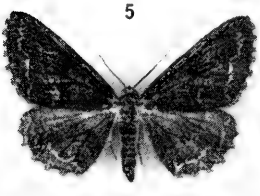
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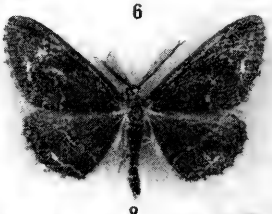
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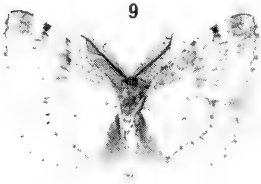
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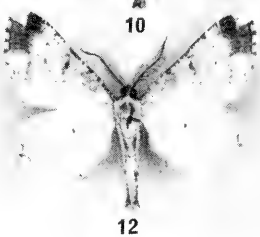
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Peribatodes secundaria D. & S. Figs 1–8 (upperside) ; Fig. 11 (underside). *P. rhomboidaria* D. & S. Figs. 9–10 (upperside) ; Fig. 12 (underside).

PERIBATODES SECUNDARIA DENIS & SCHIFFERMÜLLER IN KENT: A SPECIES OF GEOMETRID MOTH NEW TO GREAT BRITAIN

By BERNARD SKINNER*

A single male of this species was taken at m.v.l. during the latter half of July 1981 in an area of coniferous woodland supporting mature stands of Scots Pine (*Pinus sylvestris* L.), Norway Spruce (*Picea abies* L.) and Douglas Fir (*Pseudotsuga menziesii* (Mirb.) Franco). Subsequent visits to the same locality saw the species in good numbers, tentatively suggesting that it is most likely resident.

P. secundaria is at first glance not unlike a small well marked and ochreous example of *P. rhomboidaria* D. & S., however a closer examination will reveal several characters which will enable the two species to be positively separated:-

P. secundaria D. & S.	*P. rhomboidaria* D. & S.
Wing size	
30 - 35 mm	35 - 42 mm.
Male antenna	
Pectinations extend almost to tip and those of the middle segments are considerably longer.	Pectinations shorter and more uniform, tapering away towards the tip leaving the end 2-3mm. simple.
Body Markings	
Abdominal band below thorax is greyish white and fairly conspicuous.	Abdominal band is light brown and rather indistinct.
Forewing markings upperside	
Whitish square spot halfway down between terminal and subterminal fascias often conspicuous in typical specimens. Postmedian line curves sharply outwards at the dorsum.	Square spot usually indistinct or absent. Postmedian line slopes inwards at dorsum.
Hindwing markings underside	
Postmedian line unangulated, a useful character when examing very dark or melanic specimens.	Postmedian line angulated.
Forewing markings underside	
Apical patch indistinct.	Apical patch conspicuous and much darker than ground colour except for a small pale patch at apex.

Abroad *P. secundaria* is known from Central and Southern Europe including Denmark and Sweden. The adult flies from early July to late August. It overwinters as a larva and the foodplants listed by various authors are Pine, Spruce, Juniper and Thuya sps. Several local races have been described from France and Denmark and the melanic form has been named ab. *nigrata* Sterneck. Fertile eggs have been obtained from both typical and melanic females of the English race and it is hoped

*5 Rawlins Close, Addington, Surrey CR2 8JS.

that notes on both its taxonomy and life history will be published at a later date. In the meantime and in a less scientific vein I would like to suggest The Feathered Beauty as a vernacular name, being consistent with the English name of allied genera as well as describing a diagnostic feature.

Acknowledgements

My thanks are due to D. S. Fletcher of the British Museum (Natural History) for confirming my determination of *P. secundaria* and to David Wilson who spared neither effort nor expense to produce in record time the photographic plate.

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Culot, J., 1917-1919. *Noctuelles et Géomètres d'Europe* **3**: 99 pl. 55, fig 1126.

Hoffmeyer, S., 1966. *De Danske Målere* 316, pl. 17, figs 9 & 10.

Seitz, A., 1912. *The Macrolepidoptera of the World* **4**: 369, pl. 20h.

PHYTOMYZA SPOLIATA STROBL (DIPTERA: AGROMYZIDAE) NEW TO BRITAIN. – During the afternoon of 27th July 1980 I visited the Anglesey fen Cors Bodeilio (grid ref. SH 505 774) and among the flies swept from the field layer vegetation was a single male *Phytomyza* species unfamiliar to me. Using the key of Spencer (1972, Diptera: Agromyzidae. *R.E. S. Handbk. Ident. Br. Insects* X (5g).) the specimen ran down to *P. silai* Hering, but differs from this species in lacking acrostichals, possessing two upper orbital bristles, having all knees yellow and notopleura grey. Turning to Spencer (1976, The Agromyzidae of Fennoscandia and Denmark. *Fauna ent. Scand.* 5) the specimen ran to *Phytomyza spoliata* Strobl, and comparison with the description of external characters and with the illustration of the lateral view of the aedeagus confirmed the identification. Spencer (1976, *op. cit.)* records this species from Denmark, Sweden, Finland, Austria, Germany and the Mediterranean area, and gives the larval host plants as *Centaurea* spp. and possibly also *Cirsium heterophyllum* (L.) Hill. I thank Tim Blackstock (NCC Bangor) for arranging access permission to Cors Bodeilio. – Dr. I. F. G. McLEAN, Nature Conservancy Council, 19/20, Belgrave Square, London SW1X 8PY.

SOME INTERESTING MOTHS FROM CHATTENDEN WOOD, KENT.—On the night of 19th September 1980, Norman Heal and I visited this historic old locality. Amongst the 71 moths of 22 species that came to our lights was a specimen of the Tawny Pinion: *Lithophane semibrunnea* Haworth, and a single example of the Large Marbled Tortrix: *Nycteola revayana* Scopoli. On 3rd October, I returned alone and was rewarded with the sight of a very fresh Merveille du Jour: *Dichonia aprilina* L. at light.—D. DEY, 9, Monmouth Close, Rainham, Gillingham, Kent ME8 7BQ.

THE DIPTERA (CALYPTRATAE) OF THE SANDWELL VALLEY, WEST BROMWICH

By M. G. BLOXHAM*

Perusal of the steadily increasing number of Royal Entomological Society Handbooks on Diptera inevitably leads the reader to the conclusion that large areas of the British Isles have had scant attention paid to their fly population. While certain localities have been extensively investigated, the majority remain virtually unswept by the dipterist's net, large tracts of Staffordshire falling into the latter category. It was with this in mind that the present survey was conducted and this is intended to be the first of a short series of papers on the Diptera of the Sandwell Valley, West Bromwich, which was considered to possess a number of interesting features as a dipterous habitat and was easily accessible for regular collecting visits. Some introductory comments on the area, collecting methods and relevant literature precede the species lists and main discussion.

Situated in the West Midlands within the 10 km grid square SP09 of the Ordnance Survey National Grid, the Sandwell Valley is an area of some 1700 acres containing two farms, reclaimed industrial land and recreational areas. It lies between West Bromwich Birmingham and Walsall, being unusual in that it is completely surrounded by the built-up area. The potential ecological interest of the valley is therefore considerable.

Geologically, Triassic sandstone deposits cover the West Bromwich area and underlying these are coal measures which have in recent history been most important to the economy of the area. The soils are a product of the surface rocks and glacial drift material, the characteristic soil being a leached brown soil, the texture of which varies from a silty loam to a sandy clay loam with some pockets of almost pure sand.

The vegetation of the valley is very varied. Changes of land use and reclamation policies mean that many open spaces consist of improved pasture with local authority plantings of a wide variety of trees and shrubs, but stretches of bent/fescue grassland of some antiquity are still to be found in places. The woodlands are of considerable interest; large tracts of hawthorn scrub, mature birchwood and oakwood are present, the latter including some magnificent trees of great age. The mixed woodlands are rich in tree species, grey poplar, ash, alder, *Salix* species, sycamore and horse chestnut being dominant, while the occasional exotic species reminds one that much of the area once formed the estate of the Earl of Dartmouth.

Over thirty pools are to be found, varying in area from a few square yards to 17 acres. These are often connected by streams,

*1 St. Johns Close, Sandwell Valley, W. Bromwich, W. Midlands.

the resultant water systems providing a wide variety of habitats for the abundant water life of the locality.

Various studies of flora and fauna of the valley have in recent years been undertaken by the West Bromwich Field Society and the National History Department of the City of Birmingham Museum and Art Gallery, but these do not seem to have included work on Diptera. Whilst there seems to be a lack of background information on the flies of West Bromwich, this is not the case for Staffordshire as a whole and it seems pertinent briefly to review contributions made to the knowledge of Diptera in the county, for there is some evidence that such information may not previously have had the publicity it deserves and it may also enable the reader to compare other findings with those here. The earliest records were those of Edwin Brown in 'The Natural History of Tutbury' and they formed the basis of the species list published in the Victoria County History of Staffordshire, Vol. 10. The list consists of names of some 300 species found and draws attention to the fact that several eminent dipterists, notably Verrall, Wainwright and Bradley collected Diptera in the area on an occasional basis during the earlier part of the century. Of the more recent surveys, the list published in the Transactions of the North Staffordshire Field Club (1951-52) is the most comprehensive, details of over 500 species collected by Mr. E. Britten being contained therein. The editor of that paper, Mr. J. Edwards, also notable as a collector of Staffordshire Diptera, contributed his own list of additional county records in various subsequent volumes of the Transactions. These publications will provide the reader with details of some 200 Diptera Calyptratae found in the county.

The flies listed in this paper were collected predominantly by net and tube, sweeping and pooting being scarcely used. It is probable therefore, that many of the smaller and less obtrusive species await detection. Visits have taken place on a large number of different dates, but the number of insects taken on each occasion has been small, owing to shortage of time available for identification and collection management. The data given for each species includes assessment of abundance, given by the following declining sequence; very common, common, frequent and several specimens. For species captured only once, the date of capture is given; for those in the other four categories, the month(s) of occurrence is indicated. Additional background information on many of the species together with other observations is provided in the discussion. The arrangement and nomenclature follows Kloet and Hincks (1976) except as modified by the supplements in 'Antenna' (1977).

Species List

Family TACHINIDAE
Subfamily DEXIINAE
Tribe DEXIINI

Trixa oestroidea (R.-D.) Several specimens 7, 8.

Subfamily TACHININAE

Tribe VORIINI
Periscepsia spathulata (Fall.) Frequent. 5.
Wagneria gagatea (R.-D.) 25-6-79.
Eriothrix rufomaculata (Deg.) v. *dimano* (Harris) Very common 6-10.
Tribe MACQUARTIINI
Pelatachina tibialis (Fall.) Common 5, 6.
Tribe LESKIINI
Solieria vacua (Rond.) Several specimens 8, 9.
Tribe LINNAEMYINI
Lypha dubia (Fall.) Common 4, 5.
Lydina aenea (Mg.) Frequent 8.
Tribe ERNESTIINI
Gymnocheta viridis (Fall.) Frequent 5-8.
Ernestia rudis (Fall.) Several specimens 5.
E. truncata (Zett.) 28-5-78.
Eurithia anthophila (R.-D.) Frequent 8.
E. consobrina (Mg.) Common 7, 8.
Tribe TACHININI
Servillia ursina (Mg.) 5-4-80.
Tribe ELOCERIINI
Elfia cingulata (R.-D.) Several specimens 9.
Triarthria spinipennis (Mg.) 10-7-80.
Subfamily GONIINAE
Tribe SIPHONINI
Actia pilipennis (Fall.) 27-6-80.
Siphona cristata (Fabr.) Frequent 7, 8, 9.
S. geniculata (Deg.) Frequent 7, 8, 9.
S. maculata (Staeg.) Frequent 5.
Tribe BLONDELIINI
Blondelia nigripes (Fall.) 8-7-80.
Medina luctuosa (Mg.) 15-6-80.
Meigenia mutabilis (Fall.) 30-5-80.
Tribe WINTHEMIINI
Nemorialla floralis (Fall.) Common 5-8.
Winthemia quadripustulata (Fabr.) 7-8-76.
Tribe GONIINI
Allophorocera ferruginea (Mg.) 10-9-78.
Cyzenis albicans (Fall.) Frequent 5.
Eumea westermanni (Zett.) Several specimens 7, 8.
Ocytata pallipes (Fall.) Frequent 7, 8.
Pales Pavida (Mg.) Frequent 6-9.
Platymya fimbriata (Mg.) Common 6-8.
Tribe ERYCIINI
Carcelia lucorum (Mg.) 4-8-80.
Epicampocera succincta (Mg.) Several specimens 8.
Lydella grisescens (R.-D.) Frequent 7.
L. stabulans (Mg.) Frequent 8.
Nilea hortulana (Mg.) 6-7-80.
Phryxe nemea (Mg.) Common 6-8.

P. vulgaris (Fall.) Frequent 6-9.
Pseudoperichaeta nigrolineata (Walker) Several specimes 8.

Family RHINOPHORIDAE
Melanomya nana (Mg.) Several specimens 6-8.
Phyto discrepans / (Pand.) sensu stricto / Several specimens 7, 8.
Rhinophora lepida (Mg.) 17-8-78.
Paykullia maculata (Fall.) Several specimens 8.

Family SARCOPHAGIDAE
Subfamily MILTOGRAMMINAE
Amobia signata (Mg.) Several specimens 7.
Miltogramma punctatum (Mg.) Frequent 7,8.
Metopia argyrocephala (Mg.) Several specimens 6.
Ptychoneura cylindrica (Fall.) 22-6-80.

Subfamily MACRONYCHIINAE
Macronychia ungulans (Pand.) 28-8-78
Brachicoma devia (Fall.) Common 5-8.

Subfamily SARCOPHAGINAE
Sarcophaga carnaria (L.) Very common 5-10.
S. crassimargo (Pand.) Several specimens 8.
S. dissimilis (Mg.) Several specimens 6.
S. haemorrhoa (Mg.) Several specimens 6.
S. incisilobata (Pand.) Common 7-9.
S. subvincina (Rohdendorf) Common 10.

Family CALLIPHORIDAE
Calliphora subalpina (Ringd.) Frequent 6-8.
C. vicina (R.-D.) Common 5-10.
C. vomitoria (L.) Frequent 5-10.
Bellardia agilis (Mg.) 27-7-76.
B. unxia (Walker) 8-7-78.
B. pusilla (Mg.) Frequent 7.
Cynomya mortuorum (L.) Several specimens 6-8.
Lucilia caesar (L.) Common 5-11.
L. illustris (Mg.) Common 7.
L. sericata (Mg.) Common 5-11.
Pollenia rudis rudis (Fabr.) Very common 4-11.
P. varia (Mg.) 16-8-80

Subfamily PHORMIINAE
Phormia terraenovae (R.-D.) Several specimens 7-10.
Protocalliphora azurea (Fall.) Common 4-10.

Family SCATHOPHAGIDAE
Subfamily SCATHOPHAGINAE
Norellisoma spinimanum (Fall.) Common 5-8.
Cordilura impudica (Rond.) Frequent 6.
C. pudica (Mg.) Frequent 9.
Cordilurina albipes (Fall.) Frequent 6.
Nanna fasciata (Mg.) Common 5-7.
Cleigastra apicalis (Mg.) Frequent 6, 7.
Scathophaga furcata (Say.) Common 8.

S. inquinata (Mg.) Common 6.
S. lutaria (Fabr.) Frequent 8-10.
S. stercoraria (L.) Common 4-10.

Family ANTHOMYIIDAE

Chirosia albitarsis (Zett.) Several specimens 5,6.
C. flavipennis (Fall.) Several specimens 7, 8.
C. parvicornis (Zett.) Several specimens 5, 6.
Pegohylemyia brunneilinea (Zett.) Several specimens 8.
P. fugax (Mg.) Very common 6-10.
P. obscura (Zett.) Several specimens 5.
P. striolata (Fall.) Frequent 5.

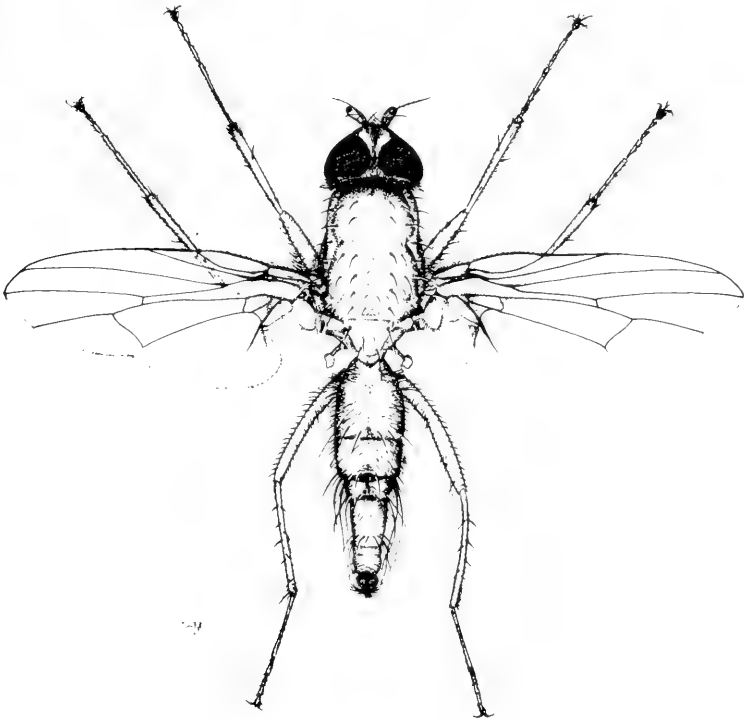


Fig. 1. *Delia criniventris* (Zett.) ♂
Wing length 6 mm.

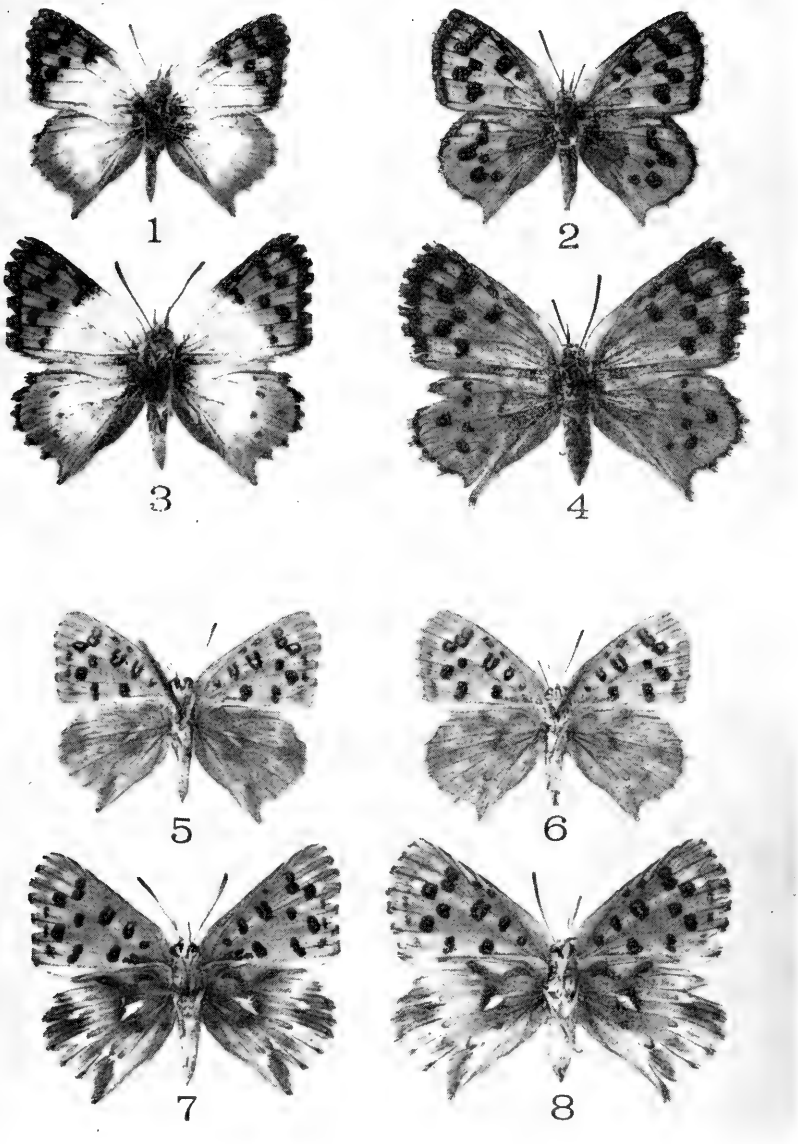
Lasiomma meadei (Kowartz) Frequent 3-5.
L. nitidicauda (Zett.) Common 4-10.
Hydrophoria ambigua (Fall.) 2-7-80.
H. annulata (pand.) Frequent 8.
H. caudata (Zett.) 27-5-80
H. conica (Weied.) Common 6, 7.
H. linogrisea (Mg.) Frequent 5, 6.
Craspedochoeta pullula (Zett.) Very common 6-9.
Anthomyia imbrida (Rond.) Very common 5-9.

Phorbia curvicauda (Zett.) 1-5-80.
P. securis (Tiens.) Common 5.
P. sepia (Mg.) Common 5.
Leucophora cinerea (R.-D.) Several specimens 6.
L. grisella (Hennig.) 8-7-80.
L. obtusa (Zett.) Frequent 5.
L. personata (Collin) Frequent 5.
Eustalomyia festiva (Zett.) Frequent 6-9.
E. histrio (Zett.) Frequent 6-9.
Delia brassicae (Hoff.) Common 5.
D. coarctata (Fall.) Common 7.
D. criniventris (Zett.) 23-9-79.
D. florilega (Zett.) Common 5.
D. lamelliseta (Stein) 16-8-80.
D. platura (Mg.) Common 5, 6.
Hylemya latifrons (Schnabl & Dziedzicki) Common 5, 6.
H. partita (Mg.) Frequent 8.
H. strenua (R.-D.) Common 6-9.
Heterostylodes pratensis (Mg.) 15-8-80.
Paregle cinerella (Fall.) 19-8-80.
P. radicum (L.) Very common 4-10.
Egle minuta (Mg.) Several specimens 3, 4.
E. muscaria (Fabr.) Frequent 3, 4.
E. rhinotmeta (Pand.) 2-4-8 .
Nupedia infirma (Mg.) Common 4-8.
Pseudonpedia intersecta (Mg.) Common 4-8.
Emmesomyia villica (Mg.) Several specimens 5.
Pegomyza praepotens (Wied.) Frequent 6-8.
Pegomya haemorrhoa (Zett.) Several specimens 5.
P. nigritarsis (Zett.) Common 6.

Family FANNIIDAE

Piezura graminicola (Zett.) 12-7-80.
Fannia aequilineata (Ringd.) 5 (ex breeding experiment).
F. armata (Mg.) Common 7, 8.
F. canicularis (L.) Very common 4-9.
F. coracina (Loew) Common 5-7.
F. fuscula (Fall.) Common 7-9.
F. genualis (Stein) 29-5-79.
F. hamata (Macq.) Common 6-8.
F. mollissima (Hal.) Frequent 5.
F. monilis (Hal.) Several specimens 6.
F. pallitibia (Rond.) 6-11-77.
F. postica (Stein) Frequent 6.
F. rondanii (Strobl) Common 5, 6.
F. scalaris (Fabr.) Common 5-7.
F. serena (Fall.) Common 5-6.
F. sociella (Zett.) Common 5, 6.
F. vesparia (Meade) Several specimens 6.

(To be continued)



Figs. 1-8. Poecilmitis henningi spec. nov. and P. lysander lysander Pennington. 1-4. Upperside. 1. P. henningi ♂ holotype. 2. P. henningi ♀ allotype. 3. P. lysander ♂. 4. P. lysander ♀ 5-8. Underside. 5. P. henningi ♂ holotype. 6. P. henningi ♀ allotype. 7. P. lysander ♂. 8. P. lysander ♀.

Photograph: S. F. Henning

DESCRIPTION OF A NEW SPECIES OF *POECILMITIS* BUTLER (LEPIDOPTERA: LYCAENIDAE) FROM THE S.WESTERN CAPE PROVINCE OF SOUTH AFRICA

By IVAN BAMPTON*

Abstract. Poecilmitis henningi spec. nov. is described and notes on its known habits and distribution are given.

Introduction. Early in 1975 Mr. G. A. Henning while looking over the lycaenid collection in the Transvaal Museum, Pretoria, noticed some unusual specimens placed under *Poecilmitis lysander* Pennington. He made a note of the locality where these specimens were caught and in December 1975 Mr. Henning and I visited the locality and captured a further 5 ♂ and 2 ♀. These additional specimens confirmed the suspicion that we were in fact dealing with an undescribed species.

Poecilmitis henningi spec. nov.

Diagnosis. Male: closest to *P. lysander* Pennington, 1962, on the upperside, but differs in having the marginal border broader, the spotting on the forewing larger and the cilia greyish-ochre; it is also smaller and the outer margin of the forewing is more rounded. The underside comes closest to that of *P. beulah* Quickelberge, 1966. *Female:* closest to *P. lysander* on the upperside, but differs in having the spotting larger and the cilia greyish-ochre. The underside as in the male comes closest to *P. beulah.*

Description. ♂ -Holotype. Forewing length: 12.5mm; antenna-wing ratio: 0.5. Body black, clothed with bluish hairs above and pale tawny-yellow ones below. Antennae black above and pale yellowish-white below, with the club dark reddish-brown.

Wings. Upperside. Forewing: orange, with the basal area blue. The basal blue extends up the costa as far as the large black discocellular mark along the inner margin to the postdiscal line. The postdiscal spots are large and the upper three are confluent, while the spots in lb and 3 are more proximad than the others. The black marginal border is broad and of even width. The cilia are greyish-ochre with dark brown at the ends of the veins. Hindwing: orange with the basal area up the median line blue and a strong bluish-violet sheen up to the postdiscal area. There are three faint postdiscal spots in 3, 6 and 7. Subcostally in area 8 the orange ground colour is suffused with black scaling. There is a narrow black marginal border in areas 5-8. The cilia are orange becoming black at the ends of the veins.

Underside. Forewing: orange, with apex, distal area and the inner margin buff-coloured; the black spotting as in other members of the *thysbe*-group. The spots are well developed,

*c/o 1 Lawrence Street, Florida Park, Florida 1710, South Africa

those towards the costa being centred with shiny-gold. There is a brownish-black submarginal line running from 1b to 3.

Hindwing: pale tawny-ochreous with only a faint indication of darker marks in the median and postdiscal areas.

♂-Paratypes. *Upperside;* the forewing is essentially the same as that of the Holotype but the spotting is larger in some specimens. In the hindwing several specimens differ from the Holotype in having an irregular series of small postdiscal spots, while other specimens have the spots lacking entirely. Subcostally in area 8 the orange ground colour is not suffused with black scaling in some specimens. *Underside:* As in the Holotype.

♀-Allotype. Forewing length: 13.Omm; antenna-wing ratio: 0.49. Body black, clothed with bluish-grey hairs above and pale tawny-yellow ones below. Antennae black above, yellowish-white below with the club dark reddish-brown.

Wings. Upperside. Forewing: orange with the basal greyish-blue extending to the mid-point of the inner margin and along the costa to a point halfway along the cell. There is a large black discocellular spot and a smaller spot at the mid-point of the cell. The six postdiscal spots are large with the upper three confluent. The spots in 2 and 4 are displaced distad with respect to the others. The black marginal border is of even width. The cilia are greyish-ochre becoming slightly darker at the ends of the veins.

Hindwing:orange, with the basal blue extending to the median area. There are six black postdiscal spots with those in 1c and 3 more proximad than the others. The marginal border is widest near the costa, tapering to the anal angle. The cilia are greyish-ochre, becoming slightly darker in the areas at the ends of the veins.

Underside: as in the Holotype but with the tawny-ochreous areas paler.

♀ Paratypes: *Upperside:* as in the Allotype but with one specimen having the black spotting slightly smaller.

Underside: as in the Allotype.

The forewing length varies from 13.0-13.7mm.

Type Material. ♂-Holotype: SOUTH AFRICA: Huis River Pass, near Calitzdorp, Cape Province, 2.XII.1975 (G.A. Henning).

♀-Allotype: Idem, (G.A. Henning).

Paratypes: 2 ♂ Idem, (G.A. Henning); 2 ♂ 1 ♀ Idem, (I. Bampton); 1♂ 1♀ Idem, 30.XI.1957 (K.M. Pennington); 5♂ Calitzdorp, Cape Province, 6.X.1967 (K.M. Pennington); 1♂ 1 ♀ Idem, 5.XI.1969 (D.A. Swanepoel); 1♂ Idem, 3.XI.1969 (D.A. Swanepoel). The holotype and allotype are deposited in the Transvaal Museum, Pretoria, South Africa, paratypes are in the collections of W.H., S.F. & G.A. Henning, the Transvaal Museum and the Durban Museum.

Distribution and Habits. This species was collected by Mr. G.A. Henning and myself on the Huis River Pass above Calitzdorp, Cape Province. It was flying along the steep sides of

a rocky gully running horizontal to the main road in arid country composed of thick Karroo type vegetation. Most specimens were secured when disturbed while feeding on a tiny insignificant flower appearing in the leaf axils of a small shrub, while the odd specimen was seen to settle on the stony ground. Their flight at this time was not very swift but this could perhaps be attributed to the fact that they were intent on feeding and were reluctant to leave the food source after being disturbed. It may have also been due to the windy conditions prevailing at the time. Despite an intensive search of the locality they were observed only in the gully, no specimens being found in the neighbouring areas.

Acknowledgements

I name this species for my friend Graham Henning, and wish to thank his brother Stephen Henning for advice and encouragement in preparing this paper.

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Quickelberge, C.D. 1966. A new species of *Poecilmitis* Butler (Rhopalocera) from the eastern Cape. *Novos Taxa ent.,* **47:** 3 - 7 .

THE LARVA OF ONCOCERA FORMOSA (HAWORTH) (LEP.: PYRALIDAE).—This is described by Beirne (*British Pyralid and Plume Moths,* pp. 94-95) as "deep green with the dorsal and subdorsal lines darker and edged greyish-yellowish. The spiracular and subspiracular lines are greenish-white and there is an oval black-centred white spot on each side of the second thoracic segment. The head is deep green, freckled darker".

At Foulness, Essex, on the 28th of August, 1980, larvae feeding in the manner described for *O. formosa* were common on elm; I took four. Their ground colour, including the head, was rather dark green, harmonising exactly with the elm leaves. The pattern consisted solely of a series of interrupted, fine white lines extending from the head inclusive to the anus. The larvae were seen, but not recognised, by several microlepidopterists. One larvae died at ecdysis; the remainder produced adults from 6-13 June, 1981.

Beirne's account probably came via Meyrick and has the stamp of a careful description made by an entomologist with a larva before him. It seems likely, therefore, that the larva is dimorphic. That two similar species are being confused is possible, but unlikely. It would be useful if collectors who come across larvae of this species would make a note of their coloration.—A. M. EMMET, Labrey Cottage, Victoria Gardens, Saffron Walden, Essex. 15 June 1981.

DISCOVERY OF LARVAL CASE OF *PROTEROSPASTIS MERDELLA* (ZELLER) (LEPIDOPTERA, TINEIDAE) IN ASSOCIATION WITH SPIDER'S WEB AT GHAR DALAM (CAVE), MALTA

By G. ZAMMIT-MAEMPEL M.D.*

Abstract

The larval case of *Proterospastis merdella* (Lepidoptera, Tineidae), found attached to a spider's web in a Maltese cave (Ghar Dalam, S.E. Malta) is described for the first time.
Case, moth and genitalia are figured.

In August 1979 the writer initiated a one-year study of the biology of Ghar Dalam based on monthly surveys. During one of these visits to the Cave, a larval case (ZM/Gh.D.6) was found suspended from a spider's web attached to the cave wall close to the floor and about 3 metres from the cave entrance. At some time between collection (11/X/79) and re-examination of the collected items eight months later (2/VI/80), the adult had emerged and died. The larva was never seen. The moth was subsequently identified by Dr. Gaden S. Robinson of the British Museum (Natural History) as *Proterospastis merdella* (Zeller) ♀, a microlepidopteron whose larval case was hitherto unknown to science.

The aim of this short note is to give the first record and description of this larval case and to record also its association with a spider's web in a Maltese cave.

The Cave. Ghar Dalam is a natural waterworn cave, a 160m long phraeatic tube on the south east side of the Island, situated about 250m from the coast (St. George's Bay, Birzebbuga). Only the outermost 80m are accessible to visitors. The cave's entrance faces southwest and overlooks the valley. It stands 6.1m above the valley bed and is 15.24m above sea level. Except for the outermost few metres and the innermost part (inaccessible to the public), the cave is artificially lit by bulbs.

The larval case. The case of *P. merdella* is a lead grey, dorsoventrally flattened, long ovoid structure with an embayment on either side just above the equator. Maximum width of embayment under review is 3.5mm. The ends are blunt, of unequal width (2.1mm and 1.9mm respectively) and with fluffy edges. Low magnification microscopy reveals a surface that is irregularly knobby and pitted. Total length of case is 10.65mm, maximum depth 1.5mm and maximum width 4mm, but only 3mm at the constriction.

*53, Main Street, Birkirkara, Malta.

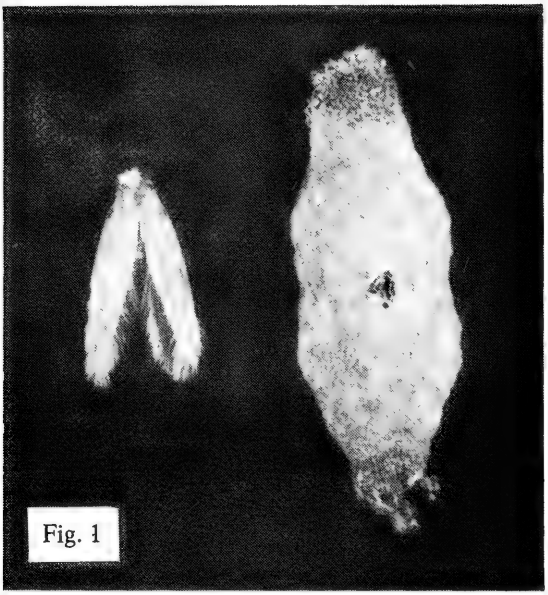

Fig. 1

Proterospastis merdella (Zeller) Larval case and moth. Spider's web, Ghar Dalam, Malta. (Scale bar = 1mm).

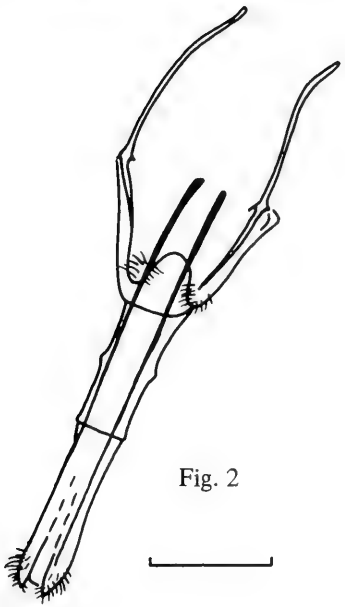

Fig. 2

Fig. 2

Genitalia of above ♀ moth. (Scale bar = 0.5mm).

Systematics

Lepidoptera
Tineidae
Tineinae
Proterospastis
P. merdella (Zeller)

Proterospastis is a senior synonym of *Paratinea* Peterson 1957: 159) (synonymized by Gozmány & Vári 1973).

Distribution. The genus *Proterospastis* has 22 species distributed in the Palaearctic and Ethiopian regions eastward to Fiji. One of the species has been recorded from rodent excrement and two others from bat guano (Robinson 1980). *P. merdella* has been recorded from Egypt, Israel, Turkey, Malta, Sicily, Spain and Algeria.

Local records. In Malta, *Proterospastis merdella* (Zeller) was first recorded by De Lucca (1969:140) who, using the conventional methods of light traps and sugaring, captured "one specimen at Gharghur on June 1957". Valletta (1973:94) could add no further records. This is, therefore, only the second Maltese record of *P. merdella.* On August 13th, 1980, two further empty larval cases (ZM/Gh. D.26 and 27), identical in all respects to that of *P. merdella* (Zeller) were collected by the present writer from Ghar Dalam. Both cases were found in adjacent spiders' webs lying half a metre within the Cave entrance and about 3 cms above floor level.

Acknowledgements

Gratitude is expressed to Dr. G. S. Robinson, British Museum (Natural History) for his identification of the moth and for critically reading the paper, Dr. P. Schembri and Mr. J. P. Testaferrata-Bonici for the diagram and the photography respectively.

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Gozmány, L. A. & Vári, L., 1973. The Tineidae of the Ethiopian region *Trans. Mus. Mem.* **18**: i-vi, 1-238, figs. 1-570.

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AN EARLY LARGE WHITE: PIERIS BRASSICAE L.—Here, I am afraid as elsewhere, it has been the worst butterfly year on record. Practically nothing about, but my first sighting was a female *P. brassicae* in mid-April – surely a rather curious start to the season? I observed it closely settled on some flowers of *Malus floribunda*, and a very pretty picture it made.—N. G. WYKES, Uploders House, Bridport, Dorset. 10 June 1981.

Current Literature

Butterflies of the Afrotropical Region. By **Bernard D'Abrera, F.R.E.S.** XX + 593 pp. (embracing colour plates, in most cases), 11 half-tone figures, 2 maps. Publishers: Lansdown Editions in association with E. W. Classey, 1980. Price £60.

In an assessment of this book it must be borne in mind that the work purports to cover the butterflies of an enormous and most important Region and that one would therefore expect it to have been compiled with great care and an effort made to include all known species and at least more of the recognised subspecies of the Region. Considering the immense number of taxa which have been recorded from this Region, fully detailed references to each of these could not have been expected in a single volume which combines the colour plates with the text. However, the omission of a number of well known species (certainly, from the Southern African Sub-Region) and the most incomplete actual figuring of subspecies, combined with the absence of citations to original descriptions, are disappointing features of this work. Furthermore, the recognised practice of placing authors' names in brackets when a genus other than the original one is used, has not been followed. Had due consideration been given to the foregoing points and an attempt made to avoid misstatements of various types in the text, including matters pertaining to distribution, through enlisting the help of others with a specialised knowledge of African butterflies, to check the manuscript before publication, the value of this big, and in many respects, admirable, work would have been increased greatly. Attention is paid to the imagines alone, with virtually no reference even to larval food-plants, in the text.

While one does fully realise the immensity of such a task and that to have produced such a book, with its impressive presentation, was in itself of much credit to the author, the inevitable impression is that the entire work was rushed, with far too short a time and too little attention given to its completion; also that the author was over-confident of his own ability, as is shown by the approach, for instance, to the views of certain South African workers and his unjustified action in actually sinking some taxa which had been described originally on thoroughly valid grounds.

The colour reproductions vary much in quality; many are excellent, including views of habitats taken in tropical Africa by the author; others are mediocre, with unsatisfactory colour values; while some are decidedly poor. A few of those representing, mainly, South African Lycaenid butterflies, unfortunately fall into the last-named category. A grave defect is the interchanging of the names of species in some of the plates, in relation to the relevant legends to these plates; one example being on p. 491, where *Poecilmitis palmus* is given as *P. pyroeis pyroeis,* and *vice versa.*

Limited space precludes a more comprehensive assessment of this book; but it may be stated finally that the Bibliography is in

no way worthy of a work of this size, with many important, and even recent, works on African butterflies omitted altogether – even *Pennington's Butterflies of Southern Africa* (1978). There is a good, clearly compiled index to the taxa which are covered in the book.

The essential manuscript of this book was based on a *Synonomyic Catalogue of the Butterflies of the Ethiopian Region* by Dr. R. H. Carcasson, as yet unpublished, and which certainly appeared in itself to be an accurately compiled, and fully trustworthy work. It is only fair to add that Mr. D'Abrera himself has not subsequently retained this view. The mounted specimens used in the plates were from the collection of the British Museum (Nat. Hist.), and were photographed by the author.

It is pleasing to be able to state that Mr. D'Abrera intends to bring out a second edition of his book, in which earlier short comings will be rectified as far as possible; and which one trusts will be a fine work which does do adequate justice to its subject. – C. G. C. D.

An Identification Guide to the British Pugs (Lepidoptera: Geometridae. The Genera Eupithecia Curtis, Chloroclystis Huebner, Gymnoscelis Mabille and Anticollix Prout). By the **Rev. D. J. Agassiz and other Members of the British Entomological and Natural History Society.** 44pp., 4 coloured plates (of 86 figures) and 12 black and white plates (of 245 figures). Published by the Society, 1981. Obtainable from R. F. Bretherton, Folly Hill, Birtley Green, Bramley, Guildford, Surrey, GU5 0LE. Soft back £6 (£4 to members), hard back £9 (£6 to members), plus postage.

Two monographs of this group have been published. Dietze's *Die Biologie der Eupithecien* (Berlin, 1913), an expensive two volume folio of cumbersome proportions with text in German, the adults figured in black and white but with good coloured illustrations of the early stages; and, Juul's *Nordens Eupithecier* (Aarhus, 1948), handy, in Danish but with English summary and good coloured illustrations, especially of the larvae. And now, this little English production with much to be said in its favour.

The *Guide* consists of a key (5pp.), followed by the main text (24pp.) describing the 50 admitted species on the British list, and including briefly their life histories, early stages and distribution. An appendix details species of doubtful status in Britain, and a further appendix those which might occur in the British Isles. A list of 29 bibliographical references, a short explanation of the black and white figures, and an index of generic, specific, sub-specific and vernacular names complete the text. A fault on page 37 regarding the first paragraph referring to *Eupithecia actaeata,* has been corrected on an adhesive printed slip which is obtainable on application from the Society.

The black and white illustrations show clearly the abdominal plates as well as both male and female genitalia of 49 of the 50 species (those of *Anticollix sparsata* being omitted as having no anal plate and the genitalia being unlike those of other species under consideration). The genitalia of *Eupithecia egenaria, E. millefoliata, E. phoeniceata* and *Chloroclystis chloerata* are figured here for the first time in the British literature. Of exceptional interest are the coloured plates. These were produced from photographs of set specimens and figure natural size all 50 species, most sub-species and many aberrations, and are among the truest representations we have seen in any book on the British lepidoptera. Paper and printing are good, and the book is apparently free from mis-prints.

This is an outstanding publication, particularly in regard to the quality of the coloured illustrations, and is the forerunner we hope of further similar illustrated monographs by this famous Society.—J.M.C.-H.

Notes and Observations

HAZARDS OF BUTTERFLY COLLECTING, INDIA 1961.—The population problem in most of the world is serious indeed and many good natural habitats are being whittled away by population pressure, but normally people as such do not pose a direct problem to entomological field work. In most of East Asia encounters with the local population will invariably be courteous and as brief as the collector may wish. In the Middle East and eastern Europe an entomologist may need some resourcefulness to evade well-meant but time consuming hospitality. However, on the Indian subcontinent people, and especially kids, may make collecting nearly impossible. Take for instance a collecting trip to scrub-land near New Delhi, very good for tropical Pieridae and certain species of Lycaenidae.

You stop your car in a spot so remote that no-one can possibly be around except an occasional goat-herd and the ubiquitous jackals. But no! Within ten minutes there are a dozen interested and totally dedicated onlookers. Within half an hour you are surrounded by anywhere up to a hundred. At this point collecting becomes, to put it mildly, difficult. The term surrounded should be taken quite literally, i.e. a solid wall of interested and good humoured humanity, at a radius of about three net lengths. Viewed from above it all resembles a gigantic cell with the entomologist as the nucleus. However, an amoeba may be a more fruitful analogy since the whole cumbersome structure is able to move. Slowly, perhaps, but definitely. And the movement is like that of an amoeba. The outer wall adjusts to environmental contraints and even splits to encapsulate a tree or a rock which is in the way, only to disgorge it again at the other end.

Even readers with little knowledge of butterfly collecting can understand this is bad for collecting (or in more modern parlance "constitutes a sub-optimal entomological field situation"). Yet things get worse. The brightest kids will equip themselves with switches made from twigs and proceed to cut down any butterfly stupid enough to approach the advancing amoeba. Soon the bravest of the brightest will be approaching you with the horribly mangled remains of a *Danaus chrysippus*. The only viable course of action now is to give up. They will not tire; you will not catch a worthwhile butterfly.

But can you not reason with them? No! You may try, it won't help, though it might be amusing to do so. The sequence goes somewhat along the following lines. You sit down; everyone sits down. Smiles are exchanged. Soon the brightest of the brightest of the kids is pushed to the fore. He struggles visibly to overcome a level of stress which would provoke an immediate coronary attack in an older person, before exclaiming bravely: "What is yourrr name and from wherrre do you come?" and retreating to the relative safety of the wall of the amoeba. More often than not this will have exhausted the entire vocabulary available for dialogue. Audience response at such audacity is rapt. Grandfathers think that, but for one of the innumerable curses afflicting the Indian countryside, this could have been one of his own sons twenty years ago. The younger fathers' resolve to secure an education for their sons is visibly strengthened. And the horde of younger and more timid kids have an instant hero.

Try to explain – even with the help of a decent Hindi phrase-book – that you are in this godforsaken spot collecting butterflies for scientific reasons and that you prefer to be alone. No way! Even in the unlikely case that you could communicate the message it would be insufficient reason to abandon the enjoyment engendered by what could be the most exciting thing that has happened in the area since they chased away a government tax-collector three years ago.

Lesson. Try again, somewhere else. But be prepared for the same scenario.—TORBEN B. LARSEN, 23 Jackson's Lane, London N.6.

EXTRA INSTARS IN LYMANTRIID LARVAE. -With reference to Mrs. Reese's query (1981, *Ent. Rec.*, **92**: 234), whilst I cannot say whether the extra larval instar in females of *Orgyia antiqua* L. has been noted previously, quite a number of Lymantriid species do have an extra larval instar in the female. I have records of this with the following species from my own breeding experiences:– *Pteredea monsticta* Btlr., *Porthesia producta* Wlk., *P. dewitzi* Grunbg., *Euproctis fasciata* Wlk., *E. geminata* Collnt., *E. molundiana* Auriv., *E. discupuncta* Holl., *Area discalis* Wlk., *Dasychira ila* Swinh., *Nemerophanes libyra* Druce, *N. enos* Druce, *Orgyia basalis* Wlk., *O. mixta* Snell.

Oddly enough, Lasiocampid larvae do not appear to have this extra instar in female larvae, although the size disparity between the sexes in the imago is often even greater than in the Lymantriidae. –D.G. SEVASTOPULO, F.R.E.S., P.O. Box 95617, Mombasa (Nyali), Kenya.

EARLY APPEARANCES OF THE RED ADMIRAL, VANESSA ATALANTA LINN. IN S. E. KENT. – On 28th March 1981 I watched a rather worn *Vanessa atalanta* flying among the bushes lining a ride in Longrope Wood, Orlestone. Its behaviour was somewhat similar to that of *Polygonia c-album,* several of which were flying and basking in the rides at the same time. Warm southerly winds were rather common during March, though the weather was frequently dull and wet, so it seems quite possible that this butterfly was an early migrant.

On the other hand, I have a record of an *atalanta* being seen by Mr. E. M. R. Jago at Lympne, Kent on 10th February 1980, flying in sunshine in his garden when the temperature was about 10°C. It seems more likely that this was a hibernator though whether it can be considered a "successful" hibernator or not I would not like to say. It still had to survive the typical Kentish spring of recent years, something which a number of species of butterfly are apparently unable to do – M. ENFIELD, New Cottage, Warren Farm, Boughton Aluph, Ashford, Kent TN25 4HW.

LARVAE OF THE YELLOW SHELL: CAMPTOGRAMMA BILINEATA L. FEEDING IN NATURE ON CARDAMINE FLEXUOSA WITH. (CRUCIFERAE).—During the evening of May 7th, 1981, a green geometrid larva was noticed on this plant during weeding operations, and search after dark revealed two more, all of which were bred. The *C. flexuosa* had formed a dense patch to the exclusion of other plant species since the previous summer, and was of several square feet in extent in my garden at Dartford, Kent, thus making it likely that this was also the larval foodplant before hibernation.

It seems that larvae of *C. bilineata* are rarely found. E. Newman (*The Natural History of British Moths,* 1869) states "The caterpillar appears to have been seldom observed until M. Guenée gave us the clue to its discovery; it feeds on different grasses by night, secreting itself during the day on the underside of stones, under clods of earth, or at the roots of the herbage." C. Barrett [The Lepidoptera of the British Islands, 1895-1902] lists chickweed, dock, sorrel, strawberry, dandelion, rest harrow and various grasses. R. South (*The Moths of the British Isles,* 1939 ed.) after listing grass, dock, chickweed, and various low-growing plants as foodplants states that the larvae are often abundant in hay fields. More recently horse chestnut is given as foodplant in Surrey by L. Evans (L. and K. Evans, *A Survey of the Macro-Lepidoptera of Croydon and N.E. Surrey, 1973*), this apparently by a single larva.

The Dartford record is interesting in that this seems to be the first time *C. bilineata* larvae have been observed on a cruciferous plant.—B. K. WEST, 36 Briar Road, Bexley, Kent.

THE ENTOMOLOGIST'S RECORD
AND JOURNAL OF VARIATION

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

TO OUR CONTRIBUTORS

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THE MONARCH: *DANAUS PLEXIPPUS* LINN. IN ENGLAND, 1981

By ANTHONY ARCHER-LOCK*

Early in the last week of September 1981, a depression crossed the Atlantic rapidly, tracking north-east across Wales and Northern England, accompanied by very strong circulatory winds. By the 26th of the month, sightings in the Isles of Scilly area, of American Wigeon and other species from that continent, were accompanied by reports of not less than five Monarch butterflies, the tally rapidly rising to nine, although one can never discount duplication. Another was seen by a friend, Mr. Robert Burridge, to land on the cruise liner "Cambera", 80 miles west of these Islands.

September 27th brought reports of one Monarch seen fluttering briefly around Michaelmas Daisies at Kingsbridge, in South Devon, and the same observer found another at Slapton Ley, a little further up the coast. This butterfly was exhausted, and was captured, transported to Plymouth, revived on buddleia, shown to numerous admirers, and finally put on show with food in a case at Plymouth Museum where it died shortly afterwards. The specimen was in good condition structurally.

On this same date, a Monarch was watched late in the afternoon by several observers, all lamenting the lack of their cameras, fluttering and basking amongst bracken in a sheltered spot between high lime stone out crops at Prawle Point, between Kingsbridge and Slapton Ley, and some fifty metres inshore. This butterfly several times walked over a bracken frond to hang, wings closed, upon the underside, but eventually flew off. The condition was excellent.

Monday, September 28th was a bright, sunny, but very breezy day. Upon my arrival at 12.30 p.m. the information was that no Monarchs had been seen. There remained one Red-eyed Vireo (a Warbler) from America, which had conveniently set up residence in the little car park for the past two days, attracting a prodigious number of tripods and telescopes without losing any sense of modesty!

Urged on by previous experience which many will have shared, I set out along the coast, eyes on stalks. After less than half a mile of walking, I watched a Monarch rise from a clump of Mayweed in a cabbage field. Following some moments of aerial hesitation, the butterfly flapped away with a casual air, low across the field, revealing a beautiful fox colouring of reddish-brown, veined and bordered in black. Again, a specimen in excellent condition. The butterfly turned and floated towards me with the breeze, wings held half aloft, before dropping below the cliff line. Twenty minutes later, apparently the same insect re-appeared on a similar route, ignoring the flowers this time, and still keeping very low as if to minimise the fairly strong wind, although never deflected by it.

*4 Glenwood Road, Mannamead, Plymouth, Devon PL3 5NH.

Two hours passed before a further sighting was gained, this time coming up the coast with the wind, dropping lazily over the hedge into the field where once more there was a brief sense of indecision. The Monarch then rose over my head, affording a truly magnificient view of all the markings against a brilliant blue sky before again dropping over the low cliff, and making straight towards the glistening sea where yachts fought the elements, and great ships plied the horizon.

Walking back along the foot of the inner bluff, I flushed a Monarch which flew over the bracken against the rising wind, and apparently dropped into the growth. At this stage, a passer-by told me that while eating his lunch on the village green a mile away, a Monarch, travelling at speed, had almost flown into his face – this had been at the same time as my first sighting. Soon after leaving me, he had two good views of a Monarch exactly where the first one had been found and watched for two hours on the previous afternoon. Had this butterfly returned to roost one wondered, or had it been there for over twenty four hours.

Strangly, only one land record had been reported for Cornwall, at Nare Head, but Dorset was more fortunate with three coastal reports. One of these was in a private garden where the Monarch remained on michaelmas daisies for half an hour. By comparison with my just passable flying shots, this observer, until then mildly interested in butterflies, gained some magnificent pictures, and is now dedicated!

If these Monarchs came over in the eye of the storm, they must have left the centre of the low at some stage, but it would seem more probable that they were caught up in the northerly winds and swept round to the south of the low travelling eastwards. The observations certainly suggest that the South Devon butterflies reached land close to the points where they were seen. Prawle Point, with its white coastguard station above a see-through cave, is a prominent landmark offering a hint of shelter beyond, and well known as a dropping-in point for migrant birds. At this time, the Red Admirals on some clumps of ivy were in near swarming numbers, while Clouded Yellows and Y moths were also present. The majesty of the Milkweed made them all appear midgets. One more point of interest was that the white spotting, including the normally yellowish large spots towards the outer tips of the fore-wings, was all very prominent, a possible clue to origin.

Dr. Jeremy Thomas, and Messrs. E. Griffiths and V. Tucker kindly provided some of this information.

Postscript

One specimen was captured at Ilfracombe and another seen in the area of Barnstaple, both in North Devon. One was noted at St. Austell in South Cornwall which however, could possibly have been the Nare Head record, having travelled further eastwards along the coast.

A further butterfly was watched by Mr. I. Hamilton at Slapton Ley on October 6th – this conceivably was the same one which

I described as flying seawards late during the afternoon at Prawle Point on September 28th.

At Prawle Point, there was atrocious weather throughout September 29th and 30th which must have prevented any movement, but many observers have failed to gain any sightings since. This rather suggests that any remaining specimens perished. By contrast, in the Isles of Scilly, some specimens remained for many days, three in particular being reported as favouring a certain lane verged by some American nectar-bearing flowers; here, the butterflies were to be seen flying to and fro quite frequently. Finally, on October 13th near St. Mary's Airport, Isles of Scilly, a Mr. John Randell watched a Monarch clinging to a pine tree where it was imbibing resin. Several observers have since told me that this group of Monterey pines became a roost for the Monarchs, where they took up hanging positions, but embarked on flights during bright days. [This suggests similar behaviour to that of the butterfly in Central America, and it would be interesting to hear of any reports of it being seen in the Scilly Isles the following spring. – Editor.]

THE MILKWEED BUTTERFLY (MONARCH): DANAUS PLEXIPPUS L. AND OTHER MIGRANTS IN CORNWALL IN 1981.- The Milkweed butterfly was seen at Nancledra, near Penzance, on September 25. It was feeding on the flowers of wild fuschia. This was reported to me by Mr. E. M. R. Stimpson, of Ludgvan. The weather has been bad in Cornwall recently, with several storm-force S-SW gales, perhaps indicating an unaided Atlantic crossing?

The Silver Y, *Autographa gamma* L. has been conspicuous by its absence so far. I have seen one Pearly Underwing, *Peridroma saucia* Hbn., and two Dark Swordgrass, *Agrotis ipsilon* Hufn. One of the latter came to m.v.l. on April 10, the other on August 29. About ten Painted Ladies, *Cynthia cardui* L. and a single female Clouded Yellow, *Colias croceus* Geoff. were seen at Penhale near here on August 29.

Since writing the above, there have been various other sightings of the Milkweed in September 1981, details of which have been passed on to me. One or two may have been duplicated, but having taken these into account the following list is probably accurate.

25th: Kynance. Mr. & Mrs. Merrifield.
26th: St. Levan, Nr. Land's End. Mr. Garceau.
27th: Mylor Harbour. ?Mr. Hillier.
28th: Nr. Gorran Haven. Miss Dunn.
Kennack, The Lizard. Miss Crompton.
Loe Pool, Nr. Porthleven.
30th: Duchy Nurseries, Lostwithiel.
?exact date: Ashton, Nr. Helston. Mr. Fairbrass.
?exact date: Scilly Isles. Five reported, whether all were different insects is difficult to ascertain. These evidently coincided with several exciting ornithological rarities.

Flowers noted on which some of these were feeding were montbretia, clover, buddleia and hydrangea. I am grateful to Mrs.

Stella Turk, of the Institute of Cornish Studies, Mr. R. D. Penhallurick, of the Royal Institution of Cornwall, and Mrs. Barbara Garratt, for letting me know about some of these reports. – Dr. F. H. N. SMITH, Turnstones, Perrancoombe, Perranporth, Cornwall TR6 OHX.

THE MONARCH: DANAUS PLEXIPPUS L. IN THE ISLE OF MAN. – Yesterday morning while I was working in my garden, a very large butterfly appeared and hovered briefly over a clump of golden rod. A few minutes later it settled on a willow tree before moving northwards over open farmland. I am fairly sure that it was a male. I saw the insect at 10.45 am, and the weather was sunny with a brisk SW wind blowing. The previous night, September 23rd, we had a severe southwesterly gale. – J. HEDGES, Ballakaighen, Castletown, Isle of Man, 25.ix.1981.

DANAUS PLEXIPPUS L. IN SUSSEX. – A specimen of this migrant butterfly was sighted by Colonel Searle, at Kingston Gorse, Worthing, W. Sussex, on the 30th September 1981. It apparently settled on some nettles where he watched it for about 2½ minutes. – S. H. CHURCH, 1 Ashpark Cottages, Plaistow, Nr. Billinghurst, W. Sussex.

DANAUS PLEXIPPUS L. IN THE SCILLY ISLES IN 1981. – I had the great pleasure of finding a Monarch (*D. plexippus*) on St. Marys on October 27th. It appeared in good sunshine gliding along a row of young pines – settled, sunning itself for some moments in excellent view – before flying inside a belt of mature 30 foot pines. There was a tear on one hindwing.

I was told of four flying round an apple tree on St. Agnes, on September 26th/27th. This same tree contained a North American Magnolia Warbler at the same time. There were also reports of 'several' flying round pine trees on St. Marys near the airport in early October. – G. T. FOGGITT, Oakdene, Brackenthwaite Lane, Pannal, Harrogate, HG 1PQ.

MIGRANTS AT HIGHCLIFFE ON THE HANTS/DORSET BORDER, 1981.– Two m.v. traps are operated here, one in the garden which is a quarter of a mile from the sea in a sheltered position, and the other on the open cliff top exposed to the South West. So far all the scarcer migrants have been in the garden. A worn male *Rhodometra sacraria* L. on 14.ix.81; single specimens of *Mythimna unipuncta* Haw. on 20.ix, 23.ix, 26.ix, 27.ix, 3.x; and a single *M. vitellina* Hbn. on 3.x.

The numbers for the common migrants have been very small with a maximum of 17 *Autographa gamma* L. on 28.ix, and nine and 11 *Agrotis ipsilon* Hufnagel on 27 and 28.ix. Only two *Peridroma saucia* Hb. on 28.ix and one on 29.ix. The only migrant butterfly has been *Vanessa atalanta* L. which first appeared on 11.ix, with small numbers coming in from the sea on most days since with no real peak. – E. H. WILD, 7 Abbots Close, Highcliffe, Christchurch, Dorset, 4.x.1981.

THE SCARLET TIGER: *CALLIMORPHA DOMINULA* (L.) IN THE COUNTY OF AVON

By BRYAN W. MOORE, F.R.E.S.*

It is always a pleasure to record a new insect in an area, particularly if it is as exotic in appearance as the Scarlet Tiger, a daylight flying moth which certainly lives up to its generic name being of 'beautiful shape' and colour. I can imagine no more thrilling sight than that of this gorgeous moth flying over an area of its principal foodplant, *Symphytum officinale* (Comfrey) in full July sunshine, its crimson wings flashing in contrast to the blue and pink comfrey flowers.

This moth has recently been noted in a heavily wooded and marshy valley about 6 miles NE of Bath. The valley is deep and in the higher reaches planted with conifers and various deciduous trees. Many springs and small streams spread over the valley floor and here the ground is marshy, supporting sallow and willow thickets, besides several acres of comfrey. This whole area is in a sense an 'island' as it is completely surrounded by farms and cultivated land, and there is no similar habitat for very many miles.

This moth was referred to me in 1980 by Mr. B. S. Harper of the Bristol Natural History Society, and I was able to confirm its identity, but despite careful enquiries I could not find any previous records. In 'Lepidoptera of Somerset' by Turner (1955), the author gives no modern records and says 'Probably now extinct in the County', and more recently Mr. John Heath of the Biological Records Centre kindly informs me that the Centre has no recent records for this area.

This colony appears to be a very small one and completely confined to the area which is marshy and abounds with comfrey. In April 1981 a search was made for larvae, and these (about 50) were seen feeding on the underside of the comfrey leaves on the sunny days. Like the imago the larvae seem to appreciate the sunshine and warmth because on cloudy or cold days they were nowhere to be seen. Later in June a pupa was found of reddish brown colour and lying in the debris at the foot of a comfrey plant. If this was in a typical position the pupa doubtless must suffer heavily from foraging birds and small mammals as they appear to be fairly easy to rake out of the surface debris.

I beat the first moth out of comfrey on 7th July 1981, and was surprised at its strong flight as it flashed into the air, a splash of crimson, suddenly to disappear as it closed its wings. A further moth was flushed out of a small bush on 9th July, again a powerful flyer, dipping over the comfrey eventually to disappear into a Poplar tree at the height of about 50 ft. On 14th July after much searching I found a moth sitting on the underside of a comfrey leaf, this I boxed as I wished to examine it closely and was sur-

*Church Cottage, Church Lane, Batheaston, Bath.

prised that it suddenly commenced to oviposit, the eggs having a hard smooth shell like small yellow pearls and being about .75 mm diameter.

According to 'The Moths & Butterflies of Great Britain & Ireland' (Heath) Vo. 9, the female Scarlet Tiger flies over the foodplant, scattering the eggs willy nilly after the fashion I imagine of the Marbled White Butterfly, and this I can well accept after examining the eggs and noting their shape and hardness. It did occur to me however, that the female I boxed could have been ovipositing in the position in which I found her, and not whilst on the wing in the supposed manner.

Could she have been sitting on the edge of the comfrey leaf and depositing eggs into space where they would fall and roll to the ground at the base of the foodplant, or was she merely resting on the leaf or during an ovipositing flight?

It is hoped that it will be possible to strengthen the colony of this most attractive and interesting moth by adequate conservation both of foodplant and habitat.

THE SILVER-BARRED: DELTOTE BANKIANA F. AND OTHER INTERESTING LEPIDOPTERA IN EAST KENT IN 1981 – On the afternoon of 4th July, near Sandwich, I netted a moth which I thought at first was a Crambid. I was overjoyed to find it was a specimen of *Deltote bankiana* F. This was shortly followed by the finding of the Dotted Fanfoot: *Macrochilo cribrumalis* Hbn., a strong colony of the Rest Harrow: *Aplasta ononaria* Fuessly, and from the same tussock of grass, two Kent Black Arches: *Meganola albula* D. & S. That night, Mr. N. F. Heal operated an m.v. light there, and among some 60 different species of macrolepidoptera were the Starwort. *Cucullia asteris* D. & S., together with several more *D. bankiana* and *M. albula.* – T. W. HARMAN, Field Study Centre, Ex Broadoak Sub-Station, Broadoak Road, Canterbury, Kent. [From the time it was first noted in Kent in 1965, only four *bankiana* had until this year been recorded for the county. These specimens were suspected immigrants, but the occurrence now of the moth in numbers in a restricted area here strongly suggests the presence of a breeding colony. J. M. C-H.]

ADERUS POPULNEUS (PANZER) (COL.: ADERIDAE) ON SALLOW CATKINS IN MID-APRIL. – On April 16th, 1980 I beat a single ♂ *Aderus populneus* (Pz.) from male catkins of a *Salix* sp. growing in a hedge near Sycamore Farm, Witnesham, near Ipswich, Suffolk (TM 2051). The bushes were growing beside a main road and were overhung by quite mature oaks, some of which had rotten branches in their crowns. The latter had no doubt provided the developmental site for the beetle. Although I would expect to find adults of this species awaiting emergence within red-rotten wood etc. in early Spring, this is, in my experience an unusually early date for the species to be taken in the open. – DAVID R. NASH, 266 Colchester Road, Lawford, Essex C011 2BU.

THE HISTORY OF *ACROLEPIOPIS MARCIDELLA* (CURTIS, 1850) (LEP.: ACROLEPIINAE) IN BRITAIN

By S. C. S. BROWN*

Concerning this species Meyrick says: "Surrey to Dorset, about six examples, all hibernated, not known elsewhere, 10 - 5." Curtis described it in 1850, and added: "A pair of this moth was given to me by Mr. Robertson I think: the specimens have a worn or faded appearance." Who was this Mr. Robertson, and where did he take them? In 1837 Curtis had named a species of *Anarsia* after him: *robertsonella*. This was subsequently shown to be a synonym of *spartiella* (Schrank 1802). His name is not included in the lists of entomologists which appeared from time to time in the *Entomologist's Annual* between the years 1855 to 1874. He most probably lived in North London, for he was known to have collected on Wanstead Flats and in Hainault Forest. In 1861 Stainton writes: "Mr. Bond has a specimen, and I understand Mr. Mitford has recently taken the insect." Bond was of course the well-known Lepidopterist of that time, and resided in St. John's Wood. On his death in 1889 his collection was purchased by Sydney Webb. Robert Mitford lived in Hampstead. His collection was sold at Stevens in 1887.

In 1871 the Rev. F. O. Morris writes: "Localities for this species are at St. John's Wood. The perfect insect appears in September." Why does the author say "Localities"? Bond possessed one specimen, and it is highly improbable that he took it in a London suburb. Morris does not give a description of the insect, and his slightly enlarged coloured figure is crude.

On June 23rd 1886, the Rev. C. R. Digby beat out of an old hawthorn hedge at Studland, Dorset, one worn specimen. This was examined by H. T. Stainton. On July 3rd 1891, he took another, a very worn one, close to the same spot. He said that nearby was a thatched shed. A still further example was taken there on June 15th 1892. Recently I asked the Rev. David Agassiz if he would look at the British Collection in the British Museum (Nat. Hist.) and see if any *marcidella* were there. He kindly did so, and wrote to say that there are two specimens, one bears the data: "Studland, 3.7.91." and the other: "Studland, Redrock 7p.m. 15.VI.92, C. R. Digby."

Mr. Chalmers-Hunt has informed me (*in litt.*) that he has in his possession the MS. Diary of the Rev. C. R. Digby. On page 32 under June 15th. 1892 is the following entry: "When mothing at early dusk by the bathing sheds below the Manor House I took my third *Acrolepia marcidella* as it flew from grass to grass; it was a good spec. and I took it within 30 yards of where I took the other two." Studland Manor, now a hotel, is situated about

*158 Harewood Ave., Bournemouth, Dorset.

500 yards from the shore, from which it is separated by some cultivated land. The Rev. C. R. Digby was the vicar of Studland between 1878 and 1892. He was a close friend of E. R. Bankes.

A note by E. R. Bankes concerning the capture of the first specimen in Dorset, together with a beautiful coloured figure by Mrs. H. M. Richardson, appeared in the Proceedings of the Dorset Natural History and Archaeological Field Club for 1889.

I wrote to Dr. A. Neboiss of the National Museum of Victoria, Melbourne, to enquire if there are any *marcidella* still in the Curtis collection. His reply (*in litt.*), was that there are two specimens present, both females, and without data. In 1968 they were examined by Dr. Reinhard Gaedike. He designated one as the lectotype, and has labelled it No. 794. He states that *Roesterstammia fumociliella* described by Mann in 1855 is a synonym of *marcidella.* As there are no *fumociliella* in the Mann collection in Vienna, he says that it must be ascertained by description as regards the species identified as *Roesterstammia fumociliella.* Stainton (1869) says that Mann took it at Leghorn in Italy in May1846, and a pair at Ajaccio in Corsica. Mr. Chalmers-Hunt has pointed out to me (*in litt.*) that this species has been recorded from widely scattered localities in Southern Europe. It appears to be rare.

The relevant entry in the Curtis notebook reads: "X2 *marcidella* Curt. Ann. & M.N.H. 5. 120 desc. "Hainault forest I believe, Robertson." "in June, 53. Whitethorn fence, Wallace's enclosure 1½ miles from Lynd'h to Brock. F. Bond." Following on this information, I wrote to Mr. Don. Small, The Deputy Surveyor of the New Forest, and enquired if he could give me any information as regards to the location of "Wallace's enclosure". His reply was, (*in litt.*), that by 1853 a small enclosure known as Willis's Plantation of oak had been planted on the south eastern side of the road to Bolderford Bridge; M. R. 284033. It would appear therefore, that this is the location mentioned by Curtis, as the distance between Lyndhurst and Brockenhurst as given by him is correct.

As previously mentioned, Meyrick states that about six examples of *marcidella* are known in Britain. This sums up to two in the Curtis collection from Essex, three from Dorset, and one from the New Forest, Hants. The whereabouts of the specimen said to have been taken by Mitford appears to be unknown.

I have been unable to trace the reference to Surrey as given by Meyrick. In the *Victoria County History for Surrey,* Vol. 1., there is a list of insects edited by Herbert Goss, but *marcidella* is not included. The *Victoria County History for Dorset,* Vol. 1., which was to include the insects, was never published.

I wish to thank for their assistance the Rev. David Agassiz, Mr. Chalmers-Hunt, Dr. A. Neboiss, Mr. Don. Small, and Mr. C. Kesselburg.

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COCOON-SPINNING BY CALOPTILIA (LEP.: GRACILLARIIDAE). – This genus makes a slight trough on the surface of a leaf by means of contracting silk and spins its cocoon therein. It is shaped like the letter "D" with the straight component outermost. The texture of the silk is unusual, taking the form of a shining, papery, pale yellow-green membrane which is slightly transparent, allowing one to see when the transformation within takes place and later the general colour of the pupa, though obscuring detail.

I have been observing the habits of the Gracillariidae for Volume 2 of MBGBI and on the 1st of August I watched a larva of *Caloptilia rufipennella* (Haworth) as it spun its cocoon. When the process seemed to have been completed, it rubbed the flat surface vigorously with its anus, exerting sufficient pressure to cause the anal segment to look greener and darker than the rest of its body. I could not see whether any excretion was being applied to the silk.

Three days later we were staying with a former President of the Linnaean Society and our hostess served nuts with the sherry in a bowl of Roman glass, dating from the 1st century A.D. As I admired it, two thoughts passed through my mind: the first was St. Paul's "For now we see through a glass darkly" and the second was of my *Caloptilia* cocoons, since the glass and the silk shared just the same measure of shine and translucence.

I wonder if any readers have observed similar behaviour in other members of the genus. It is possible that this is a necessary process to give the silk its specialised texture. On the other hand, the irreverent may say that the larva was expressing vulgar disapproval at my intrusion into its private affairs. – A. M. EMMET, Labrey Cottage, Victoria Gardens, Saffron Walden, Essex, CB11 3AF. 9.viii.1981.

ADERUS POPULNEUS PANZ. (COL.: ADERIDAE): A PROBLEM OF BIONOMICS

By A. A. ALLEN, B.Sc., A.R.C.S.*

Mr. D. R. Nash's note on this rather uncommon beetle (**93**: 204) gives me occasion to raise the question of its true biotope and life-history; which, to judge from the available information, and from what is known of its two congeners in Britain, presents certain puzzling features. Among these is the curious diversity of habitats from which it is recorded, coupled with the fact that the dates of capture extend to every month of the year. Moreover, two observations (one of them published) regarding larval and adult feeding habits are hard to reconcile with the rest. In contrast, our other two species of Aderidae, *A. oculatus* Payk. and *A. brevicornis* Perris, are typical for the family – developing only in decayed wood, with an adult activity-period of some 8-10 weeks in late summer. The following short list of situations in which *A. populneus* has been taken, from data in my possession, will provide some idea of the range concerned. Months of capture are given where known.

Old trees, dead hedges, flowers (Fowler); beaten out of old oaks (S. Stevens); off oak in August and swept under elm in May, singly (Allen); beaten from dead lime boughs (Hansen); in mould under oak bark in March, one in wood-dust of a hollow plane tree in December, bred from wood in May and September, off *Salix* in May (cf. Mr. Nash's capture above), and once swarming about manure mixed with bark (all Danish records, Hansen); in September (Harwood, and Bookham Common List); in manure heap (Butler); one in a grass heap in January (Hammond); one in 'rubbish' in November (Dinnage coll.); habitually and commonly in cobwebs, indoors and out, apparently feeding on them (R.D. Dumbrell, *pers. comm.*); larvae 'constantly' found feeding in seeds of ash, adult flying to light in February, and on windows mid-July to late October, March and April (Morley).

The last record is sufficiently interesting to be worth quoting in full, especially as the original may not be readily accessible to many readers.[1] The author is writing of certain hibernating insects:–

"Perhaps the most interesting instance. . . is that of . . . *Xylophilus populneus* Fabr., whose hibernation seems hitherto to be unknown. This species is usually said to be beaten from old hedges, and its economy appears hitherto unrecorded. Actually the larvae feed in the seeds of ash trees, where I have constantly found them and whence the imagines are frequently beaten in my paddock and garden at Monks Soham [Suffolk], where they were especially common in July 1915; but elsewhere I know of it from only Swalecliff in Kent and Twyford Abbey in Middlesex, where our Hon. Treasurer and I swept it in late June 1897. It takes to wing with great freedom and so is constantly found on my windows here, which enables me to state it perfect from 14 July to at least late in October, and again throughout March and April. I have long suspected its hibernation, which was confirmed on 18 February last when a female flew at 10 p.m. to the lamplight of a warm room, that previously had been little warmed that winter, evidently from some secure winter retreat indoors." (Claude Morley, 1934, *Trans. Suffolk Nat. Soc.*, **2**(3): 299.)

[1] I am indebted to Mr. Nash for drawing my attention to this very remarkable statement.

*49 Montcalm Road, Charlton, London SE7 8QG.

Unfortunately, the strange habitat and pabulum claimed here to be that of the *A. populneus* larva, unsupported as it appears to be by other observers, can hardly be accepted at face value. For it is not evident from what is said that any of the larvae were actually reared for confirmation of their identity – a most necessary procedure that should not have been difficult; or if they were, we are not told of it. Rather does it seem as though Morley might simply have inferred their identity from his having beaten adults from the same ash trees in whose seeds he found the supposed larvae. Yet if the latter were *not* those of *A. populneus*, what in fact *were* they? No other known British beetle has a larva with this habit, and Morley was surely too competent an entomologist to have mistaken the larva of e.g. a moth for that of a beetle. But, because of the tantalizing lack of proof, this observation must remain in doubt until someone can repeat and verify it.

If Morley's claim is hard to swallow, the idea of a larva that feeds in ash seeds producing an imago that eats cobwebs (see above) is so bizarre a combination as to strain credulity to breaking-point. Spider-silk is such an unlikely pabulum for an Aderid that one has to ask oneself whether the observations of Mr. Dumbrell (for whose good faith I can vouch) could bear another interpretation. May it not rather have been that the beetles found in the webs had been ensnared by them during flight, as many insects are, and were eating them – if they really were – either because in the circumstances there was nothing else to eat, or in attempts to free themselves? (One wonders whether anything is known of the *adult* feeding habits of Aderidae.)

The data of Morley and others show beyond doubt that here we have a species whose life-cycle differs from that of its British allies, in that the adults – or at least some of them – hibernate, reappearing in spring; further, it seems to affect a wider range of situations. The possibility of more than one annual brood is suggested by Hansen's breeding records above (v, ix), and by the long imaginal period reminiscent of that typically found in the allied family Anthicidae. The species appears often to select overwintering sites where either fermentation or a building affords a little warmth.

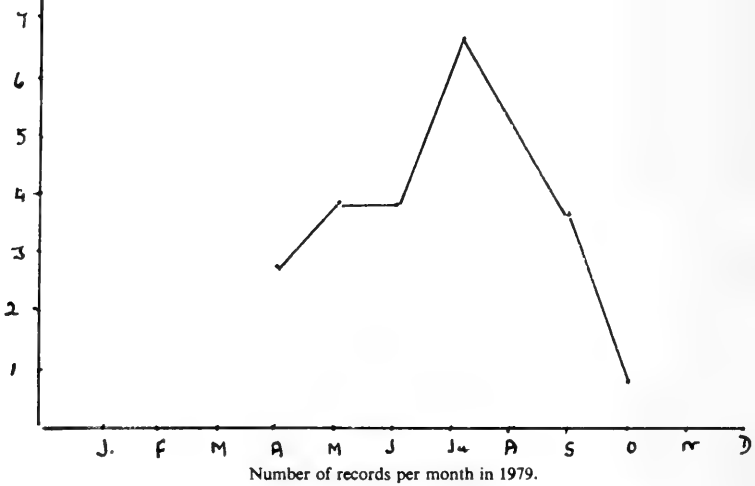
CARCINOPS PUMILIO (ERICHSON) (COL., HISTERIDAE) ATTRACTED TO CAT FOOD. – On 20 September 1970, at my home in Lawford, I was surprised to see a small Histerid beetle crawling in a saucer upon which was an open tin of cat food. Subsequent examination showed that the beetle was *Carcinops pumilio*. The insect had probably been attracted by the smell of the cat food and had flown in through the large, open window. Its presence could, of course, have been purely fortuitous as I have taken singletons of this species away from carrion etc. on two occasions in the last decade – one crawling up a hornbeam trunk in Bentley Long Wood, Suffolk, and another in a bath in a house in Salisbury, Wilts. – D. R. NASH, 266 Colchester Road, Lawford, Essex CO11 2BU: March 24th, 1981.

DANAUS CHRYSIPPUS L. REVISITING MALTA

By ANTHONY VALLETTA F.R.E.S.*

After a lapse of 26 years this migratory butterfly was taken again in Malta by Guido Bonett on the 14th October 1978; but whilst in 1952 and in 1923 the var. *alcippus* Cram. was taken, this time it was the type (See *Ento.Rec.* **91:** 142-143). The following year 1979 will, however, be long remembered as the year of the *D.chrysippus,* as no less than 23 times this butterfly was seen flying about in different localities of the islands and on different dates.

It is a well known fact that this butterfly is a strong and fast flier and that it has a longer span of life than most of the butterflies; thus it does not mean that because it was seen 23 times there were that many butterflies flying about; there could have been many more which were not recorded or fewer. The Maltese Islands being so small, only 122 sq. miles, the same specimen could have been seen and recorded several times in different localities.



Number of records per month in 1979.

There is a span of 167 days from the first one seen on the 5th April and the last one on the 19th October; only three specimens were taken, all males, two in September taken on the 12th and 29th at Wied Blandun, Paola, and Swieqi, St. Julian's respectively; the third was taken on 2nd September at Wied Iz-Zurrieq, and 11 more were recorded after the last taking, which means that several specimens were present.

* 257, Msida Street, B'kara, Malta.

During this period, several migrations of *Cynthia cardui* took place, and it is possible that the *chrysippus* had joined the exodus, possibly from Libya, N. Africa, as the prevailing wind was South,South West.

In 1980 we had only one record, when two specimens, a male and a female flying together were taken by me on the 15th October at 10.10 a.m. at Wardija, St. Paul's Bay; during that week thousands of *C.cardui* were again on migration.

All these records could not be available were it not for the interest taken by my brother-of-the-net, Guido Bonett, who besides recording several himself (when the net was not available), has several contacts with ornithologists, who are quite often out in the country either ringing or watching the migratory birds. My thanks also go to all my other friends who rang me up whenever they came across this rare butterfly, and especially to Mr. N. A. McGregory, Mr. S. Healy and Mr. P. Sammut, who took the trouble to call on me to show me their finds.

When one considers that this butterfly has visited the islands for three consecutive years, there may be the hope of its becoming a regular migrant. Or possibly, of its finding a plant to its liking to breed on the islands, as it has done in the Canaries and lately near Alicante in Spain,where it is said it may be feeding on cotton. We shall wait and see!

Records of Danaus chrysippus *Lin. in the Maltese Islands in 1979.*

Date	*Locality*	*Corresponding number on map*
5.4.1979	Hal-Farrug	1
6.4	Wied Il-Kbir	2
8.4	Wied Rini	3
2.5	Ghajn Barrani, Gozo	4
5.5	Bugibba	4a
12.5	Ghajn Rihana	5
12.5	Wied Blandun	6
16.6	Ramla l-Hamra, Gozo	7
20.6	M'Skala	8
21.6	Bahar ic-Caghaq	9
29.6	Swieqi	10
4.7	Bidnija	11
6.7	Gozo Channel	12
6.7	Ta'Qali	13
6.7	Bugibba	14
10.7	Manoel Island	15
22.7	Comino	16
24.7	Mistra	17
2.9	Wied iz-Zurrieq	18
12.9	Marina, Marsa	19
29.9	Ghadira	20
30.9	Ghadira	21
19.10	Ghadira	22

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SMITH AND ABBOT, *THE NATURAL HISTORY OF THE RARER LEPIDOPTEROUS INSECTS OF GEORGIA* (1797): ITS AUTHORSHIP AND LATER HISTORY

By RONALD S. WILKINSON*

I. The problem of authorship

The first extensive monograph entirely devoted to North American entomology was a collaboration of Sir James Edward Smith and John Abbot, published at London in two sumptuous volumes with 104 coloured plates. The book, which is of considerable importance to taxonomists because of the number of species described, was based on materials sent to England by Abbot (1751-1840 or early 1841), a London naturalist skilled in entomology and ornithology who emigrated to the American colonies in 1773. His sponsors were "Dru" Drury and other leading English collectors, and he had the official sanction of the Royal Society of London, which approved of the young man's purpose of making "researches and collections in *Virginia*" (Drury Papers; Abbot, "Notes on my Life"; Legge to Murray, 4th August 1773). Abbot eventually settled in Georgia, and began to send well-set specimens and superior watercolours, chiefly of insects and related arthropods but also of birds, to naturalists in Britain and Europe. His early efforts reached Drury, Swederus, Hübner, Fabricius and many others, and figured extensively in Thomas Martyn's *Psyche*. But his best known contributions were to the Georgia book, edited by Smith (1759-1828), president of the Linnean Society of London.

The precise nature of this collaboration has been imperfectly understood by many authors, who have ascribed species named in the 1797 book variously to Abbot and Smith, Smith and Abbot, Abbot, and Smith. In brief, Smith received rough notes and coloured drawings, probably through the agency of John Francillon, the London jeweller and entomological collector who was managing Abbot's British and Continental affairs at the time. The transaction must have occurred in 1793 or earlier, as the dated copperplates for the 1797 volumes (less than one-fourth of the plates are dated) were prepared in 1793, 1794 and 1795. Smith edited Abbot's notes, deleting and amending in the interest of economy and style. Abbot had furnished no scientific names or descriptions of new species, so that Smith had to identify the insects as well as he could by reference to printed works and actual Georgia specimens furnished by Abbot to the London cabinets, especially Francillon's, where Smith found examples of all of the Lepidoptera depicted on the drawings and mentioned in the notes. In the printed book, Smith was careful to set Abbot's

*The American Museum of Natural History, New York City, New York 10024

edited notes apart from his own original contributions, which included the identifications and the descriptions of new species. He explained what he had done in the Preface:

"The materials of the following work have been collected on the spot by a faithful observer, Mr. John Abbot, many years resident in Georgia, who, after having previously studied the metamorphoses of English insects, pursued his enquiries among those of Georgia and the neighbouring parts of North America. The result of his observations he has delineated in a style of beauty and accuracy which can scarcely be excelled, and has accompanied his figures with an account, as well as a representation, of the plants on which each insect chiefly feeds, together with many circumstances of its manners, times of the different metamorphoses, and other interesting particulars. For all such facts recorded in these pages the public are entirely obliged to Mr. Abbot. His memorandums, not methodized by himself for publication, have merely been digested into some sort of style and order by the editor, who has generally added remarks of his own, in a separate paragraph and different type from the rest; and who has entirely to answer for the systematic names and definitions; that department having been left altogether unattempted by Mr. Abbot" (Smith and Abbot, 1797, ii).

Although he did not have access to Abbot's rough notes, dos Passos (1958) accurately assessed the case for Smith's sole authorship of the names. Calling attention to Smith's statements in the book, dos Passos concluded that "both Abbot and Smith were responsible for parts of this work, the line dividing their respective responsibilities being sharply drawn and defined. Smith was an editor, insofar as editorial work was necessary," and he was also "author of the scientific names when he '... generally added remarks of his own . . . [and was] entirely to answer for the systematic names and definitions'," left altogether unattempted by Abbot. According to dos Passos, "this language brings the case completely within Article 21 of the *Règles* (Article 22 of the Bradley Draft), and results in ascribing all the scientific names to Smith, which in a check list would read 'Smith, 1797' but in a synonymy could properly be followed by '*in* Smith and Abbot, 1797.' "

My examination of Abbot's notes, which are among Smith's papers at the Linnean Society of London, has revealed new evidence to substantiate Dr. dos Passos' arguments. The manuscript, titled "A Natural History of North American Insects. Particularly those of the State of Georgia," is exactly as characterized by Smith. Scientific description was indeed "unattempted," and Abbot's introductory statements make this quite clear: "As I intended the following, I think you may still publish it as a separate Work from any other you are at present engaged in. However if you think otherwise you may only mention my Name now & then . . . . You may therefore prune and trim what you please of the following rude Notes, I shall therefore not marshall them in any Order, take them as they occur. I have not

pretended to describe them in any scientific manner, leaving that for you [r] superior Abilities" (f. 88r). Smith did indeed "prune and trim," his editorial work being easily traced on the manuscript and in the printed result. There can no longer be any question about Smith's sole responsibility for the names, and according to Article 50 of the Code he is the author. Article 51 (c) directs citation as "Smith, in Smith and Abbot."

II. The later history of "Smith and Abbot"

Until the end of his very long life, John Abbot continued to execute coloured drawings of the insects of Georgia, and there were attempts to expand or continue the 1797 book by publishing additional notes and plates. The first, in 1802 or 1803, was surely wrecked on the shoals of economics. John Francillon wrote to the Manchester silk and cotton manufacturer John Leigh Philips, an amateur entomologist who had been a recipient of Abbot's insects and watercolours, that "Mr Edward [s]" (J. Edwards, the principal publisher of the 1797 book), "is determined never to publish any addition, as I offered Him my Drawings three Years ago to publish an addition without any fee or reward, which He refused, saying He had lost money by the first, and would not undertake a Second part" (Francillon to Philips, 13th January 1806). The Abbot drawings once owned by Francillon are now preserved at the British Museum (Natural History).

Another of Abbot's correspondents and customers, the naturalist William Swainson, wished to publish a continuation of the 1797 work. In his *Taxidermy; with the Biography of Zoologists* (1840), Swainson praised Abbot's work, remarking that "Another series of 103 subjects, not included in that which has been published, was executed for us, with the intention of forming two additional volumes to those edited by Dr. Smith: but the design is now abandoned" (pp. 99-100). The history of this transaction can at least be partially traced in the surviving Abbot-Swainson correspondence. On the 20th December 1816 Abbot wrote that "I have commenced making a set of Quarto (large size) Drawings of the changes of Insects with notes, of such Insects that are not figured in Smiths Lepidoptera Insects of Georgia, indeed it is a continuation of that Work [*footnote:* 'Except that I shall draw among them some of the other Genera of Insects']. I shall, I expect, be able to complete about 100 by the time I shall have your Collections of Insects ready to send You. I have always not have had less than 7s 6d sterling apiece for such Drawings, but I am willing to take 6s apiece for these. As I still continue to make new discoveries, I can very readily make at least 200 such Drawings not figured in Smiths work, among them is many of the principal Insects both for size & beauty."

Swainson replied on the 25th October 1817 that he would take a series of drawings of "all the species of Papilio and Sphinx which are not figured in Smiths work," provided that

Abbot could also furnish drawings of their metamorphoses and foodplants. Abbot executed the commission, and in the following spring was able to report, when conveying a collection of insects, that "I have likewise sent You under the Cork at the bottom of the box (being a false bottom) 104 Q [uarto] Drawings of the changes of the Insects of Georgia, making a 2d. Vol. to Smith" (Abbot to Swainson, 1st May 1818). But Swainson was dissatisfied with the results, replying on the 28th January 1819 that the drawings were not as highly finished as those used in the book; "but the greatest objection is that they are much smaller in size so that they can never be bound uniformly with that work."

Abbot promised a set in a larger format, but because of the loss of much of the later correspondence it is uncertain when these drawings were actually sent (or, indeed, how many sets of Abbot's drawings Swainson later received). For example, in his last known letter to Swainson, dated 10th June 1835, Abbot again reported shipment of a collection of insects, "and my book of Drawings of Insects, and about 650 Drawings of single Insects on small papers being all the Drawings of Insects at this time in my possession." Parkinson (1978) claimed that the set Swainson intended to publish was the "book of Drawings" mentioned in 1835, but he seems to have known only of Abbot's 1835 letter when interpreting the statement, and not the earlier correspondence and the long history of transactions between Abbot and Swainson. Parkinson reported a set of 103 drawings (originally 104, but one is lost) and Abbot's accompanying "Notes to the drawings of insects" in the Turnbull Library, Wellington, New Zealand, which is also the repository of the 1835 letter. He identified the set as the "book of Drawings," but the accuracy of his suggestion has not been determined. At any rate it is certain that no drawings sent to Francillon, Swainson or other known recipients were ever published as supplementary volumes to "Smith and Abbot."

But the copperplates used for the illustrations in the 1797 book did have a later history. A bound volume of a partial set of plates, now in the library of Dr. dos Passos, Mendham, New Jersey, U.S.A., provides evidence that at least some of the plates were altered and reprinted, and that others were reprinted without alteration, well into the nineteenth century. Evidently the dos Passos set, purchased some years ago from Wheldon & Wesley, represents examples of plates which had been reissued and were available in 1828 or shortly afterward, approximately three decades after original publication. The volume, which has no text, includes 73 of the 104 numbered plates, with one duplicate. The following notations describe those plates in the dos Passos set which have new imprints, dated watermarks, and other obvious differences:

Plate 1. New imprint at base, "Sold by R. Martin. Book & Printseller, 47. Great Queen Strt: Lincolns Inn Fields." *Plate 6:*

Martin imprint. *Plate 9:* as in 1797, but [Whatman] watermark, 1820. *Plate 12:* Martin imprint. *Plate 13:* as in 1797, but Whatman watermark, 1822. *Plate 17:* as in 1797, but Whatman watermark, 1821. *Plate 18:* Martin imprint. *Plate 19:* as in 1797, but Whatman watermark, 1822. *Plate 20:* as in 1797, but [Whatman] watermark, 1820. *Plate 25:* Martin imprint. *Plate 32:* Martin imprint. *Plate 33:* Martin imprint; [Whatman] watermark partially visible, apparently 1824. *Plate 45:* Martin imprint; [Whatman] watermark, 1828. *Plate 46:* Martin imprint. *Plate 55:* as in 1797, but Whatman watermark, 1822. *Plate 61:* Martin imprint. *Plate 65:* as in 1797, but [Whatman] watermark, 1820. *Plate 84:* as in 1797, but Whatman watermark, 1822. *Plate 87:* as in 1797, but Whatman watermark, 1821. *Plate 98:* as in 1797, but Whatman watermark, 1822. *Plate 104:* as in 1797, but Whatman watermark, 1821. Plates 40, 62 and 69 lack various words or numbers present on the 1797 plates; others differ in lesser degree; and some dos Passos plates are so severely trimmed that one cannot determine whether legends are deleted or merely cropped.

The remaining plates in the dos Passos set are unwatermarked or bear watermarks which are not complete enough to be dated. These plates are similar to those issued in 1797, but may well be printed on later paper as this differs from readily available copies of the 1797 publication, including Dr. dos Passos' complete copy of "Smith and Abbot." No further data have been discovered about the R. Martin reprints.

Acknowledgments

The Linnean Society of London has kindly granted me permission to reproduce John Abbot's "rough notes" in facsimile, to enable scholarly assessment of his precise contribution to the book. I am grateful to Dr. Cyril F. dos Passos for permission to examine and describe plates in his library, and to him and to Dr. F. Martin Brown and Dr. G. Scott Wilson for their advice during the course of my research.

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REPORT OF A PALE CLOUDED YELLOW: COLIAS HYALE L. AND OTHER MIGRANT LEPIDOPTERA IN IRELAND IN 1980. – I received a list of observations of Dutch migrants from one of our collaborators, Th. J. Blokland, Jagersstraat 4, 2266 AT Leidschendam, Holland, and at the end he had added a few which he had seen during a trip through the south of Ireland in August 1980, and among them was *hyale*! They are: *Vanessa atalanta,* L., Lemlara, Co. Cork, 17. viii(1), 31. viii(2); Avoca, Co. Wicklow, 19. viii(2); Ashford, Co. Wicklow, 21. viii(8); Glendalough, Co. Wicklow, 21. viii(2). *Cynthia cardui* L., Lemlara, 7. viii(1), 10. viii(1). *Colias hyale* L., Lemlara, 31. viii(1). *Scotia ipsilon* Hufn., Lemlara, 31. viii (1 at light).—B. J. LEMPKE, Instituut voor Taxonomische Zoologie, Plantage Middenlaan 64, 1018 DH Amsterdam, Holland. [Baynes *Revised Catalogue of Irish Macrolepidoptera* (1964) states there have been no reliable records of *C.hyale* in Ireland since 1868, so it occurred to us that Mr. Blokland's *Colias* might have been a pale form of *C.croceus* Geoff., which species was reported from Ireland in 1980. We wrote to Mr. Lempke accordingly, and his reply contains the following translation of a letter to him from Mr. Blokland: "I am very sorry, but I do not possess the specimen. At that moment I had no net at my disposal. It is however certain, that it was not the *helice* form of *croceus,* as this form only occurs with the much more robust female, and which moreover has a much paler ground colour than *hyale.* I could clearly see that at the moment when the butterfly settled on the flowers of *Hieracium.* The resemblance to *australis* is of course much closer, but I think I am quite certain it was *hyale,* because of the rather small round spot on the underside of the hind wing".—EDITOR.]

FOUR NEW SOUTH AFRICAN BUTTERFLIES

By C. G. C. DICKSON, M.Sc.*

Nos. 53 – 56.

SATYRIDAE

The first specimen of this new species, a female, was found by Mr. C. W. Wykeham on the Camdeboo Mountains to the north-west of Aberdeen, in the Eastern Cape Province, on 3rd December, 1969. The species is most closely related to *Pseudonympha detecta* Trimen (*Entomologist's mon. Mag.* **50**: 281 (1914)), which has a more westerly distribution in much of the Cape Province, but occurs at least as far to the east as Toverwater (V. L. Pringle). While the present writer felt that the above specimen did represent a previously unknown species, full confirmation of this being so was needed and, most fortunately, Messrs. V. L. and E. L. Pringle provided such proof when a number of similar specimens, of both sexes, was discovered by them near Aberdeen on 29th November, 1979; and it has been due to their kindness that specimens have been available for study. Decisive differences have also been found in the male genitalia of these taxa. Comparisons are made with *Ps. detecta*, in the following description.

Pseudonympha **camdeboo** spec. nov.

The hindwing is less produced towards the anal-angle, being of a more rounded shape as a whole than in *Ps. detecta.*

Upperside.

Forewing. Fulvous-red area of consistent depth of colouring throughout its extent, without intrusion of the dark brown ground-colour of the wing in the vicinity of the end of the cell, as in *Ps. detecta.* Black ocellate, subapical, spot and its two bluish-white pupils lying at a smaller angle to the horizontal than in the case of *detecta;* the short dark streak basad of the golden-yellow ring of the ocellus outwardly concave instead of being approximately straight. The dark streak parallel with the distal margin wider and darker than in *detecta,* and tending to be slightly closer to the margin itself.

Hindwing. Fulvous-red patch rather larger than is usual in *detecta* and more triangular in form owing to an acute, if not sharply defined, extension towards wing-base.

Underside.

Apical portion of forewing and entire surface of hindwing noticeably more granular than in *detecta.*

Forewing. Angle of ocellate spot the same as on upperside. An increase in width of dark streak along at least lower-half of its length, in comparison with that of *detecta*, is apparent; also the presence of dark suffusion distad of lower portion of streak and near lower angle of wing.

* "Blencathra", Cambridge Avenue, St. Michael's Estate, Cape Town.

Hindwing. The small (sometimes decidedly minute or partly so) ocellate spots which are normally present in *detecta* in areas 2, 3 and 6 and some distance from the wing-margin, have been absent in specimens of the present species which have been seen up to the present.

Length of forewing: 17.5 – 18.25 mm. (the former measurement, in holotype).

Female (Upperside).

Forewing. Characters much as in male; fulvous-red area more prominent and broader than in *detecta* and with its lower margin closer to wing-margin (as far down as vein 1) than is normally the case in the allied species. Dark streak parallel with distal-margin not necessarily wider than in the female of *detecta.*

Hindwing. As in the male.

Underside.

Granular effect in apical portion of forewing and hindwing as a whole less pronounced than in the male.

Forewing. Dark streak parallel with the distal-margin not necessarily broader than in *detecta*; while there is little or no additional dark suffusion towards the lower angle of the wing in the female of the present insect.

Hindwing. As in the male, apart from the less pronounced granulation.

Length of forewing: 18.5 – 18.75 mm. (the former measurement, in allotype).

The body and ancillary parts closely resemble, in both sexes, those of *Ps. detecta.*

♂ Holotype, EASTERN CAPE PROVINCE: Aberdeen, 29.XI.1979 (E.L. Pringle); British Museum Reg. No. Rh. 18695.

♀ Allotype, E. CAPE PROVINCE: date as for holotype; British Museum Reg. No. Rh. 18696.

Paratype in author's collection: data as for holotype, one male (E. L. and V. L. Pringle).

Paratypes in Pringle Collection: data as for holotype, nine ♂♂, one ♀ (E.L. and V. L. Pringle).

Paratype in Coll. C. W. Wykeham: Camdeboo Mountains, C.P., 3.XII.1969, one ♀ (C.W. Wykeham).

Paratypes in Coll. Transvaal Museum, data as for holotype, two ♂♂.

A preparation of the male genitalia of this species has been compared with the description and the carefully executed figure of the male genitalia of *Ps. detecta* in the late Dr. G. van Son's *The Butterflies of Southern Africa* 2: 133, fig. 147 (on p. 128) (1955). The differences, or the most obvious ones, which appear on this basis to be present in the genitalia of *Ps. camdeboo* are as follows: *Uncus* not strictly in line with tegumen, but both it and the tegumen well arched dorsally, and the uncus much thicker midway along its length (i.e., in the lateral view) and curving down

to a sharp tip. It is thus not "gradually tapered from base", as stated in the case of *detecta. Falces*. Shorter than in *detecta* and thus less, not "more" than half the length of tegumen. *Valve.* Though broadened basally, it is not (for this group) "very broad", being decidedly less broad than in the figure with the valve of *detecta.* Dorsal margin *more* than one-third longer than base, and *not* dentate in the "apical one-third". The relatively narrow, more distal portion of the valve appears to be broader than in *detecta* and its somewhat truncate distal end bears a small pointed projection at its upper "corner", the lower part being rounded. *Aedeagus*. Longer and more slender than in *detecta* (judging by van Son's figure) and straight, not "slightly arched", but with its much narrower (in comparison with the figure) basal end strongly up-turned.

Specimens of *Ps. detecta* which were compared with examples of the present insect were mainly ones from fairly close to Cape Town; but the species seems to show little if any variation throughout its range. *Ps. camdeboo* appears to have been found at an altitude of between 4,500 ft. and 5,000 ft. above sea-level. The vegetation of the Camdeboo Mountains consists of typical Karroo bushes and smaller shrubs, succulents and species of grass.

(*To be continued*)

A SPECIES OF MEGASELIA NEW TO BRITAIN FROM NORWICH (DIPTERA: PHORIDAE).—Among a collection of scuttle flies collected in water traps (set under birch trees from 18-28 June 1976) at the University of East Anglia, Norwich, by Dr. I. F. G. McLean, are a male and a female of a species of Megaselia not met with before by the author. In the Keys of Lundbeck (1922, *Diptera Danica, Part VI, Pipunculidae, Phoridae,* Gad, Copenhagen), they readily run to *"M. giraudii* Egger". However, Schmitz (1952, Über W. Lundbecks Sammlung und Beschreibung Dänischer Phoriden. *Ent. Meddr.,* **26:** 350-379) showed that Lundbeck's specimens in fact belonged to the species *M. plurispinulosa* (Zetterstedt). While Dr. McLean's specimens seemed in general agreement with Lundbeck's description there remained some doubt as to their correct identity. Having just received the latest part of the revision of the palaearctic Phoridae by Schmitz and Delage (1981, in Lindner (ed.), *Die Fliegen der palaearktischen Region 33 Phoridae Lief.* 325: 665-712), that covers *M. plurispinulosa* and related species, I have re-examined the specimens from Norwich. It is evident that these belong to the species *M. nigrans* Schmitz (1935, Neue europäische Phoriden (Diptera). *Tijds. Entomol.* 78: 79-94). The hypopygium of the male immediately distinguishes *M . nigrans* from *M. plurispinulosa* (cf. Smitz & Delage, *op.cit.,* figs 449 & 451).

The specimens of *M.nigrans* from Norwich represent the first records of the species in Britain. It has previously been recorded in Austria, Silesia and France.—R. H. J. DISNEY, Malham Tarn Field Centre, Settle, North Yorkshire, BD24 9PU.

LODERUS GILVIPES (KLUG) IN SCOTLAND, WITH SECOND BRITISH RECORDS OF *PRISTIPHORA BIFIDA* HELLEN AND *NEMATUS FRENALIS* THOMSON (HYMENOPTERA, TENTHREDINIDAE)

By A. D. Liston*

Loderus gilvipes (Klug)

1 ♀, Queen's Park, Duddingston, Edinburgh, 2.vi.1979. 1 ♀, Cademuir, Peebleshire, 12.vi.1979 (both collected by writer).

Previous British records are from the River Brock in Lancashire and Upper Teesdale in Yorkshire (Benson, 1945). Because of new information on their distributions in Europe, *L. gilvipes* can no longer be considered a subspecies of *L. pratorum* (Fallén) as Benson (1952) treated it. Most recent European taxonomists give *gilvipes* specific status.

L. gilvipes is a boreo-subalpine, Eurosiberian species found in Sweden, Finland, Latvia, Switzerland, Austria and Northern Siberia to Kamchatka. The Queen's Park, near sea-level, does not support any other relict boreal insect species as far as I know.

Pristiphora bifida Hellén

1 ♀, Leadhills, Lanarkshire, 18.v.1980, ca. 320m.from bushes of *Salix phylicifolia* L. (coll. Liston).

Only other British record is from Kincraig, Invernesshire, Scotland (Benson, 1958). Status of this species is uncertain (Benson, 1958, Hellén, 1975). May not be distinct from certain other species belonging to this very difficult complex (eg. *P. confusa* Lindqvist, which I have also recorded at this locality). One of the main distinguishing characters for *bifida* is the bifid tarsal claw, but other species in the *melanocarpa* group have variable forms of claw.

P. bifida has been thought of as a boreal species, occurring in Finnish Lapland, Scotland and the Austrian Tirol (at over 2000m: Schedl, 1976). Records from lowland France (Cote d'Or: Chevin, 1977) and lowland Czechoslovakia (Central Bohemia: Beneš, 1975) indicate that allowing for its association with *Salix*, it is ecologically versatile.

Nematus frenalis Thomson (=*fastosus* Konow)

1 ♂, data as for *P. bifida* (above). Previous British record is based on a female from Nethybridge, Invernesshire (Benson, 1958).

Larva on *Salix*. Boreo-alpine, Eurosiberian species occurring in Northern Siberia, Russia, Finnish and Swedish Lapland (Kontuniemi, 1965; Malaise, 1921), Thüringian Mts. of East Germany (Muche, 1968), High Tatra Mts. of Czechoslovakia (at 1800m: Beneš, 1962) and the Austrian Tirol (1900-2000m: Schedl, 1976). This is one of many boreo-montane Nematine sawflies occurring on the small group of *Salix phylicifolia* bushes at Leadhills.

*99 Clermiston Road, Edinburgh EH12 6UU.

Acknowledgements

I thank Dr. Veli Vikberg (Turenki, SF) for comparative material of the genus *Loderus*. Univ.-Doz. Dr. Wolfgang Schedl (Innsbruck, A) generously sent me a copy of his publication.

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PAROMALUS FLAVICORNIS (HERBST) (COL., HISTERIDAE) AT ROOTS OF GLAUCIUM FLAVUM CRANTZ. – Whilst grubbing at roots of Yellow Horned Poppy beside Barthorp's Creek, Hollesley, Suffolk (TM 378448) on 3 January, 1975 I took a single example of *Paromalus flavicornis*, an Histerid which, as far as I am aware, usually only occurs beneath bark.

The only explanation which I can offer for its presence in this atypical situation is that the beetle was originally carried into the saltmarsh on floating timber and that it subsequently moved to the habitat cited for hibernation. The beetle has occurred to me in the nearby Tunstall Forest as well as in several other Suffolk localities. – D. R. NASH, 266 Colchester Road, Lawford, Essex, CO11 2BU: March 24th, 1981.

Notes from the Breeding Cage

This is the first of an occasional series of notes on all aspects of breeding and rearing in captivity.Readers are invited to contribute short notes for possible inclusion – Editor.

I was surprised to see that a female *Cyclophora linearia* Hbn. kept for egg-laying, had laid some eggs on a hair which had fallen into the container. On mentioning this circumstance to Mr. J. Porter, he replied that many of the smaller Geometridae will readily lay eggs on human hair. Accordingly, I put just three or four hairs (freshly plucked) with each female, and my experience this summer has been that many moths, including *C. punctaria* L., *Idaea vulpinaria* H.-S., *Timandra griseata* Petersen, *Xanthorhoe quadrifasiata* Clerck, *X. designata* Hufn., *X. spadicearia* D. & S. and *Eupithecia succenturiata* L. laid on the hair as well as on tissue or net, but that *I. aversata* L. and *I. seriata* Schrank laid solely on the hair (J. Halsey).

There is an additional pleasure for the lepidopterist who grows his soft fruit in a cage, for as well as increased fruit yield he has colonies of geometers protected from birds. Within the shelter of the cage, *Semiothisa wauaria* L. on currant and gooseberry, and *Eupithecia assimilata* Dbdy. and *Eulithis mellinata* F. on currants, will display large larval broods subject only to control by parasites. I have found that aphid attack can be controlled by discrete application of systemic insecticides well before the fruit is formed and this does not injure caterpillars. Defoliation by sawfly larvae still must be prevented by hand-picking however (G. M. Haggett).

A simple and inexpensive method of rearing lepidopterous larvae in captivity where, for example, photography and cost are the two main concerns: this system, which incorporates a removable cover, facilitates photography without disturbing the larvae. The complete system consists mainly of a cover and base which can be bought cheaply from most garden centres. The cover is a flower pot propagator which is stood inside a pot base, which has been drilled centrally with a ½" hole. The pot base is glued to the lid of the jar so that the holes are in-line. The food plant must be passed through the hole and plugged with cotton wool to prevent the larvae falling into the reservoir. The cover is stood on the base over the plant, and has two holes in the top covered with muslin. A vent should be cut in the lower end of the cover and a piece of muslin glued over the opening to prevent misting, and in conjunction with the upper vent holes, this provides a good air flow. Because the base and cover are made of plastic, these can be cleaned very easily, removal of frass etc. is achieved without disturbing the larvae, and observation facilitated by the clear cover. For rearing difficult species, the cover may be placed over a standard plastic flower pot containing growing food plant, and overwintering can also be carried out in this way. Some species will require a little moss laid inside the container in which to retire, but this should first be scalded to destroy any predators and dried, after which it may be used several

times. For rearing pupae, an intact pot base is desirable, on to which a small cube of "oasis" (procurable from florists) is placed. The "oasis" is damped to keep the correct humidity, and the pupae placed under the cover on the scalded moss. A twig is then inserted to allow the emerged adult to crawl free and dry its wings (P. Kirby).

Current Literature

Leaves from a Moth Hunter's Notebooks. By **P. B. M. Allan** Edited and with an Introduction by **R. S. Wilkinson.** 281pp., boards. E. W. Classey Ltd., P.O. Box 93, Faringdon, Oxon. SN7 7DR. Price £9.

This is the fourth and last of P. B. M. Allan's books on Entomology; I enjoyed it every bit as much as I did the previous three and we must be grateful to Mr. Eric Classey who evidently inspired Allan to write it and to whom the book is dedicated.

Although written in the 1950's the book was not published until 1980, some seven years after the author's death. It contains articles which Allan had already contributed to the *Entomologist's Record* under the pen-name "An Old Moth-hunter", but there are also chapters dealing with some of our 'lost' species of butterflies. As with his previous books, part of this one is in a more light-hearted vein about such things as Keeping a Diary, Wishful Thinking and Tiger-moths and Tarts.

The text was edited by Dr. R. S. Wilkinson who has been at pains to retain as much of the original as possible. For example, he has deliberately not corrected some of the names used by Allan although they are now out of date. In my view, this is as it should be but it would have been helpful to include, as an Appendix perhaps, a brief synonomy rather than to invite the baffled reader to refer to Kloet & Hincks. The book should appeal to younger entomologists who may be unfamiliar with names used a generation ago and not likely to have ready access to the check-list. Dr. Wilkinson's introduction gives brief details of Allan's life and is of interest in showing the wide variety of his literary output and the pseudonyms under which he wrote. Allan was a considerable entomologist who had an enormous and detailed knowledge of entomological history, a fact which is apparent on nearly every page of the book. There is no formal bibliography but the references given in the text make this hardly necessary.

The book begins with a discussion on the occurrence in Britain of the Middle Copper (*Heodes virgaureae* L.) with particular reference to the "Large Coppers" seen by S. G. Castle Russell's wife and his friend W. G. Mills in Devonshire in June, 1917. The author discounts the notion that these butterflies were mistaken for either *Mellicta athalia* Rott. or *Euphydryas aurinia* Rott. There is ample evidence that *virgaureae* was once a truly British insect and the author points out that, even today, there are large areas which have still not been fully explored entomologically and that it is at least possible that Mrs. Castle Russell and Mr. Mills had stumbled

upon a still-surviving colony of the insect. He goes further and speculates on the possibility that the insect may still exist in some remote area of the west or north-west of England. The author also discusses the decline and disappearance of *Lycaena dispar* Haw. both in Britain and in France. This part of the chapter is a little confusing since it is not always clear which insect he is referring to. There is a particularly obscure passage describing Haworth's reference to "Hippothoe".

Chapter II is devoted to the one-time existence in Britain of the Mazarine Blue (*Cyaniris semiargus* Rott.) its distribution and the possible causes of its decline and eventual disappearance. From an analysis of reported captures in the ninetheenth century the author suggests that there were two, possibly three, separate races of *semiargus:* a "lowland" race in the eastern counties; a "highland" race in the west and, possibly, a third race in the extreme south of Hampshire. There is some interesting speculation on the possible origin of these races. The author argues convincingly against the theory that the harvesting of clover was responsible for the extinction of the butterfly; he points out that it was always exceedingly local and suggests that the colonies were at such low density that they were unable to adapt to a gradual change of climate during the nineteenth century.

In Chapter III the author examins the authenticity and origin of the *Iphiclides podalirius* Scop. said to have been found in Shropshire, both imago and larva, between 1807 and 1828. All the evidence seems to be against the natural occurrence of the butterfly and how the butterfly came to be there is still a mystery which the most painstaking investigation has failed to resolve.

The following three chapters are devoted to moths. The first deals with the oak-feeding Prominents (*Peridea anceps* Goeze, *Drymonia dodonaea* D. & S. and *D. ruficornis* Hufn.) and the second with larva-hunting in the Spring. Both contain much useful information and practical advice. In the third, the author gives an account of a swarm of moths seen in the beam of a searchlight during the war and discusses the movement (not migration) of insects from the Continent to this country and *vice versa.* Typically, this leads him to speculate on the true nationality of many of even the commonest insects that are in collections and labelled as "British".

There follows the interlude of informal chat which, though light-hearted, is usually much to the point. This is followed by a Chapter on "Some possible Settlers". Nine insects are mentioned but I found the chapter rather disappointing and not altogether convincing. The recent movement of some of the insects on the Continent is described in rather tedious detail and many of the places mentioned must be quite unfamiliar to most people without the aid of a map. The reader is left to deduce that this movement might spread to this country and that the insects might, in due course, become residents here. This may be so with those that have extended their range in recent years, e.g. *Polyommatus amandus* Schn., *Dendrolimus pini* L. and *Panthea coenobita* Esper, but

does not seem to apply to *Issoria lathonia* L. *Coscinia striata* L. *Hadena blenna* Hubn. or *Drepana curvatula* Borkh.; the only grounds for these becoming "settlers" appear to be that they may once have been resident here and that they occur commonly on the Continent not far away.

The book ends with an Appendix devoted to the identity of the "Lady" Glanville whose name is associated with *Melitaea cinxia* L. The information is not complete and, as is explained in a post-script, has since been added to by Dr. Wilkinson.

The book is well presented and there are few missprints. My one criticism is the multitude of footnotes. These are nearly always interesting and relevant but continual reference to the bottom of the page can be very distracting and tends to break the thread of a sometimes rather difficult argument. It might have been better to collect all the notes together at the end of each chapter.

I can strongly recommend this book; Allan would be the last to claim that it is "scientific" but it contains an immense amount of information that is not readily available elsewhere. Not everyone will agree with his theories but no one can deny that they provoke thought if not argument. This, I believe, is exactly what the author set out to do. – S.C.

A History of the Butterflies and Moths of Sussex by **Colin Pratt.** 356 pp., numerous maps and half tone plates (inc. 8 col.) Booth Museum of Natural History, Brighton Council, 1981. £9.95.

This latest extremely well produced county list of lepidoptera (Macrolepidoptera only) will be a most welcome addition to the shelves of naturalists, lepidopterists and 'local-list' addicts everywhere.

The book receives full marks for production with a large easily read typeface on high quality paper, and beautifully illustrated. The author has shown what can be achieved within a tight schedule at what must be considered nowadays, a giveaway price.

The text strikes a precarious balance. It will appeal to the specialists whilst remaining eminently readable by the amateur or local naturalist who may perhaps be only superficially interested in entomology. This has lent wide appeal outside what might have been a rather restricted readership. Seventy-five years have elapsed since publication of the last comprehensive county list, the *Victoria County History* of 1905. In the intervening years a prodigious amount of material has accumulated providing the author with the sisyphean task of putting it together. This has been dealt with by giving authoritative, and in my opinion extremely accurate accounts of the status of each species at present, as well as in the past. Much of the species comment has been assisted by distribution maps and by drawing a fine distinction between the east and west halves of the county. The text does not give away the exact localities for species which will please conservationists, although this may disappoint the purists amongst us (myself included) who like to be led to the exact spot where an insect was last recorded. There are useful notes on geology and habitat of the county including detailed

appendices of migration records, dates and localities with complementary meteorological data.

I have no doubt that this informative and well researched book will rapidly establish itself with our readers and as a trend setter in its own right. – M. HADLEY.

The Backgarden Wildlife Sanctuary Book by **R. Wilson.** 152pp. plus numerous line drawings. Penguin Books Ltd. 1981. £2.95.

The object of this book is to encourage the 'lay' reader to make some provision for wildlife within his garden. Coverage is broad, ranging from discussion of the use of pesticides to the importance of logs and hedges within the garden. Other chapters give specific instructions on the encouragement of birds, mammals, butterflies, moths, bees and wasps. The garden pond is also discussed. Information on life histories, foods and attractants, is provided together with soures of further information. Useful features include practical hints on the construction of such diverse devices as compost bins, nest boxes, hedgehog houses, bat boxes etc.

The suggestion that one may readily turn ones garden into a "wildlife sanctuary" may be viewed as a little optimistic, but the idea behind the book is sound. Anything that encourages an awareness and interest amongst the masses in our flora and fauna must be welcome.—PAUL SOKOLOFF.

Fleas. R. Traub and **H. Starcke** (Eds.) 420pp. plus numerous illustrations. Boards. Pub. A. A. Balkema, P.O. Box 1675, Rotterdam. 1980 £18.50

(An edited version of the first international conference on fleas held at Ashton Wold, June 1977.)

The volume commences with a brief biographical sketch of Nathaniel Rothschild and a comprehensive bibliography of his published works on the Siphonaptera compiled, as one has come to expect, by Miriam Rothschild. Thirty-six papers (two in French), of varying length, comprise the remainder of the work. These papers are classified under the headings of Evolution and Zoogeography; Medical and Veterinary; Physiology and Morphology; and Ecology and Faunistics. Apart from an important revisional chapter on pygiopsyllid fleas there is very little taxonomic material. It is refereshing to see such a wide-ranging coverage of the biology of fleas in one volume, although as a result many of the papers are tantalisingly brief. However a reasonable bibliography is given with each paper.

Although such a volume of "Proceedings" is usually welcomed only by the *cognoscenti,* there is much in this work to interest the general reader – from folklore and fable through adaptations of fleas to their environment to ecological aspects of plague, tularemia and myxomatosis. The reviewer was drawn, with some apprehension, to a chapter entitled "Missing and Floating Genitalia in Male Fleas"! On the whole well produced, and reasonably priced for such a specialised work.—PAUL SOKOLOFF.

The Butterflies of the Table Mountain Range, with Comprehensive Observations on their Habits, Times of Appearance and Life-histories. By **A. J. M. Claassens** and **C. G. C. Dickson.** 160pp., numerous line drawings by the authors, maps, tables and 24 coloured plates (of 355 figures). Edition limited to 1000 numbered copies. C. Struik, Cape Town, 1980. Price about £11.

The Table Mountain Range extends about a dozen miles in a south westerly direction from the outskirts of Cape Town to form part of the Cape Peninsula. It is the home of 53 species of butterfly, at least another three are regular visitors, and a few others are on record as having been taken here but their status in the area is uncertain.

This book particularises with each of the 53 resident species, their habitats, times of appearance, behaviour, variation and early stages. The latter receive especially full treatment. However, although the foodplants are noticed in fair detail, it is not always made clear whether these are the natural foodplants, or are substitute foodplants (a failing all to common in textbooks); nor whether a foodplant cited is that upon which a species is known to feed on the Table Mountain Range, or that based on information on a species' occurrence elsewhere.

Much interesting information is given on the times of appearance of the imago, with a special chapter that includes a table of flight periods, though that for *Cynthia cardui* should have a thin solid line between June and September and not be blank as shown. The text concludes with a number of appendices, including descriptions of some larvae and pupae, an alphabetical list of scientific and vernacular names, additional species recorded from the Cape Peninsula, conservation measures, and finally, a glossary, bibliography and an index of scientific names arranged aplhabetically under genera.

The black and white illustrations mainly of early stages, and the coloured plates of photographs of habitats, foodplants, living and set insects, are on the whole extremely well done and form an outstanding feature of the book. Those of the set insects number 261 figures in all and are taken from specimens in the authors' own collections, but as there is no scale with any, one wonders if these figures are produced natural size or not (though the average wingspan is given in the text). Moreover, no data appears with these examples, and as presumably some illustrations are those of specimens from the area under consideration, and others from elsewhere in Africa, it would have been interesting at least to have known which.

Apart from the above few criticisms, this is a most attractive book, beautifully produced in strong boards, finely printed on a good quality paper, and offered at an absurdly low price, which has no doubt contributed to the fact that the book is already nearly out of print. – J.M.C.-H.

Editorial

Early in 1982 we shall begin publication of a series of articles of topical interest on the British lepidoptera. These will review the past year for (1) Butterflies (by Dr. C. J. Luckens, 52 Thorold Road, Bitterne Park, Southampton, Hants SO2 3PG); (2) Macro moths (by P. A. Sokoloff, 4 Steep Close, Orpington, Kent BR6 6DS); and (3) Micros (by Rev. D. J. Agassiz, The Vicarage, Highview Avenue, Grays, Essex RM12 6RU). Readers are requested to communicate information of interest on lepidoptera noted in 1981 to the above authors (but not migration records, as these should be sent to R. F. Bretherton, Folly Hill, Birtley Green, Bramley, Surrey, or to the Editor).

We should be grateful if subscribers who have not already sent their subscriptions for 1982 (this remains at £8.50 for UK, £9.50 for overseas), would do so without delay and thus save us the trouble and expense of sending statements. Please help, if you can, to enrol at least one new subscriber to the *Record*. The larger our circulation, the higher the standard of the magazine.

Notes and Observations

ANTICHLORIS ERIPHIA (FAB.) (LEP.: CTENUCHIDAE). – I am pleased to report the appearance in Addiscombe, Surrey of a fine specimen of *Antichloris eriphia* . This striking adult moth emerged from a crate of bananas from Ecuador on 19.i.81 and is the first British record.

Apparently, it is usual for bananas from this source to go through a ripening process and with some difficulty the firm responsible for this batch was traced in Erith, Kent. It was established that the fruit had been subjected for several days to a high concentration of ethylene. It seems that this had no ill effect on the insect which presumably was then in the pupal state, and it would appear likely that the cocoon offered adequate protection from the alien atmosphere. I am indebted to Dr. J. D. Bradley for kindly arranging the identification. – K. G. W. EVANS, 31, Havelock Road, Croydon, Surrey CRO 6QQ.

COLEOPHORA MACHINELLA BRADLEY IN SURREY. – In 1980, I found on Ashtead Common, one Coleophora case on *Achillea ptarmica* (Sneezewort) which I hoped was this species. Unfortunately the moth did not emerge. This year the search was resumed on the 16th June when over a dozen cases were collected in about two hours. Having developed entomological cold feet after bringing them home, I sent some to Mr. R. W. J. Uffen who kindly confirmed the identity. He reported that the larvae were the same as those feeding on *Artemisia maritima* (Sea Wormwood). The moths have just emerged at the end of July and beginning of August. This is probably the first record for the county. – R. FAIRCLOUGH, Blencathra, Deanoak Lane, Leigh, Surrey, 5.viii.81.

BOOK TALK FOUR. – There are only three complete monographs on the larvae of the British macrolepidoptera. The earliest of these is Wilson's *The Larvae of the British Lepidoptera and their Foodplants,* whose title page bears the date 1880, though in fact the work was originally issued in five parts totalling 20 numbers, the first of which appeared in 1877 and the last in 1879. The book consists of 40 lithograph plates of several hundred "Life-sized Figures, Drawn and Coloured from Nature" by Eleanora Wilson, with accompanying text by Owen S. Wilson, and depicts the larvae on their known or supposed foodplants. Notwithstanding some of the figures are rather too coarse for accurate identification, the plates have a certain charm and the book has now become a collectors' piece.

By far the finest larval monograph is William Buckler's *The Larvae of the British Butterflies and Moths.* Published in 9 volumes by the Ray Society from 1886-1899, with 164 superb coloured plates comprising 2815 figures, this work also includes the Pyraloidea and a few species of Tortricoidea and Tineoidea. Buckler's originals from which these illustrations were reproduced belonged to the late Dr. H. B. D. Kettlewell, after whose death they were offered for sale by public auction but failed to reach the reserve price and so remain the property of his widow. G. M. Haggett compiled and illustrated a supplement to Buckler, consisting of 35 coloured plates of 347 figures with accompanying text, entitled *Larvae of the British Lepidoptera not Figured by Buckler.* This was issued from 1955-1980, in the Proceedings and Transactions of the South London Entomological and Natural History Society (now British Entomological and Natural History Society), and is at present available in a collected limited edition.

Finally, there are the three out-of-print W. J. Stokoe books in Warne's "Wayside and Woodland" series. *The Caterpillars of the British Butterflies* (1944), and *The Caterpillars of British Moths* (2 vols., 1948). These contain altogether 1836 illustrations, of which 509 are coloured reproductions from water colour drawings by J. W. Dollman, and numerous black and white figures of the eggs, chrysalids and foodplants, together with an interesting text. Though in no way comparable with Buckler, these serviceable pocket size volumes have become remarkably scarce and are much sought after. – J. M. CHALMERS-HUNT.

HYBOMITRA BIMACULATA MG. F. COLLINI LYN. (DIPT.: TABANIDAE) BRED FROM AN OPEN SITUATION IN DORSET. – In the course of collecting with my friends Mr. and Mrs. A. W. Gould and their grandson at Shell Bay, Studland, Dorset (4. v. 77), an unusual-looking pupa was found buried in the damp sand beside a dune-slack and handed to me. On 26.v. a male Tabanid fly was seen to have emerged from it, clearly a *Hybomitra.* Using Oldroyd (1969) I was uncertain whether to refer it to the reddish-marked form of *H. bimaculata* Mg. known as *collini* Lyneborg, or to the much more local and rare *H. muehlfeldi* Brauer. The doubt was later resolved by Mr. J. E. Chainey at the BMNH, who kindly examined the specimen and pronounced it to be the former.

Although *H. bimaculata* is one of our commoner large Tabanids, breeding records appear to be few, and this probably applies throughout the family. There is, besides, a further point of interest here: the species is essentially a woodland one, while the situation in which the pupa was found was quite open and unshaded for a long distance around; the nearest woodland (of a rather scrubby and fragmentary nature) lay some way to the west. Sexual differences apart, this male agrees well with a female f. *collini* that I took in Ham Street Wood, Kent (11.vi.64), but is darker overall. The form is stated by Oldroyd (p.61) to be rare in Britain; he records it from only four counties, none of them south-western. The pupa case has been placed in the BM collection. – A. A. ALLEN.

EARLY APPEARANCES OF SPRING MOTHS.—A number of contributors have recently written on this subject to which the following might be added. On the evening of 28th December, 1980 I was searching for females of *Erannis defoliaria* Clerck in Fence Wood, Berkshire. In this I was unsuccessful, although males were plentiful along the rides, but a female which was noted was of *Agriopis marginaria* (F.). A male of this species was noted later in the evening. Late December seems very early for Dotted Borders. As for female *E. defoliaria,* I had to wait until 11th January when two were noted on an ash trunk at the B.B.O.N.T. Moor Copse Reserve near Tidmarsh, Berkshire. Another early appearance was that of *Cucullia verbasci* (L.) which appeared in the Caversham trap on the night of 9th/10th April.—B. R. BAKER, Reading Museum and Art Gallery, Reading, Berks.

ANOTHER PROBABLE INSTANCE OF ATTEMPTED DISPERSAL – Further to the theme of insect dispersal (A. J. Showler, vol. 92 199-200 and A. A. Allen, vol. 93, 157-158) I can cite a very interesting case of the normally flightless meadow grasshopper, *Chorthippus parallelus* (Zetterstedt) producing substantial numbers of the normally rare macropterous form *explicatus,* de Selys, as a probable consequence of a huge population build-up after the two hot summers of 1975 and 1976. The location is the well-known picnic area of Fairmile Bottom in West Sussex by the A29, grid reference 41 (SU) 9809.

Although facing north-west the site has an overall southerly slope and is warm and sheltered. A thin layer of clay overlies chalk and an extensive area of species – rich grassland is maintained by West Sussex County Council, by gang-mowing in Autumn. This has successfully prevented the invasion of scrub for the past six years.

Fairmile Bottom is noteworthy for its grasshopper fauna which includes *Chorthippus brunneus* (Thunberg), *C. parallelus* (Zetterstedt), *Gomphocerippus rufus* (L.), *Omocestus rufipes* (Zett.) *O. viridulus* (L.) and *Stenobothrus lineatus* (Panzer). By the end of August 1976 all species were present in exceptionally high numbers. In aggregate the grasshopper population at Fairmile Bottom must have totalled many thousands – so many indeed that the turf was visibly grazed by the buzzing swarms. At a rough estimate *C. parellelus* seemed to comprise about half the total population.

In the following September (1977) I made the autumn check here on what is one of my regular sites for keeping Sussex orthoptera under observation. I was astonished to see what I first took to be a number of *C. albomarginatus* (Degeer) but quickly realized were in fact examples of the macropterous form of *C. parallelus.* I recorded fifty individuals (thirty three females) in an hour and a half before I ceased counting. There were obviously many more. In September 1978 eleven examples were seen (seven female), but in September 1979 only a single fully winged example – female, could be found after a long search. No further examples were seen in September 1980, nor in September 1981. Population sizes were substantially down in the cool summer of 1977 and have not been exceptionally high since.

The macropterous form of the meadow grasshopper appeared to fly easily. The stridulation of the macropterous males appeared to be the same as that of normal individuals. – E. C. M. HAES, 45, Grove Road, Worthing, W. Sussex, BN14 9DQ.

DASYSYRPHUS FRIULIENSIS V. D. GROOT (DIPT., SYRPHIDAE) NEW TO BRITAIN.—On 26 May 1980 I collected a male syrphid at Timble Ings, North Yorkshire, (SE/15), which I identified as *Dasysyrphus venustus* (Meigen) using the key in Coe, R. L., 1953, *Diptera: Syrphidae, Handb. Ident. Br. Insects* **10** (1). However, the specimen exhibits several characters which are clearly different from those of typical examples of this species, including blackish third antennal segments, relatively short dark brownish hairs on the thorax, and blackish scutellar hairs. The most striking difference is the shape of the yellow lunules on tergites three and four; the rear edges of the lunules are straight but the anterior margins are strongly concave and both the outer and inner extremities almost reach the front of the tergites.

In view of these differences the specimen was submitted to Dr. M. C. D. Speight who identified it as *Dasysyrphus friuliensis* v.d. Groot, a species hitherto unrecorded in Britain.

The conifer forest at Trimble Ings is briefly described in the note recording the occurrence of *Eriozona syrphoides* (Fallén) in Yorkshire, (Crossley, R., 1980, *Entomologist's mon. Mag.* **115,** (1979): 200).

I thank Dr. Speight for his kind assistance and I am obliged to Mr. K. Welsh of the Yorkshire Water Authority for permission to collect at Trimble Ings.—ROY CROSSLEY, 46 St David's Road, Otley, West Yorkshire, LS21 2AW.

THE DISTRIBUTION OF CALOPTILIA RUFIPENNELLA (HUBNER) (LEP.: GRACILLARIIDAE) IN NORTHERN ENGLAND. – Dr. M. R. Shaw raises the point of whether the East Anglian and northern British populations are linked or independent (*antea*, pp. 148-149). I had shared his view that they were independent until the 5th of August, 1981, when I found vacated cones in the Cleveland Hills (VC 62, NZ 4500). This suggests that the distribution may, after all, be more or less continuously close to the east coast. – A. M. EMMET, Labrey Cottage, Victoria Gardens, Saffron Walden, Essex, CB11 3AF. 13.ix.1981.

NOTES, MAINLY DIAGNOSTIC, ON CEUTHORHYNCHUS PULVINATUS GYLL. (COL.: CURCULIONIDAE).—When Canon W.W. Fowler wrote his *magnum opus* towards the end of last century, this species was exceedingly poorly known as British and regarded as very rare. Even as late as the 1960s it appeared to be unrepresented in the National (Power) Collection at the BMNH, although one of the three records given by Fowler (for Hastings) was due to Power Rather surprisingly, no further ones appeared in the Supplement (1913); and it was only considerably later that *C. pulvinatus* became known as an inhabitant of the Breck district of East Anglia, and that its foodplant was flixweed, *Sisymbrium sophia* L. (now placed in a genus *Descurainia*). The weevil was present in large numbers on this plant near Mildenhall, Suffolk, on 21-22 June 1981, but only a minority had the clothing of scales quite intact. Mixed with them were 3 or 4 of the very closely similar *C. pyrrhorhynchus* Marsh. and 2 *C. floralis* Payk.; but at least one of the former came off a plant of *S. officinale* L. (its normal host), and the others may well have done, so it would appear that at least to a great extent the species keep to their respective hosts.

The characters that distinguish *pulvinatus* from *pyrrhorhynchus* are highly comparative, apart from a sexual one not given in British works. This last concerns the tooth at the inner apex of the middle and hind tibiae of the male, which in *pyrrhorhynchus* is of normal form (i.e. tapering to a point), but in *pulvinatus* is almost peg-like and quite blunt. The difference is very plain, and decisive for males; it is figured by Dieckmann (1972, *Beitr. Ent.*, **22** (1-2): 111, figs. 129, 131). On the other hand my males scarcely show any perceptible difference in the form of the corbel (apical area bearing externally a comb of spines) of these tibiae, such as the above figures indicate for the two species. Fowler's "large straight hook" (referring to the ♂ of *pyrrhorhynchus*) is something of an overstatement (1891, *Col. Brit. Isl.*, **5**: 362), besides being oddly self-contradictory.

Unfortunately, females seem to predominate in these species, and in that sex close comparison of the two is necessary for certain discrimination, unless the foodplant (practically diagnostic) happens to be known. Unfortunately, again, the characters based upon colour given in all the keys are not fully dependable. Thus, ♀♀ of *pyrrhorhynchus* with rostrum, front of pronotum, and tibiae almost or quite as dark as in *pulvinatus* appear to be common; whilst, conversely, one of my series of the last-named has the rostrum (except basally) and tibiae reddish, yet is not otherwise immaturely coloured and is undoubted *pulvinatus* on the criteria of body-form etc. In Fowler's description of that species, the character attributed to Thomson of thicker scaling is barely perceptible, whereas those he attributes to Bedel are valid — with the reservation already expressed regarding colour. Thus, *pulvinatus* is of slightly more rounded form with slightly shorter elytra and more transverse thorax more strongly and smoothly curved at sides (hence the name: pulvinate= cushioned), more constricted in front and more closely embracing

the sides of the head. These differences are small, but evident when the insects are side by side. Finally, the rarer species has the antennae, especially the first two funicular segments, distinctly shorter; the tarsi slenderer, notably the claw-joint, and the lobes of the preceding one smaller.

The characters given by Joy (1932, *Pract. Handb. Brit. Beet.*, 1: 199-200) to separate these two species are quite unusable. Since he places *C. palustris* Edm. between them, I should perhaps add that this 'species' (of which I have examined a specimen from the type material) is only a dwarf form of the common and variable *C. floralis* with the scales of the upper surface incompletely developed and hair-like. — A. A. ALLEN, 49 Montcalm Road, Charlton, London SE7 8QG.

THE BIOLOGY OF ISOTRIAS RECTIFASCIANA (HAWORTH).—Although this is a common species, its life history is still unknown. A pupa was once beaten from hawthorn, giving rise to the belief that that was the foodplant. Mr. J. M. Chalmers-Hunt obtained ova from a captured female and gave the resultant larvae the foliage of hawthorn and elm. This they accepted with apparent reluctance, for casualties were high and the survivors disappeared during the winter. The adults frequent lanes and hedgerows and are usually encountered singly or in small numbers.

It therefore came as a surprise during a visit to the ranges at Foulness, Essex on the 22nd of June to encounter a vigorous colony on a sea-wall overlooking salt-marsh; there was not a tree or bush in sight. The moths were flying freely around, and settling on, sea-beet (*Beta vulgaris* subsp. *maritima*) and golden samphire (*Inula crithmoides*), the tallest plants present, at about 7.30pm. I probably saw as many moths in five minutes as one normally sees in as many seasons and they had certainly bred on the spot.

The inference is that the larvae are polyphagous on herbaceous plants or, perhaps more probably, that they feed on decaying vegetation. If I can obtain the necessary permit, I should like to collect leaf-litter from the sea-wall in late autumn or early spring to see if it contains larvae.—A. M. EMMET, Labrey Cottage, Victoria Gardens, Saffron Walden, Essex, CB11 3AF. 25 June 1981.

BLAIR'S SHOULDER-KNOT: LITHOPHANE LEAUTIERI BOISD. IN THE ISLE OF SHEPPEY, KENT.—This moth, new to Sheppey, appeared regularly in my garden m.v. trap in 1980. It first appeared on September 6 continuing till October 12, and on September 20 over 30 were noted.—F. H. CLOUTER, Helice, Glendale Road, Minster-in-Sheppey, Kent.

THE PAINTED LADY: CYNTHIA CARDUI L. IN 1981.—In spite of indifferent weather, I saw one Painted Lady in Newton Dale (north of Pickering) on 12th June 1981, which may be a good omen for the species in Yorkshire.—S. M. JACKSON, 22 Armoury Road, Selby, N. Yorkshire YO8 0AY.

EUPITHECIA EGENARIA H.-S. – A RECENT ARRIVAL? – There is of course the completely opposite possibility to Col. Emmet's suggestion (*Ent. Rec.* **93**: 177) that *egenaria* is an ancient relic, namely that it may be a very recent arrival! At least this is more likely for the Thetford (Norfolk and Suffolk) colonies which inhabit limes that were planted as avenue and park trees only at the end of the last century. And so far as can be deduced there are no primary woodland relics in the Breck, which was principally sheeprun and rabbit warren before estates of the nouveau riche and then the pine plantations that date from 1921. There was no indigenous lime.

Larvae at Thetford have now been beaten from all three limes, *T. cordata, T. platyphyllos* and the hybrid *europea,* but the first-named is much less common there. It is arguable that these Thetford populations originated from *Tilia cordata* of adjoining counties but the extensive primary woodlands of central Lincolnshire were worked especially for *egenaria* during the seventies using both MV light and blossom beating, with conspicuous lack of success. In Lincs. *T. cordata* flowers late, rarely before mid July at which date *egenaria* larvae are fully fed, and at Thetford so far larvae were found in quantity on *T. cordata* only in 1979 when it flowered early. The biological clock of *egenaria* may be a little more critical than that of the leaf eaters or miners and parallel assumptions of their distribution may not apply.

So far as the beekeeping monks are concerned it is more likely they introduced *T. platyphyllos* rather than the indigenous *cordata* in order to extend the following time and abundance of a food source. A further possibility therefore is that *egenaria* was in some way introduced not with *cordata* but with *platyphyllos* and maybe at different historical times. In the Wye valley *egenaria* could then have adapted itself to the earlier flowering and more plentiful wild *cordata,* whereas at Thetford there is no wild lime so the moth has remained associated with introduced trees. So far those Thetford moths I have reared appear uniformly much more dusky than the paler, clearer marked Wye valley insects, and separate introduction could explain the difference.

Rather than seek *egenaria* exclusively in relic woods of *T. cordata* therefore, I would urge it be sought also in old avenues or parkland of the other limes as long as they are well sheltered.

Suffolk *P. harpagula* is a very different matter that can fairly be described as an editorial red -herring. If we read the detail given in Morley's 1937 List we see that the careful collector in whose collection this unique insect resided had not identified it as *harpagula,* and it was not until after the redoubtable Mr. Meek detected it following purchase of the collection that the species extended its distribution to Suffolk! – G. M. HAGGETT, Northacre, Caston, Norfolk.

LITHOPHANE LEAUTIERI BOISD.: BLAIR'S SHOULDER -KNOT IN WARWICKSHIRE. – Only the second recorded Warwickshire *leautieri* was found in my m.v. trap here on the cold night of 10th October 1981. – D. C. G. BROWN, Jacksons Farmhouse, 25 Charlecote, Nr. Warwick.

THE LARGE TORTOISESHELL: NYMPHALIS POLYCHLOROS (L.) IN EAST SUSSEX. – Further to the accounts of *N. polychloros* in East Kent and Surrey in 1980 reported in this journal, I would like to put on record that an immaculate specimen was seen for most of the morning and afternoon in the parish of Catsfield on 4th April in 1981. The temperature reached 16°C and *Aglais urticae* and *Gonepteryx rhamni* were also flying. The *N. polychloros* spent most of its time basking on walls or high up in an apple tree (at least two hours) and occasionally flew off for forays along hedgerows and into meadows, never going very far and returning to previous positions after a while. It was successfully photographed for future reference. Elm is common locally both in the form of elderly trees showing various degrees of disease and as younger healthier growth in hedgerows. – JOHN FELTWELL, Catsfield, Sussex.

THE LARGE TORTOISESHELL: NYMPHALIS POLYCHLOROS L. IN EAST KENT. – On the 8th July 1981, I observed at Bogshole Farm, Whitstable, what at first sight I thought was a large fritullary, as it flew fast up and down a country lane before settling nearby. The butterfly, almost certainly a female, then revealed itself as *Nymphalis polychloros* when it opened its wings fully for a few seconds, closed them as I approached, and took off at high speed again not to return. C. J. RANDALL, "Driftwood", The Old Coastguards, Pegwell Bay, Ramsgate, Kent CT11 0NH.

RED ADMIRAL: VANESSA ATALANTA L. FEEDING IN RAIN. – On September 26th 1981, a Red Admiral was feeding on our buddleia during an overcast morning. By noon, continuous heavy rain was falling, lashed by a strong wind. In these very gloomy conditions, the butterfly returned to feed, although briefly, during the early afternoon. – A. ARCHER-LOCK, 4 Mannamead, Plymouth, Devon.

DIMORPHISM IN PAPILIO PUPAE: A CORRECTION. – I would be grateful if you could insert the following correction to my recent paper in vo. 93: pp. 75-6, the result of careless proof-reading on my part, I am afraid. P. 75, line 5 – for 'rate' read 'ratio'. P. 75, line 10 from bottom – for 'larvae' read 'pupae'. – D. G. SEVASTOPULO.

ADELA CUPRELLA D. & S. (LEP.: INCURVARIIDAE) IN THREE IRISH COUNTIES. – On 29th March 1981, I observed about 10 moths hovering about *Salix* bushes at Kilkishen, 16km ESE of Ennis, Co. Clare. One ♂ and one ♀ were captured and determined as specimens of *Adela cuprella* D. & S. On 4th April 1981, further specimens of *A. cuprella* were observed at Allenwood, Co. Kildare, and a ♂ captured. Yet more specimens of *cuprella* were observed at Ballivor, Co. Meath on 17th April 1981. Beirne (1941, *A List of the Microlepidoptera of Ireland*), considers three records of this species from Co. Westmeath to be unreliable. However, Ballivor is very close to the Co. Westmeath boundary. In all three instances the moths were flying at a height of about three metres. The ♂ from Kilkishen has been presented to the zoological collection at the National Museum of Ireland, Dublin (Reg. No. N.M.I. 72: 1981). – K. G. M. BOND, 24, Lislee Road, Douglas, Cork, Eire.

SEX-RATIO IN YPSOLOPHA LUCELLA (FABRICIUS) (LEP.: YPONOMEUTIDAE). – In his *Revised Handbook of British Lepidoptera* Meyrick writes "The male of this species appears to be very rare in collections, an unexplained peculiarity". The moth is rare and local and thus little known. I took two specimens at Rowney Wood, near Saffron Walden, in 1965 and three at Barton Mills, Suffolk, in 1978; these were all females. In July of this year I again came across it at Barton Mills, where it was common in a restricted area. I beat eight from the oaks, only one of which was a male. Thus 12 of my 13 specimens are female.

It is possible that the sexes really occur in equal numbers but only the female can readily be disturbed by day; if this is the case, it is the reverse of normal behaviour. It is perhaps more likely that it is on the way to becoming parthenogenetic. Larvae of this genus are easily obtained by beating and it would be interesting to rear *Y. lucella* in some numbers and record the sex-ratio. If, as with captured specimens, females predominate, one could then see whether virgins produce fertile ova and whether they retain sufficient libido to accept a male in copulation. On the other hand, one might find that males are necessary and being in short supply are polygynous.

Such experiments will have to wait until 1982; meanwhile, it would be interesting to hear the experiences of other collectors. – A. M. EMMET, Labrey Cottage, Victoria Gardens, Saffron Walden, Essex, CB11 3AF. 9.viii. 1981.

HELOPS CAERULEUS L. (COL., TENEBRIONIDAE) IN NUMBERS UNDER BARK. – Mr. A. A. Allen in his recent notes on this species (1980, *Ent. Rec.* **92**: 275-6; 1981, *ibid* 93: 119) commented that, in his experience, only the odd specimen was found under bark, the beetles apparently hiding themselves by day deep in the wood in which they develop, or else concealing themselves in some other way.

It is interesting that my very limited experience of the beetle is precisely the opposite of Mr. Allen's. My only encounter with the species has been in the marshes at Wrabness, Essex (TM 166315) in May, 1968 and 1969 (vide 1976, *Ent. Rec.*, **88**: 41). The beetles were breeding in several dead willows and, on both occasions, stripping the bark almost anywhere on these revealed dozens of adults and some full-fed larvae clustered on the hard wood underneath. Mr. Allen's observations also indicate that the larvae develop in well-rotted wood, whereas the conditions under which I found mature larvae where almost identical to those under which one finds, for example, the larva of *Pyrochroa coccinea* (L.) viz. at the bark/cambium interface. – D. R. NASH, 266, Colchester Road, Lawford, Essex, C011 2BU.

[This seems a curious discrepancy, but might possibly be due to local differences in the microclimate, e.g. of humidity. I think, however, that it is more likely a matter of chance, in that loose bark is by no means always available in the beetles' habitats, but that when it does happen to be present it doubtless acts as a natural trap – apparently for larvae as well as adults. Actually the few

larvae I have met with have generally been in wood which though decaying was inclined to be rather hard and dryish, and it would appear that they may tolerate a fair range of conditions. Helopine larvae are seldom, in my experience, to be found directly under bark. – A. A. A.]

THE PROBABLE FIRST RECORD OF OCCURRENCE IN BRITAIN OF COLEOPHORA CLYPEIFERELLA HOFMANN. – Recently, while examining the Coleophoridae in the L. T. Ford collection in the BMNH, I noticed a specimen that appeared to conform to *C. clypeiferella*. It was labelled in Ford's handwriting "Dymchurch, 6.8.34, L. T. Ford", and bore a second label in the same hand inscribed "salicorniae at light". I drew the attention of Dr. K. Sattler to it, and he kindly confirmed my determination.

Until now, the earliest known British *clypeiferella* seems to have been the one taken by S. Wakely at Camberwell in 1953 (cf. Wakely, *Ent. Rec.*, **66**: 272). However, Ford's Dymchurch example now shows that the species was present in Britain nearly 20 years earlier. – J. M. CHALMERS-HUNT.

POLYPLOCA RIDENS F. AB. **FLAVASUFFUSA** AB. NOV. – Forewings: ground colour pale yellow with cross markings indistinct and suffused with black; patches of chrome yellow scaling on tornus and in basal areas. Hindwings: colour normal with marginal band reduced. Holotype ♂: Sandy Down, Boldre, Hampshire, taken at m.v.l., 21.iv.1980. The specimen was exhibited at the British Entomological and Natural History Society in October 1980. – R. W. WATSON, F.R.E.S., Watson Trust for Entomology, Porcorum, Sandy Down, Boldre, Lymington, Hampshire.

MIGRANT LEPIDOPTERA IN S. DEVON IN 1981 – At the north end of Slapton Sands, a single Clouded Yellow, *Colias croceus* Geoff. was seen on 12th August; three more on 14th August, single sightings again on 15th, 17th and 18th, three specimens on 27th, two again on 28th August and one on 12th, 21st and 23rd September. This species is rarely seen here. At the same place, a single *Macroglossum stellatarum* L. was observed feeding on valerian on 18th, 21st and 25th August; also feeding at valerian, 28 Small Tortoiseshells, *Aglais urticae* L. were counted on 12th September and a further 12 the next day. Only single examples of *urticae* had been observed till then.

For *Autographa gamma* L. and *Nomophila noctuella* D. &. S., totals here for the usual period, May to 21st September, using a 125 watt M.V. light trap were: *A. gamma* 40; *N. noctuella* 1. These are the lowest totals for these two species ever recorded here. – H. L. O'HEFFERNAN, c/o 15 Green Park Way, Chillington, Kingsbridge, TQ72Hy, S. Devon.

THE BEDSTRAW HAWKMOTH: HYLES GALLII ROTTEMBURG IN THE ISLE OF WIGHT. – I positively identified a single *Hyles gallii* at rest on some low herbage in Great Coombe Wood, Isle of Wight, about 2.30 pm on August 3rd 1981. I observed it for at least a full minute, but was unable to capture it as it flew off rapidly before I could net it. – F. H. CLOUTER, Helice, Glendale Road, Minster-in-Sheppey, Kent.

THE WHITE-LETTER HAIRSTREAK: STRYMONIDIA W-ALBUM KNOCH IN THE ISLE OF WIGHT. – I discovered a small colony of this butterfly on the cliffs of W. Wight in the last week of July 1981. I boxed six of the insects in an hour, and four or five others were still flying around the tops of some young wych elm. All six were released at the end of the day, two of them were females. Although this was a small colony, the amount of young wych elm in the area was encouraging. I believe it is many years since *w-album* was last seen in the Isle of Wight, and that this is a new locality for it on the Island. – F. H. CLOUTER, Helice, Glendale Road, Minster-in-Sheppey, Kent.

THE WHITE–LETTER HAIRSTREAK: STRYMONIDEA W-ALBUM KNOCH IN THE ISLE OF THANET. –I noted a single example of this butterfly at Watchester Lane, Minster, East Kent, on the 11th August 1981. No others were seen despite a thorough search on several occasions. Mr. M. Harman, the game keeper at Quex Park, tells me the butterfly has appeared in the park in varying numbers most seasons, and that he first became aware of it there in 1976 when a hedge of bramble blossom was seen to be swarming with them, though none was seen in 1981. – C. J. RANDELL, "Driftwood", The Old Coastguards, Pegwell Bay, Ramsgate, Kent CT11 ONH.

EXCEPTIONAL NUMBERS OF THE CLOUDED YELLOW: COLIAS CROCEUS GEOFF. IN WARWICKSHIRE IN 1981 – On August 2, I walked along the banks of the River Avon between the villages of Charlecote and Wasperton. To my surprise a male *croceus* shot quickly over a hawthorn hedge from some steep flowery slopes created from old gravel pit workings. On entering this area I immediately saw several more *croceus* flying rapidly up and down the rough slopes. Proceeding further, the butterfly became even more abundant. It was in mint condition, having obviously just emerged in the hot sun. After two hours I had seen over 70 individuals including three ab. *helice.* A very fresh *Cynthia cardui* L.: Painted Lady was also seen.

The locality was visited several times during the summer and autumn with the following results. August 3: 10 observed in morning; 22 in afternoon, including one *helice*. August 4: 50 in afternoon (A. Gardner). August 10: Over 50 observed in one hour during the afternoon, including one *helice;* also, two *cardui* and one *Vanessa atalanta* L.: Red Admiral. August 11: Over 70 observed in one hour during afternoon, including one *helice* and one *cardui.* August 12: Over 40 observed in one hour during morning; one male was found *drying its wings on a clover stem above its empty pupa case.* August 16: over 50 seen in afternoon. August 17: Over 30 seen in afternoon. August 23: 12 seen, mainly worn (A. Gardner). August 24: One male *croceus* in my garden at Charlecote, and the only one seen in the village, which is only a mile from the gravel pits. September 6: Only one worn male seen. September 13: Only one worn male seen. After this the weather deteriorated, becoming cold and unsettled with rain and so proved fatal for any chance of another brood. October 4: Sunny afternoon, no *croceus,* however,

one *atalanta* seen; also, one perfect male *Rhodometra sacraria* L.: Vestal and one *Heliothis peltigera* D. & S.: Bordered Straw were flushed from the thick clover. Several m.v. lights at this locality that night produced no further migrants. I feel it is strange that these migrant species arrived within a mile of my home, confined themselves to this small area and that relatively few sightings were recorded in more southerly parts of England. – D. C. G. BROWN, Jacksons Farmhouse, 25 Charlecote Nr. Warwick.

THE CAMBERWELL BEAUTY: NYMPHALIS ANTIOPA L. IN 1981. – The Rev. David Agassiz suggested that it might be of interest to record that I observed a Camberwell Beauty in my garden here on the 15th August 1981. – R. SMITH, 41, South Park Hill Road, South Croydon, Surrey.

SCOTTISH DRAGONFLIES: A CORRECTION. – In volume 92, p. 282, I made some smug remarks about photographing female *Aeshna caerulea* in various places in Scotland in 1968. I regret to say that re-examination of the prints shows that all were *Aeshna juncea*, and apologise for the error. I have notified the organiser of the National Recording Scheme for Odonata in detail.

My little story was further spoilt by a neat misprint. "It was not quite cool" subtly suggests that the episode was almost passionate. The text should have read "It was now quite cool" (with the clouding of the sun), emphasising the susceptibility of the insects to temperature change. – C. F. COWAN, 4 Thornfield Terrace, Grange-over-Sands, Cumbria LA11 7DR.

BOMOLOCHA FONTIS THUNB. AND SCHRANKIA COSTAESTRIGALIS STEPH. (LEP.: PLUSIIDAE) IN N. W. KENT. – Single specimens of these two species were unnexpected visitors to the m/v light trap in my garden at Dartford on July 8th and July 13th, 1981, respectively. *B.fontis* has not been recorded previously from N. W. Kent. Chalmers-Hunt (*Lep. of Kent*) stated that the species is scarce and local in Kent, and has undoubtedly decreased in those areas where there has been a reduction of bilberry. However, recently the insect has been noted on several occasions in the woods of S.E. Kent where bilberry is absent, and here it is presumed attached to an alternative larval foodplant. The origin of the Dartford specimen is at present a matter for conjecture; bilberry is not present in the area.

S. costaestrigalis was a resident of N. W. Kent, the last record being of fourteen specimens seen at Chislehurst in 1910, although not far to the east of the area it was not uncommon at Springhead, near Northfleet, in 1912 and 1913 (Chalmers-Hunt, *Lep. of Kent*). However, it is interesting to note that six specimens have been seen in recent years in N. E. Surrey (L. and K. Evans *A Survey of the Macro-lepidoptera of Croydon and N. E. Surrey*). Despite N. W. Kent being a very well-worked district, *S. costaestrigalis* is an insect easily overlooked, and with apparently suitable habitats still existing in the area, it seems probable that the Dartford specimen might have originated locally. – B. K. WEST, 36 Briar Road, Bexley, Kent.

THE AMERICAN PAINTED LADY: CYNTHIA VIRGINIENSIS DRURY, A VERY RARE MIGRANT. – On September 28 my wife and I visited Gower Peninsular in South Wales. For once in this wet autumn it was a warm sunny day and a few belated butterflies were still about. We had lunch at Penrice Castle and afterwards were taken on a tour of the very extensive grounds by our host. In a warm corner a few valerian flowers were still out, and were being patronised by what I took to be a rather undersized *C. cardui* which flew restlessly about, occasionally settling on the ground between visits to the flowers. From the start I felt there was something unusual about the butterfly, so when eventually it settled on a flower head and basked in the sun with expanded wings I was able to examine it in detail at very close quarters. It was then that I noticed that the ground colour on the upper side lacked the rosy flush of *cardui,* having more of an orange tint. The hind wings were devoid of black markings but had a row of submarginal eye spots. One of these near the apex of the wing was particularly large and with a prominent white ocellus. I never saw the underside.

Even then the penny didn't drop and I thought I was looking at a rather unusual variety of *cardui.* I had no net or other means of capture, and it was not till we got home, when I was able to refer to an illustration in Humphreys and Westwood and another in Higgins and Riley, that I realised I had been looking without any doubt, at a fine specimen of that very rare migrant, *Cynthia virginiensis*, the American Painted Lady.

The butterfly is not figured in the great majority of our national entomological literature. I think this omission is a pity, as it could so easily be overlooked as nearly happened in my own case. – Major Gen. C. G. LIPSCOMB, The Riding, Knook, Nr. Warminster, Wiltshire, 2.x1981.

EMPRIA LONGICORNIS (THOMSON) (HYM: SYMPHYTA) NEAR EDINBURGH. – While collecting with Mr. A. D. Leslie on the edges of Redmoss Nature Reserve, Balerno, nr. Edinburgh, Midlothian (NT1663) on 22.5.1981 we each swept a male of *Empria longicornis* Thomson. The foodplant of *longicornis* is said to be *Rubus,* so the specimens probably originated from a small patch of *R. idaeus* on the roadside verge near the place of capture.

R. B. Benson (1952, *Handbks. Ident. Brit. Insects,* 6(2b): 90) recorded *longicornis* as rare in Britain, occurring in Cornwall, Devon, Herts., Glamorgan, Lanarks. and very locally in Ireland. The European literature suggests that it is local and scarce throughout its range, but perhaps more widespread in northern and mountainous regions. – A. D. LISTON, 99 Clermiston Road, Edinburgh, EH12 6UU.

COLEOPHORA ALBITARSELLA ZELLER ON PRUNELLA VULGARIS. – I found a case of this species on selfheal in Grays Chalk Pit on the 25th September, 1981. This species feeds on a number of other Labiatae but as far as I am aware it has not hitherto been recorded on this foodplant. – A. M. EMMET. Labrey Cottage, Victoria Gardens, Saffron Walden, Essex, CB11 3AF. 26.ix.1981.

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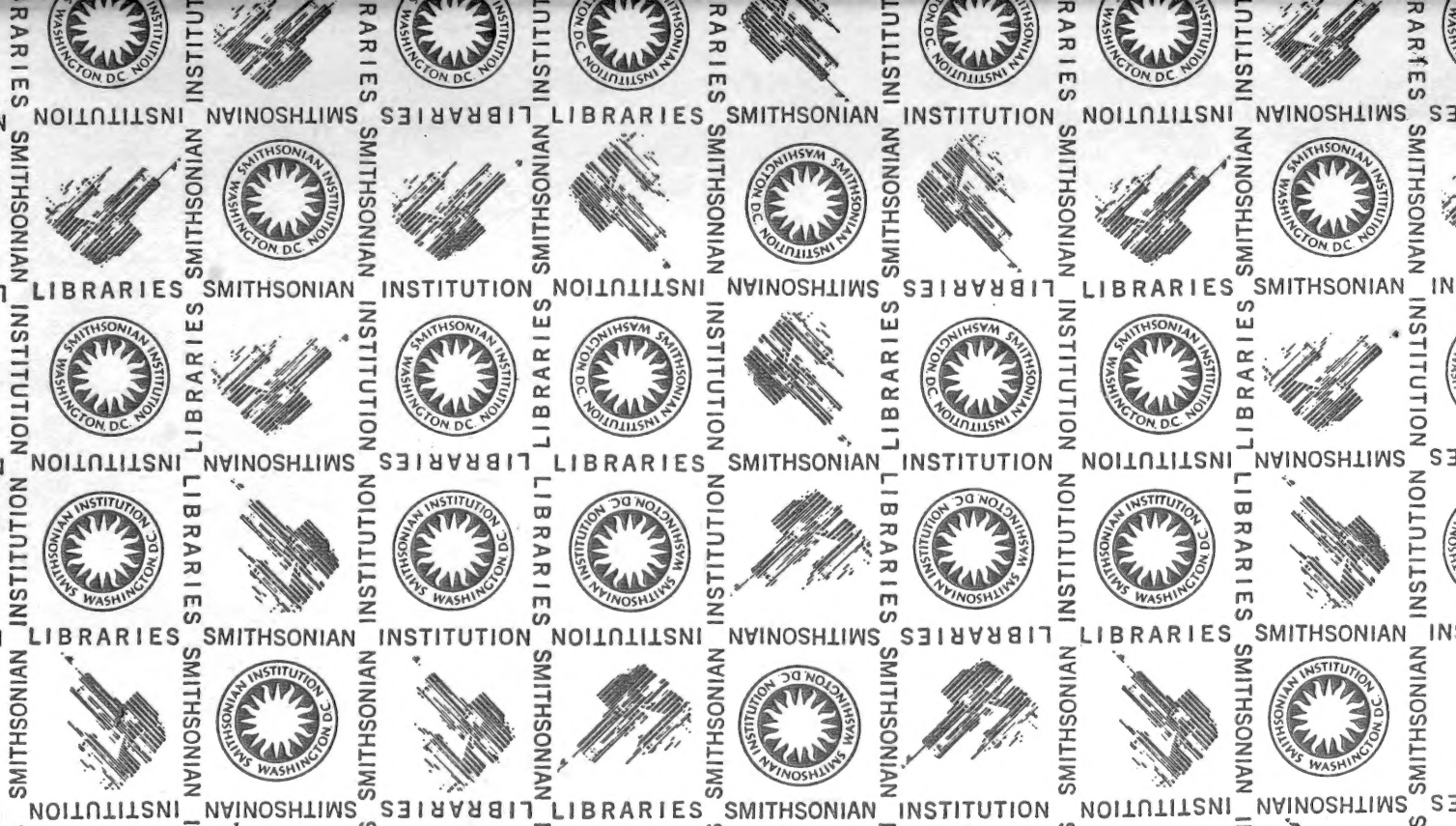
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