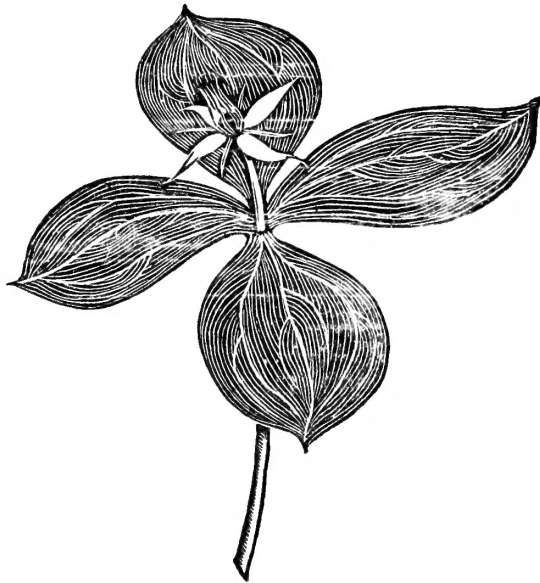




The Reading Naturalist

No. 22



Published by the Reading and District
Natural History Society
1970

**Price to Non-Members
Three Shillings and Sixpence**



THE READING NATURALIST

No. 22 for the year 1968-1969.

The Journal of
The Reading and District Natural History
Society

President:

Mr. C.J. Leeke.
B.Sc., M.I.Biol.

Hon. General Secretary:

Mrs. K.F. Rhodes,
65 Tilehurst Road,
Reading RG3 2JC

Hon. Editor:

Miss E.M. Nelmes,
27 Westbourne Avenue,
Acton, W.3.

Editorial Sub-Committee:

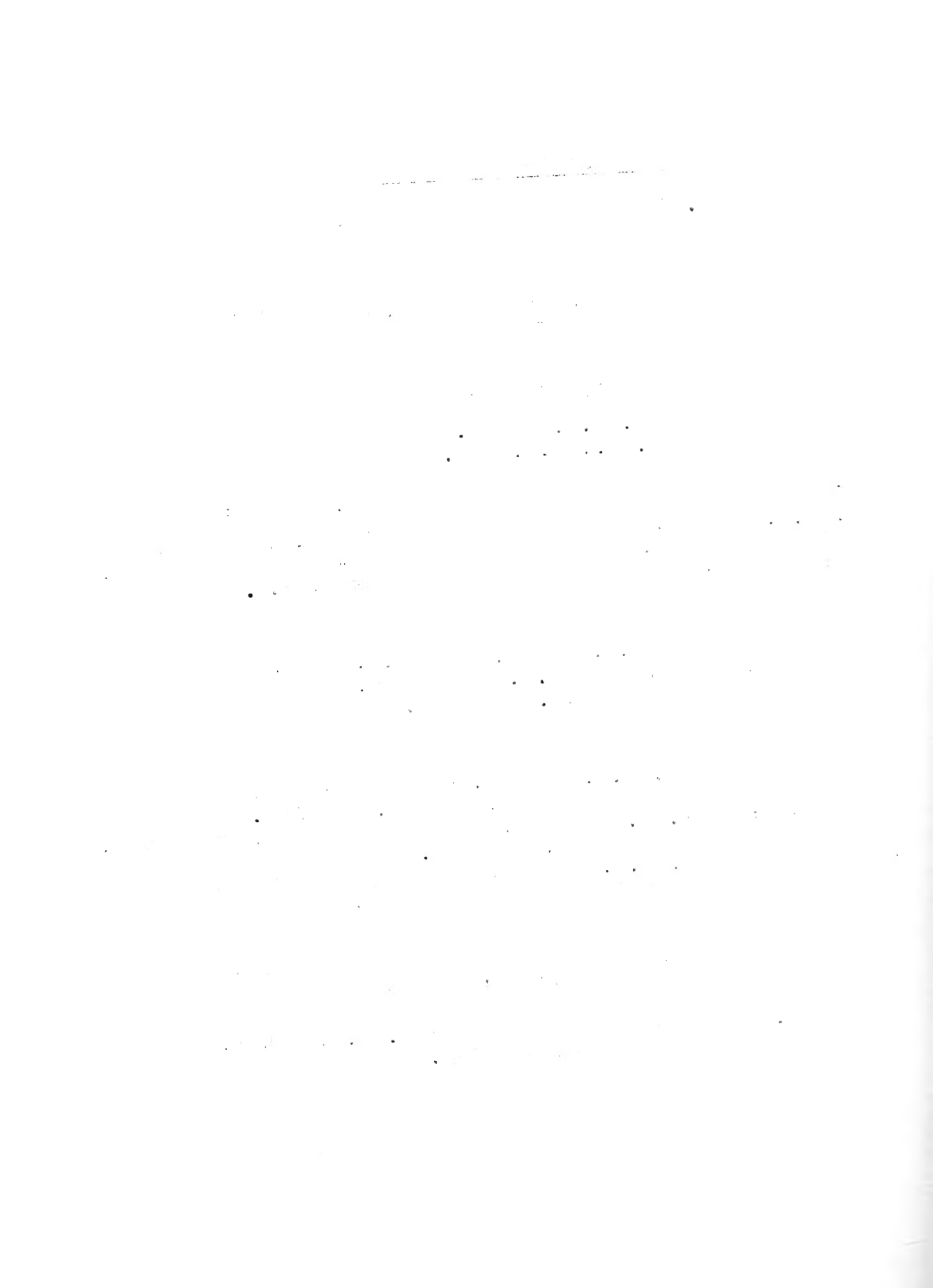
The Editor, B.R. Baker, Miss L.E. Cobb,
A. Price, Miss J.M.V. Housden,
Miss S.Y. Townend.

Honorary Recorders:

Botany: Mrs. B.H. Newman, Earley Cottage,
25 Beech Lane, Earley, Reading.
Entomology: Mr. B.R. Baker, 5 Dovedale Close, The Mount,
Caversham, Reading.
Vertebrates: Mr. H.H. Carter, 82 Kennylands Road,
Sonning Common, Reading.

Berkshire, Buckinghamshire and Oxfordshire
Naturalists' Trust:

Hon. County Secretary (Berks): Mr. B.R. Baker,
The Museum, Reading.



CONTENTS

	<u>Page</u>
Meetings and excursions, 1968-69	2
Presidential Address:	3
On British Butterflies with special reference to the Reading area.	B.R. Baker
A very modern prisoner.	K. Rhodes 9
The gall-forming Cynipidae (Hymenoptera) of Britain, with recent records from South Oxfordshire and Central Berkshire.	D. Leatherdale 10
Fertile spawn laid by full albino frogs.	A. Price 22
Some notes on Birds.	H.H. Carter 24
Notes on feral barking deer (<u>Muntiacus</u> sp.) in the Reading area.	C.J. Leeke 25
Lichens in the Thames Valley.	H.J.M. Bowen 29
Fungi of the Warburg Reserve.	H.J.M. Bowen & L.E. Cobb 31
Weather Records in 1969.	A.E. Moon 33
Honorary Recorders' Reports:	
Botany	B.M. Newman 36
Entomology	B.R. Baker 43
Vertebrates	H.H. Carter 47
Report on Aston Upthorpe Reserve 1969.	M. Sell 51
Supplement to List of Members	52

Mr. B.R. Baker delivered his Presential Address entitled "On British Butterflies with special reference to the Reading Area" at the Annual General Meeting (attendance 50). Two evenings were devoted to members' exhibits, talks and films (42 and 50) and one to the showing of the film "The Concession" and the film of the Gloucestershire Trust for Nature Conservation (39).

The lectures delivered at the remaining indoor meetings were "Kenya Wildlife", by Miss M.B. Hyde (49); "British Dandelions", by Dr. A.J. Richards (35); "Natural History of Snowdonia", by Mr. D. Leatherdale (49); "Commons and Bottoms", by Mr. H.H. Carter (50); "Scot Head", by Mr. T. Potts (39); "An Approach to the Study of Mosses", by Dr. E.V. Watson (34); and "Songs and Speciation in Bush Crickets - Aspects of recent work on Platycleis", by Mr. W.B. Broughton (32).

Winter walks were held on 2nd November, Peppard Common (attendance 5); 7th December, College Wood, Goring Heath (c.12); 4th January, Caversham Warren (c.12); 1st February, Dreadnought to Earley Power Station (20); and 8th March, Pickling Yard, Mortimer, for mosses (20+).

The summer field meetings were: 12th April, Beenham Woods; 7th May, River Loddon (for Loddon Lillies) (10); 17th May, Greenfield Wood area; 31st May, Burnt Hill to Bradfield via the Blue Pool, Stanford Dingley (20); 15th June, coach excursion to Poole Harbour, Brownsea Island and Studland Heath (40+); 18th June, Little John's Farm (for fresh-water biology) (12); 28th June, Wellington College grounds (18); 12th July, Pamber Forest, afternoon walk (29) and entomological evening (12); 16th July, Shinfield Grange Horticultural Research Laboratory Gardens (12+); 26th July, Binfield Heath (c.25); 9th August, Nunhide Lane (c.12); 23rd August, Southlake, Earley (5); 6th September, Hook Common (12); 20th September, Bearwood Estate and Lake (19); 4th October, fungus foray at the Warburg Reserve, Bix Bottom (60-70); and 11th October, fungus foray at Kingwood (17). No-one arrived to join the leader for the excursion to College Wood planned for 26th April.

The eleventh Young Naturalists' Evening was held in the Town Hall on February 26th. The panel who answered questions submitted by pupils from Reading schools were Dr. H.J.M. Owen, Mr. J.R.L. Allen, Mr. C.J. Lecke and Mr. Robert Gillmor. The Questionmaster was Mr. J.F. Newman. Out of 564 questions sent in, 8 were selected for prizes which were presented by The Right Worshipful the Mayor of Reading, Alderman Mrs. E. Morris. The evening ended with the screening of the film The Private Life of the Kingfisher.

The prizewinners were: Pamela Taylor, Manor Junior Sch. (11 yrs); K.P. Surplice, Reading Sch. (12 yrs); Ann Jukes, English Martyrs R.C. Primary Sch. (11 yrs); Yvonne Puttick, Christ the King Primary Sch. (10 yrs); Janet Murtagh, St. Michael's Primary Sch. (11 yrs); Linda Bourne, Kendrick Sch. (11½ yrs); Claire Pickston, St. Joseph's Convent Preparatory Sch. (11 yrs) and Christopher Hipgrave, Grovelands Primary Sch. (11 yrs).

- 3 -

On British Butterflies with special
reference to the Reading Area.

The Presidential Address to the Reading Natural History
Society, 17th Oct. 1969

By B.R. Baker

The choice of title for to-night's address might seem to be a particularly unimaginative one - one might well assume that little remains to be said about this much publicised group. Much publicised indeed for I recall Mr. Max Robertson's remarks on the subject during a lull in play at this year's mixed doubles at Wimbledon. "Ah, I see there's a butterfly on the court" he said. "I think it's a tortoiseshell". Then, changing his mind, he continued, "no, I believe it's a fritillary". This fascinating and unexpected interlude was then rather spoilt by the Australian commentator who remarked "Back home Max we call 'em Indian Dodgers". Be that as it may, this was indeed an observation, and leaves one speculating as to the particular species of fritillary (or Indian Dodger) that favours rural Wimbledon in early July. I use the observation however only to indicate the popularity of butterflies, and yet, in spite of the fact that many of you will be familiar with the vital statistics of brimstones, red admirals and so on, I am hard put to it to recall any talk ever given to our Society on the topic of "Butterflies". May I therefore make this presumed omission my primary reason for choice of title and at the same time confess that over the years the study of butterflies has given me great pleasure, and indeed well remembered moments of excitement.

First then, a little groundwork. How does one tell a butterfly from a moth? This might seem too elementary a question but the short answers that are often given all need qualifying. The best definition therefore makes use of two of the structural characters of butterflies - the antennae and the means whereby fore and hind-wings are coupled. The antennae of all butterflies end in a club whereas few other Lepidoptera have clubbed antennae. Those few exceptions also have a particular form of wing coupling absent from butterflies. Obviously one does not normally go around with a times ten looking at the wing coupling of these beautiful insects for many are instantly recognisable as butterflies, and should you wish to observe all our indigenous species on their own ground the quest will take you to some of the finest parts of these Islands. You will need to explore the steep-sided valleys of north Devon and Cornwall to stand a chance of ever seeing a Large Blue, - you must be energetic and scale Langdale Pikes or some other peaks in the Lake District or Scotland to discover Mountain Ringlets, - you must put on suitable footwear and thrash through the reeds of Norfolk to see Swallowtails, or, a little closer to home, why not enjoy a trip to the Isle of Wight and walk the entire southern shore counting the nests of larvae of the little Glanville Fritillaries in readiness for writing your "Comments on a species existing on the very edge of its range".

- 4 -

Butterflies, although a natural group for the taxonomist are but one of eight superfamilies within the Order Lepidoptera. - when we therefore speak of Butterflies and Moths we are unjustifiably according butterflies a rank equal to that of all the other Lepidoptera. It is also worth remembering that we are considering a very small group of British insects.

I was brought up on the magic number 68, that being the figure for the British list used by the late F.W. Frohawk, though he admits to including those extinct species the Large Copper and Mazarine Blue. He also included the Black Veined White which, by 1924, the year of Frohawk's momentous work, was well and truly extinct and had been so for probably about 35 years.

Nevertheless, proceeding on from this nebulous figure of 68 we find several additions since Frohawk's time.

In 1948, it was shown by Monsieur Lucien Berger that two species had been masquerading under the name of Pale Clouded Yellow - so that now we have a New Pale Clouded Yellow. In the middle 1950's some fortunate person, when exhibiting a presumed Large Tortoiseshell to the British Entomological Society's Annual Exhibition in London, was informed that the insect was Vanessa xanthomelas (no English name is available), a species very similar to our Large Tortoiseshell, but nevertheless a new species for the British list. Now, most recently of all, the researches of F.V.L. Jarvis, published in 1966, show us that when you come across what you may take for a Brown Argus (should you be in northern Britain) it will in fact be Aricia allous, known also to occur at heights above 1000 metres in the Alps, and from low level sites in Scandinavia as far north as the Arctic Circle.

Can we then say that everything is now known about British Butterflies?; with these additions to our list all arising out of post war research I wonder for how long the number will remain at 71?

Additional ranges for some of our well known species have also come to light - one of the most remarkable discoveries occurred in 1941 and concerned that very localised butterfly the Chequered Skipper. All the textbooks up to the year 1945 will tell you that this little insect is to be found only in the larger woods of Bucks, Northants, Lincolnshire and Huntingdonshire. Imagine the stir that ensued when it was announced that the Chequered Skipper had been discovered in Western Inverness where it existed as a distinct race. But let us return to the title of tonight's talk and leave the Chequered Skippers to continue their racial developments in W. Inverness for I must now concentrate on that part of the title "with special reference to the Reading Area".

Within a 15 mile radius of Reading I have had the good fortune to find 46 different species of butterflies - if we extend the radius to 30 miles the number of species increases to 48.

Therefore, with Reading as a base, with heaths, oak and mixed woodlands, riversides and chalkdowns within easy access, we are indeed in one of the finest regions in the country, a region holding over two thirds of the British species.

Some of our butterflies are not closely tied to any of the above habitats but will be seen flying across rough fields, through woodland, along river banks and even in our town centres. The 'whites' are a case in point, but other species have extremely localised distributions - we shall meet both categories in the following 'wide tour' around Reading.

Heathland is not a productive habitate for butterflies, but a walk in mid-July across the commons of Burghfield or Silchester will probably introduce you to two interesting species. Numbers of the beautiful little Silver Studded Blue will probably be disturbed from the heather whilst the large brown species which gets up from the gravelly paths with a quick, erratic flight, will be the Grayling. These butterflies have the habit of tilting over on their sides when at rest and are consequently very difficult to spot unless their exact alighting position has been pin-pointed.

The 'browns' (which include the Grayling) are grass feeders and some of them will be found in a variety of habitats. For instance, the Gatekeeper (also known as Hedge Brown and Small Meadow Brown) is abundant on the grassy edges of commons and woodland, in lanes, and even on downland. Other generally common and wide-ranging species are the Small Heath, Wall Brown and Meadow Brown.

However there must be factors additional to a suitable food supply which control the distribution of some of the grass feeders. For example, the Marbled White (also a 'brown') which is widespread with us but very localised within this wide area. A single rough grass slope, such as at Hardwick will bear a colony whilst the species will be absent from, apparently similar fields close by. These compact colonies of Marbled Whites occur over a wide area of the Berkshire Downs.

The Ringlet and Speckled Wood are butterflies more associated with the grassy ridings of mixed woodland. Both species are common at Pamber Forest, and in small coppices in the Kennet Valley, also in the Chiltern woodlands. Within the past 30 years the Speckled Wood has in fact become very much commoner in the Reading District and occasional specimens have even been seen in gardens almost in the centre of our Town.

Pamber Forest has long been noted as a special haunt of woodland butterflies. In such an area there is an abundance of the required foodplants such as oak, violet, honeysuckle and willow, and Purple Hairstreaks, Silver-Washed Fritillaries and White Admirals can always be seen in their season.

All these species however occur much closer to Reading and there is always the possibility of discovering new localities for them in small areas of remnant woodland provided their foodplants are present.

The Purple Emperor is an uncommon resident in the Reading Area, but is known from several woods of far less extent than Pamber Forest where the species has long been known to exist. The two Pearl Bordered Fritillaries occur at Pamber, also the High Brown and Marsh Fritillaries. In my experience the High Brown has always been a rarity there, but has had seasons of unusual abundance in the scattered woodlands of Padworth. Unfortunately changes in agricultural practice in the neighbourhood of Padworth Gulley must have adversely affected the species for I have not seen it there in recent years.

Despite other pessimistic reports the Marsh Fritillary has not disappeared from Pamber. True it needs working for, but fortunately, the Forest is a large place and Devil's Bit Scabious, upon which the larvae feed, occurs in some of the less worked areas where I have in recent years observed the continuance of this species. This pretty little fritillary will also occur in places far removed from marshes as for example among the embankments of Iron Age Hill Forts high on the Berkshire Downs.

Another fritillary which is a notorious 'mover around' is the rare Heath Fritillary. This species will move into recently cleared areas of woodland even in its strongest localities (as in East Kent) provided there is an abundance of cow wheat. Should you chance to come across a Heath Fritillary I am afraid it will be only a 'plant'. The species has been put down in the Forest by various workers in the past and possibly the descendants of these introductions are still there.

In the thirties the little Duke of Burgundy Fritillary was not uncommon at Pamber, but it has not been recorded from there in recent years. This is somewhat surprising for the habitat still seems suitable and primroses, one of the larval foodplants, remain abundant. Happily however, the species is still resident in the Reading area and there are scattered colonies on the Berkshire Downs and in hollows on the Chiltern scarp. In such places the butterflies exist on the alternative foodplant of cowslip. It is also in this downland habitat that the strongly flying Dark Green Fritillary occurs. The pursuit of this fine insect requires considerable fitness - though foreknowledge of a good growth of flowering thistles might save one the necessity of a hectic chase.

I understand that at the turn of the century larval nests of the Large Tortoiseshell butterfly could be seen in elm trees growing in Caversham Road. Today this species is one of the rarest butterflies in Britain. Only on three occasions have I seen it, and in each instance the insect was a hibernated one which was regaling itself on willow nectar. The localities and years were:- Pamber Forest 1944; Wokefield Common 1945; and again Pamber Forest 1948. The Large Tortoiseshell is however known to fluctuate in numbers and it is to be hoped that a resurgence of the species, under the impetus of immigrant reinforcements, will occur again.

All of the five British hairstreaks occur within a radius of 35 miles around Reading. If we exclude the rare Black Hairstreak, we can say that the other four species occur within a 10 mile radius.

The Green Hairstreak having a wide range of larval foodplant, may be found along the edges of woodland (as at Pamber), in sunken lanes (as at Mapledurham and Hardwick) and on downland (as at Streatley and Watlington). The remaining three species have single foodplants; the Purple Hairstreak on oak, the White-Letter Hairstreak on wych elm, and the Brown Hairstreak on blackthorn. White-Letter Hairstreak colonies may be centred on a single tree, as was the case at Sulham, and the butterflies need careful watching for as they come down low to feed on flowering privet and bramble. The woods around Goring Heath and Nuney Green hold strong colonies of this delicate little butterfly.

The Brown Hairstreak must have many undiscovered colonies up in the Chilterns, but it is a sluggish species and needs working for. Our nearest colonies were thought to be in the extensive blackthorn thickets north east of Oxford; it therefore came as a pleasant surprise to hear of the species in the Hambleton Valley, some 10 miles from Reading.

Careful work would, I feel sure, reveal Brown Hairstreaks even closer to Reading. The eggs, white in colour, are easily visible on blackthorn twigs and may be found in mid-winter. Here then is an opportunity for any member keen on fieldwork in the depth of winter. As a starter, I would suggest Peppard Common. Look for white spots, the size of pin-heads, usually at the base of buds. Check with a times ten, then bring the finds into the Museum for confirmation!

Many of our most attractive and well known species such as Brimstone and the Vanessaids (Peacock, Small Tortoiseshell, Comma, Red Admiral and Painted Lady) occur in a wide range of habitats and often adorn both our own and municipal gardens in late summer and autumn. The two latter species are immigrants and will certainly not be seen every year.

In good immigrant years even rarer visitors may reach inland as far as Reading, in very good years their northward trend will continue much further. Clouded Yellows, Pale Clouded Yellows and Camberwell Beauties are examples of the less common to rare visitors which, over the years, have all been taken very close to Reading.

I have referred in a previous Reading Naturalist to Mr. H.L. Dolton's experience of a Camberwell Beauty in St. Mary's Butts, and the Museum possesses two vintage 1872 specimens from the Warren at Caversham and from Whiteknights.

A butterfly most unpredictable in appearance is the Holly Blue. Fond of shrubberies and gardens well stocked with evergreens, especially ivy, holly and laurel, it should be looked for in early spring and then again in August.

The beautiful Orange Tip I would term a 'wayside butterfly' and one which gives never failing delight in early spring. Among other plants, favourite egg-laying sites are garlic mustard, cuckoo flower and hedge mustard. Mechanised attacks on the flowering road-side verges must constitute an increasing hazard to this species, and it is upon the question of threats that I would bring to a close this rambling account of some of our butterflies.

Whilst I would not agree with the apparently general impression that we are losing all our butterflies through spraying, ploughing operations, urban spread and so on, I would most certainly agree that there is a dire threat to some of our downland species.

When a down is ploughed, or trampled by cattle, the Small Skippers, Small Coppers and Common Blues can still manage to exist on the edges of trackways, in old pits, and even on rough ground well away from downland. Not so those beautiful species the Chalkhill and Adonis Blues. These butterflies have but a single foodplant, the horseshoe vetch, and once this disappears the butterflies are doomed. When colonies were threatened in former years it was possible for new ones to restart from female blues which would be blown across the slopes to new areas equally suitable. Today these wind-blown females would probably land in a veritable sea of barley. Retention of suitable habitat is the only way to ensure their continued occurrence and much good work has been done, and is still being carried out by our Naturalists' Trust. Occur they still do - along with the very local Silver Spotted Skipper - but for how long in Berkshire I would not care to hazard a guess.

We come back to that magic number of 68, which allowing for losses and gains is probably the sum total of our resident and regularly immigrant species. This is a low figure when we compare it with that of species in countries across the North Sea and English Channel, viz. Denmark 78; Holland 83; Norway 95; the northern departments of France 100 and Belgium 116. I would hope that the concerted efforts of the many organisations now active in the field of conservation will ensure that the magic I have found is still there for others to find in this and future generations.

A VERY MODERN PRISONER

The muddle of tough nylon netting which had supported the pea row earlier in the season had lain in the corner of the shed waiting to be untangled. The crude green of the only dye known to the modern net-maker had become familiar and unremarkable, but to the fresh young eyes of the newly launched biologist visitor the presence of a hedgehog in the tangle was obvious. Was he dead? No, very evidently not! Was he damaged? Several minutes of careful snipping with a stout pair of dressmaking scissors severed all the strands which had become twisted round the neck of a very hostile small animal with an enchanting black retrousse nose. So crossly and tightly was he rolled up that it was another ten minutes before the short pieces of nylon to which the net had been reduced were released as he relaxed his chin.

We fetched a large saucer of milk and a couple of nice lively pink worms and a m ribund woodlouse and put them and the saucer and the somewhat mollified prisoner on a polythene sheet in an apple crate to see what was the extent of the damage. An hour later half the milk had gone and the saucer bore familiar muddy paw prints - the trademark of the hedgehog on a saucer - the worms had been sampled but not eaten and our find was curled up once more, rather less aggressively prickly now. So the saucer was set on the ground beside the crate, which was turned gently on its side. Next morning the saucer, muddier than ever, was locked clean and there was no sign of the prisoner - a half-grown hedgehog, wiser but, we hope, not sadder. In the upshot he gained, since for a fortnight a saucer of bread and milk disappeared from the spot each night and the saucer was abundantly decorated with hedgehoggy foot-prints. Perhaps he is well enough fed to hibernate successfully.

THE GALL-FORMING CYNIPIDAE (HYMENOPTERA) OF
BRITAIN WITH RECENT RECORDS FROM SOUTH OXFORDSHIRE
AND CENTRAL BERKSHIRE.

By D. Leatherdale, F.L.S., F.R.E.S., M.I.Biol.

INTRODUCTION

With the exception of the Hymenoptera, the major groups of arthropods associated with the formation of plant galls have already been considered in these pages in recent years (Leatherdale, 1959, 1961, and 1964). We now come to what is, perhaps, the classical group of gall-formers (or cecidozoa), the gall-wasps, which are responsible for the growths that have been most familiar to us all from childhood, such as the Oak Apple, the Marble Gall and the Robin's Pincushion.

These wasps all belong to the Cynipinae, a subfamily of the Cynipidae in the superfamily Cynipoidea. Most of the Cynipoidea are only slowly being understood; they are parasites of other insects, the Cynipinae being exceptional in their role as cecidozoa. (It may be remembered that the gall-forming members of the gall-midges (Cecidomyiidae) and the gall-mites (Eriophyidae) similarly represent minorities in their respective families). Because of their sometimes unusual life-histories and the galls caused by many of the species, the Cynipinae have received much more attention than other groups in the Cynipoidea. Anyone making a study of these extremely interesting wasps will find as he progresses that they have been well documented both taxonomically and biologically, yet there are gaps in our knowledge that should both fascinate and encourage the true student.

For example, oak galls caused by Andricus quercuscalicis, which had not previously been found in Britain, were discovered in Northamptonshire in 1961 (Claridge, 1962); and a Cynipid new to science was very recently bred from galls on Hieracium in Morayshire (Quinlan & Askew, 1969). Yet it is in the ecology of the Cynipids that greatest interest lies, for not only have they the ability to initiate gall growth but they are key factors in complicated groupings of parasites and other organisms living on or in the micro-habitat of the gall. As a start to such an investigation, much would be learned from Askew (1961) in the first instance. All references have so far been from English sources, but much of the literature is in German, difficult to obtain, or outdated in some respects, and it is therefore fortunate that we have available in English a modern key to the families of the Cynipoidea and to the species and galls of the Cynipinae (Eady & Quinlan 1963). This key has done much to eliminate a tiresome collection of synonyms that had persisted for many years.

This occurrence of two or more names for a single insect species was understandable, for the Cynipinae did not make things easy for early entomologists. One wasp, for example, causing currant-like galls on the male catkins of the oak, was given one name; another, unlike it and causing spangle galls on the leaves, was given another. At the time of their naming (i.e. when they were first described), no one realized that both wasps were members of alternate generations of the same species, the one sort producing offspring of the second sort. This alternation of generations is now known to be a common feature in the life-cycles of the gall-wasps (Adler & Straton 1894) and coupled with it is the phenomenon of 'virgin-birth' (parthenogenesis) whereby males appear sparingly or even not at all, fertile eggs being laid by unfertilised females.

The haphazard collection of Cynipids with net or pooter would be an unrewarding past-time, although it would doubtless provide good training in the qualities of perseverance and precision when the naming of one's captures was undertaken. A better beginning may be made with the galls, which are not only usually more distinctive between the species but at once tell us the insect's host-plant. Rearing adults from the galls, with some certainty thereby of being able to name the Cynipid, is not usually a difficult matter, provided that the galls are taken shortly before emergence is to be expected. This is, admittedly, an unknown time to the beginner, but in general those of first-generation galls emerge in May-June and those of the second generation are mature in October. Galls taken at the appropriate time may be placed separately in jam-jars or other suitable containers covered with a piece of gauze and observed regularly for the emergence of insects. In many cases, a strange assortment of Hymenoptera and some Diptera will emerge, particularly if the galls are kept for a few weeks after first emergences have occurred; the cecidozoan may indeed not be present at all, but there will be plenty of parasites, hyperparasites and lodgers (inquilines). Most Cynipids may be distinguished from the majority of these members of the ecological complex by possessing a larger, shiny, blackish or brownish abdomen.

Richards' key (1956) gives the salient characters of the Cynipids, but in practice they are so distinct that they will soon be recognised after an introductory acquaintance.

Whether one's study inclines more to the galls or to their causers, it will not be possible in the space of a few years to be sure of having listed all the species present in a given area, for Cynipids (as well as Cecidomyiids and many other groups of insects) exhibit strong fluctuations in populations. The numbers and distribution of the host-plant may be constant or even increasing, but in many years only frustration will follow a close examination of all stations of a particular plant for a particular gall.

This was brought home to me markedly in 1954-57. In the first year, a few galls of Aylax papaveris on Shirley poppies (derived from Papaver rhoeas) were found at Whitchurch, Oxon; in 1955 no galls were found; in 1957 76 per cent of the capsules in a large bed were galled by that species and by A. minor (Leatherdale, 1957); and since then only up to eight galls have been found in any one year.

It is a curious fact that, whereas other groups of cecidozoa (with the exceptions of the sawflies - Tenthredinidae) are responsible for causing galls on a wide variety of plants, the host range of the Cynipinae is much more restricted. Of the 83 species known to occur in Britain, 38 in six genera cause galls on oak (Quercus spp., Fagaceae), six in a single genus on rose (Rosa spp., Rosaceae), three in two genera on two other rosaceous genera, and 19 in five genera on other plants. These 'other plants' are herbaceous, mainly aromatic or with a milky juice. The remaining species of Cynipinae are inquiline, in four genera.

CATALOGUE

In the following list of 47 species collected in South Oxfordshire and central Berkshire (with a few records from the Society's area in Hampshire), mainly over the period 1954-1969, an alphabetical botanical sequence is followed for convenience, using Dandy's (1958) nomenclature for plants and Eady & Quinlan's (1963) for Cynipids, although in order that the list may be intelligible to users of earlier books on galls, the commonest synonyms are also included, for they still persist in common use and it will be some years before they are considered totally old-fashioned. Eady & Quinlan made use of a convenient symbol, proposed by Benson (1949), to indicate the agamic female of the species, but in the following list it has been felt that the abbreviations 's.g.' and 'a.g.' are sufficiently indicative as to whether the sexual or agamic generation, respectively, is the causer of a particular gall. Alternation of generations applies only to species on Quercus, although something akin to alternation may occur in Xestophanes potentillae on Potentilla reptans (Folliot 1959). In order that the list of Cynipinae may be of as full a use as possible, indications are given of gall-causing species that have not yet been found in the Society's area; such species are not sequentially numbered and are referred to in square brackets.

Centaurea jacea L. and C. nigra L.

1. In stems Phanacis centaureae Foerst

Oxon: Whitchurch, 1956

[Isocolus scabiosae (Gir.) has also been recorded from Centaurea stems in Britain. Adults of Phanacis are differentiated from those of Isocolus in having the mesopleuron distinctly reticulate, instead of striate.]

2. In achenes Isocolus jaceae (Schenck)

Oxon: Goring, 1963; Nettlebed, 1963, Whitchurch, 1956 (Leatherdale, 1957).

Centaurea scabiosa L.

[Isocolus fitchi (Kieffer) galls the base of the stem and I. rogenhoferi Wachtl occurs in the achenes.]

Glechoma hederacea L.

3. On leaves Liposthenus latreillei (Kieffer)

Berks: Aldermaston, 1962; Basildon, 1966; Bradfield, 1960; Englefield, 1954, Jealott's Hill, 1955; Goring, 1955, 1956; Pangbourne, 1956, 1962; Purley, 1954, Thatcham, 1962.

Oxon: Coldharbour, 1962; Goring Heath, 1962, 1965; Hartslock Woods, 1963; Henley, 1963, 1965; Mapledurham, 1962; Whitchurch, 1956, 1958, 1968.

Hieracium spp.

4. In stems Aulacidea hieracii (Bouché)

Berks: Hazeley Heath, 1964 (Baker, 1965)

[A. subterminalis Niblett occurs on runners of H. vulgatum Fr.,

A. pilosellae (Kieffer) in the leaf midrib of H. pilosella L., and

A. nibletti Quinlan has recently been described from H. vulgatum.]

Hypochoeris radicata L.

[Phanacis hypochoeridis (Kieffer) galls the stem.]

Lapsana communis L.

[Phanacis lamsanae (Ferris) galls the stems. It has been recorded only from Derby, King's Lynn and Norwich.]

Papaver dubium L. and P. rhoeas L.

The presence of poppy galls is best detected by squeezing the capsule as it is rolled between the fingers.

5. Seed capsules swollen Aylax papaveris (Perris)
(Occurrence in P. dubium is doubtful). Berks: Tidmarsh, 1960. Oxon: Whitchurch, 1954, 1956 (a fuller account of these records and of the population fluctuations associated with them and with galls of A. minor has been published (Leatherdale, 1957), 1960, 1962, 1968.

6. Gall on septa in seed capsules. Aylax minor Hartig
Oxon: Whitchurch, 1955, 1956.

Picris echioides L.

[In stems; Phanacis caulicola (Hedicko); very rare.]

Potentilla erecta (L.) Rausch

7. Galls on stems, especially subterranean parts.

Xestophanes brevitarsis

Hants: Pamber, 1962.

(Thomson)

Potentilla reptans L.

8. Galls on stems, especially in subterranean parts.

Xestophanes potentillae

(Retzius)

Berks: Binfield, 1955; Frilsham, 1966; Newbury, 1966; Uffington, 1964, 1967; Waltham St. Lawrence, 1954; Oxon: Exlade Street, 1954; Goring, 1954, 1967; Mapledurham, 1954; 1959, 1969; Whitchurch, 1954, 1963, 1964, 1965, 1968.

Quercus cerris L.

[No galls specific to Q. cerris have been recorded from the district. The bud gall caused by Andricus kollari (Hartig) s.g., and internal acorn malformations caused by Callirhytis erythrocephala (Gir.), and C. erythrostoma Dettmer, are known to occur in Britain; and a catkin gall caused by A. quercuscalicis Burgsdorf s.g. may be presumed to occur, as there is a recent record of the agamic generation. The most important gall on Q. cerris is that caused by A. kollari; it is a spring bud gall, and although it has recently been confirmed as the alternate generation of the Marble Gall (= circularis Mayr) (Marsden-Jones, 1953), which is found commonly on other oaks in the Society's area, it has yet to be recorded here.]

Quercus robur L. and Q. petraea (Matt.) Liebl. and hybrids

9. Acorns stunted. Synergus clandestinus Eady

Berks: Pamber, 1964

[The acorn gall of Andricus quercuscalicis Burgsdorf s.g. is not known from the district.]

10. Spherical, waxy, on dormant buds on mature trunk

Trigonaspis megaptera (Panzer) s.g.

Oxon: Ipsden, 1968; Rotherfield Greys, 1960.

11. Slightly flattened, globulose, on mature trunk
Andricus quercuscorticis (L.) a.g.
Oxon: Goring Heath, 1956.
12. Conical, at stem base of saplings
Andricus testaceipes Hartig a.g.
(= sieboldi Hartig)
Berks: Hawthorndale, 1954. Oxon: Ipsden, 1968;
Whitchurch, 1956.
[Similar galls caused by A. rhizomae (Hartig) a.g.
have not been recorded.]
13. Irregular galls on roots of mature trees.
Biorhiza pallida (Olivier) a.g.
(= aptera Fabricius)
Although doubtless common, the position of these galls
renders observation difficult, and only the following
records are available: Berks: Burghfield, 1968;
Pangbourne, 1960; Hants: Silchester, 1955. Oxon:
Whitchurch, 1963.
14. Globulose galls on roots or stem base of saplings
Andricus quercusradicis (Fabr.) a.g.
Berks: Bracknell, 1957; Bucklebury Common, 1964;
Mortimer, 1964; Pangbourne, 1954; Sulhampstead, 1960.
Oxon: Ipsden, 1960.
15. Common Marble Gall; woody Andricus kollari (Hartig) a.g.
Abundant throughout the district. (See note under Q. corris
regarding the occurrence of the sexual generation).
16. Oak Apple; spongy Biorhiza pallida (Olivier) s.g.
Abundant throughout the district, especially in damper
localities. This species is particularly subject to
large and rapid changes in populations (see Kingham, 1956;
Leatherdale, 1957).
17. Artichoke Gall; inner gall surrounded by imbricated leaf-
scales Andricus fecundator (Hartig) a.g.
Locally common in the area.
18. Bud gall with prominent petiole
Andricus callidoma (Hartig) a.g.
Berks: Hawthorndale, 1955; Sulham, 1962.
Numbers 15-18 are easily identified galls of buds. The
following four species are all bud galls, but are less
readily identified. Rearing the causer provides the
only sure identification within this group.

19. Andicus corruptrix (Schlechtendal) a.g.
Oxon: Woodcote 1968.
20. Andricus albopunctatus (Schlechtendal) a.g.
Berks: Barkham, 1954; Bucklebury Common, 1960,
Hawthorndale, 1954; Padworth, 1962; Stratfield
Mortimer, 1961; Sulhampstead, 1961; Thatcham, 1964;
Hants: Eversley, 1954; Oxon: Checkendon, 1955;
Crowmarsh Gifford, 1967; Goring Heath, 1954; 1966;
Ipsden, 1966; Whitchurch, 1966.
21. Andricus curator Hartig a.g. (= collaris Hartig)
Berks: Aldermaston, 1963; Burghfield, 1963; Pangbourne,
1966. Hants: Kingsclere, 1968; Pamber, 1963. Oxon:
Emmer Green, 1960.
22. Andicus ostreus Hartig s.g. (= furunculus
Beyerinck)
Hants: Pamber, 1961; Oxon: Whitchurch Hill, 1960,
1962, 1966.
[Bud galls caused by Andicus nudus Adler a.g. (= malpighii
Adler), A. glandulae (Schenck) a.g., A. solitarius
(de Fonsc.) a.g., A. quercus-ramuli (L.) a.g. (= autumnalis
Hartig), A. inflator Hartig a.g. (= globuli Hartig),
A. quercuscorticis (L.) s.g. (= gemmatus Adler) A.
gemmicola Kieffer s.g., Callirhytis bella Dettmer s.g.,
Cynips quercusfolii L. s.g., (= taschenbergi
Schlechtendal), C. longiventris Hartig s.g. (= substituta
Kinsey), C. divisa Hartig s.g. (= verrucosa Schlechtendal),
C. disticha Hartig s.g. (= indistincta Niblett),
Neuroterus aprilius (Giraud) s.g. and N. albipes
(Schenck) s.g. have not been recorded from the district.
Some of them are known to be common, however, as the
alternate generations of several of them are very
familiar, so that one must presume lack of observation
rather than lack of the species.]
23. Large fusiform gall on male catkins.
Andricus seminationis (Giraud) a.g.
Oxon: Whitchurch, 1954, 1961, 1962, 1967; Whitchurch
Hill, 1962.
24. Cotton-wool Gall. Andricus quercusramuli (L.) s.g.
Berks: Hawthorndale, 1955, 1956.
25. Red-currant Gall, on leaves or male catkins
Neuroterus quercusbaccarum (L.) s.g.
Generally abundant throughout the district, especially
in some years.

26. Hairy, fusiform gall on male catkins.
Andricus fecundator (Hartig) s.g. (= pilosus Adler).
Berks: Pangbourne, 1966; Thatcham, 1960. Oxon:
Goring, 1960; Whitchurch, 1966, 1967.
27. Ridged fusiform gall on male catkins.
Andricus quadrilineatus Hartig a.g.
Oxon: Goring Heath, 1960; Whitchurch (Hardwick),
1961; Whitchurch Hill, 1962.
[Galls on male catkins caused by Andricus nudus Adler
s.g., A. callidoma (Hartig) s.g. (= cirratus Adler);
A. solitarius (de Fonsc.) s.g. (= occultus Tschek),
A. amenti Giraud s.g., A. glandulae (Schenck) s.g.
(= xanthopsis Schlechtendal), Neuroterus albipes
(Schenck) s.g. and N. aprilinus (Giraud) a.g.
(= schlechtendali Mayr) have not been seen in the
district.]
28. Twig swelling. Andricus quercusradicis (F.) s.g.
(= trilineatus Hartig)
Berks: Bracknell, 1954; Jealott's Hill, 1956.
29. Apex of twig swollen below buds.
Andricus inflator Hartig a.g.
Berks: Barkham, 1953; Newbury, 1968; Wokingham, 1953.
Hants: Pamber, 1962, 1966. Oxon: Whitchurch, 1956;
Woodcote, 1967, 1968.
30. Twig or leaf-vein swollen and curved.
Andricus curvator Hartig s.g.
Berks: Binfield, 1954; Bracknell, 1954, 1966;
Bucklebury Common, 1964; Sulham, 1956; Tidmarsh,
1956; Yattendon, 1968. Hants: Pamber, 1964. Oxon:
Cray's Pond, 1958; Crowmarsh Gifford, 1960, 1967;
Exlade Street, 1961; Rortslock Woods, 1955, 1963,
1964; Nunoy Green, 1965; Rotherfield Peppard, 1969;
Stoke Row, 1969; Whitchurch, most years; Woodcote, 1960,
1961, 1968.
31. Pustule in leaf lamina. Neuroterus numismalis (Geoff.
in Fourc.) s.g. (= vesicator Schlechtendal).
Berks: Burghfield, 1960; Frilsham, 1968; Hampstead
Norris, 1966; Padworth, 1964; Reading, 1955; Shinfield,
1961; Tidmarsh, 1956; Tilehurst, 1960. Oxon: Mapledurham,
1956; Peppard Common, 1962; Whitchurch, 1956, 1960, 1961,
1967.
[A very similar gall is caused by Andricus sufflator
Mayr s.g., which has only twice been recorded in Britain.
These records, both being of galls alone, may well
refer to N. numismalis.]

32. Fusiform swelling of petiole or leaf-vein Andricus quercusradicis (F.) s.g.
Oxon: Goring, 1958; Whitchurch Hill, 1963.
[Andricus testaceipes Hartig s.g., which causes almost identical galls, has not been recorded from the area.]
33. Small ovoid gall at centre of depressed area of leaf-margin Neuroterus albipes (Schenck) s.g.
Generally abundant throughout the district.
34. Globular, hairy gall on leaf underside Neuroterus tricolor (Hartig) s.g.
Berks: Sulham, 1962. Hants: Pamber, 1963. Oxon: Mapledurham, 1962; Whitchurch Hill, 1961 (noted as present in 'vast numbers' on May 22nd).
35. Spangle gall with golden hairs Neuroterus numismalis (Geoff. in Fourc.) a.g.
Generally abundant throughout the district in August-October.
36. Spangle gall without hairs Neuroterus albipes (Schenck) a.g. (= laeviusculus Schenck).
Widespread throughout the district, but less so in S. Oxon. than in Hants. and adjacent parts of Berks. Most obvious in August.
37. Spangle gall with raised rim and reddish hairs Neuroterus tricolor (Hartig) a.g. (= fumipennis Hartig)
Berks: Basildon, 1962; Wokingham, 1953; Yattendon, 1965
Hants: Pamber, 1962; Silchester, 1967. Oxon: Whitchurch, 1960, 1967.
38. Common Spangle Gall, with raised centre and crimson hairs. Neuroterus quercusbaccarum (L.) a.g. (= lenticularis Olivier).
Abundant throughout the district from late summer.
39. Oyster Gall; small, ovoid growth from between lips on midrib Andricus ostreus (Hartig) a.g.
Generally abundant throughout the district in August - October.
40. Small, kidney-shaped gall on leaf underside. Trigonapsis megaptera (Panz.) a.g. (= renum Hartig).
Berks: Bucklebury Common, 1963, 1966; Stanford Dingley, 1964. Oxon: Hartslock Woods, 1955, 1960; Whitchurch Hill, 1964.
41. Large, spherical, papillate gall on leaf underside, with reddish bands when mature in October.
Cynips longiventris Hartig a.g.

Found occasionally in the district, although the only certain records are Berks: Bucklebury Common, 1963; Pangbourne, 1960; Yattendon, 1965. Oxon: Hartslock Woods, 1962; Russells Water, 1962, South Stoke, 1959.

42. Large, spherical, smooth gall on leaf underside
Cynips quercusfolii L. a.g.
Berks: Bradfield, 1960; Bucklebury Common, 1962, 1964; Moulsoford, 1968; Pangbourne, 1960, 1963; Sulham, 1966; Tidmarsh, 1966, 1968; Tilehurst, 1966; Yattendon, 1968. Hants: Pamber, 1964, 1966; Sherborne St. John, 1963. Oxon: Kidmore End, 1958; Henley, 1960; North Stoke, 1962; Rotherfield Peppard, 1969; Whitchurch, most years; Woodcote, 1959, 1968.
43. Small, rounded gall on leaf underside Cynips divisa Hartig a.g.
Berks: Jealott's Hill, 1954; Bucklebury Common, 1962, 1963; Yattendon, 1965. Hants: Pamber, 1960. Oxon: Nuffield, 1968.
[There are no records from the district of Cynips disticha Hartig a.g. or C. agama Hartig a.g., which also cause spherical galls on the leaf.]

Rosa spp.

Until recently, the species on roses were contained in a separate genus, Rhodites.

44. Robin's Pincushion or Bedeguar Diplolepis rosae (L.)
Common throughout the district. (Five mature galls on a single stem were found at Hardwick in July 1956.)
[D. mayri, which causes a gall most easily described as a Robin's Pincushion with sparse filaments, has not been found around Reading. It is most common on Rosa rubiginosa L.]
45. Spiked or smooth pea-shaped galls.
Diplolepis nervosa (Curtis)
The spiked galls are always caused by D. nervosa, but the smooth ones, which seem to be more common in the district, may also be caused by D. centifoliae (Hartig) or D. elenteriae (Hartig). The only satisfactory way of identifying them is by rearing the cooidozoa. Parthenogenetic females of D. eglanteriae, which gall R. rubiginosa, R. canina L. and R. micrantha Borrer ex. Sm. have a shiny face and mesoscutum. In D. centifoliae, on R. canina and R. pimpinellifolia L., and in D. nervosa, the face is mainly coriaceous; these species are differentiated as follows:-
Ant. tibiae yellow to pale red, post. tibiae red;
second abscissa of radius evenly curved...D. centifoliae
Ant. tibiae red, post. tibiae black; second abscissa
of radius sometimes weakly sinuate.....D. nervosa

The causers of 17 smooth pea-galls, marked with an asterisk in the list of locations below, were all identified as *D. nervosa*. This species is one that varies widely in its degree of incidence from year to year (Leatherdale, 1956). Berks: Arborfield, 1954; Bracknell, 1954; Jealott's Hill, 1955, 1957; Pangbourne, 1960*; Sulham, 1954, 1961*, 1966*; Woolhampton, 1968. Hants: Pamber, 1960*. Oxon: Ewelme, 1962*; Gatehampton, 1954, 1962*; Ipsden, 1967*; Mapledurham, 1954, 1955, 1960*, 1962*, 1963*; North Stoke, 1962; Whitchurch, 1954, 1955, 1958*, 1960*, 1961*, 1962*, 1963*, 1965*, 1966*, 1968, 1969.

[*D. spinosissimae* Giraud, which most usually causes internal galls in leaves of *R. pimpinellifolia*, has not been recorded from the area.]

Rubus fruticosus L. sens lat.

46. Elongate stem swelling, often curved .

Diastrophus rubi (Bouché)

A Cecidomyiid, *Lasioptera rubi* Heeg., causes a not dissimilar gall, which is usually asymmetrical whereas that of *D. rubi* is more nearly symmetrical around the stem.

Berks: Hawthorndale, 1956, 1960. Oxon: Whitchurch (Hardwick), 1956.

Sonchus spp.

[There are no local records of *Phanacis sonchi* (Stefani) which causes stem swellings. In Britain, the species has been recorded only from Surrey and Warwickshire.]

Taraxacum officinale Weber

[Likewise, there are no local records of the very rare species *Phanacis taraxaci* (Ashmead), which galls the base of the midrib.]

Tragopogon pratensis L.

47. Swelling at base of stem *Aulacidea tragopogonis*
(Thomson)

Berks: Hampstead Norris, 1962. Oxon: Whitchurch (Hardwick), 1964.

ACKNOWLEDGEMENTS

Many people have from time to time brought me Cynipid galls from the Society's area, and I should like to take this opportunity of thanking in particular Miss L.E. Cobb, Miss E.M. Nelmes, Mr. A. Price, Miss J.E.R. Salter, Mrs. H. Sandels, Mr. C. Shepherd, the late Mr. W.O. Steel, and all the members of my family.

REFERENCES:

- Adler (H.) & Straton (C.) 1894 Alternating Generations: a Biological Study of Oak Galls and Gall Flies. Oxford.
- Askew (R.R.) 1961 On the biology of the inhabitants of oak galls of Cynipidae (Hymenoptera) in Britain. Trans. Soc. Brit. Ent. 14 (11): 237-268.
- Baker (E.R.) 1965 The Recorder's Report for Entomology 1963-64. Reading Naturalist No. 17: 32
- Benson (R.E.) 1949 Entomologist's mon. Mag. 84: 285-286.
- Claridge (M.F.) 1962 Andricus quercus-calicis (Burgsdorff) in Britain. (Hym., Cynipidae). Entomologist 95: 60-61.
- Dandy (J.E.) 1958 List of British Vascular Plants. London.
- Eady (R.D.) & Quinlan (J.) 1963 Hymenoptera Cynipoidea. Keys to families and subfamilies and Cynipinae (including galls). Handb. Ident. Brit. Insects 8 (1(a)). London
- Folliot (R.) 1959 Sur le cycle de développement de Xestophanes potentillae Retz. (Hyménoptères, Cynipidae). C.R. Acad. Sci., Paris. 249: 1948-1950.
- Kingham (M.) 1956 Abundance of oak apples. Ctry Life, London 120: 535.
- Leatherdale (D.) 1956 The incidence of some gall-causing insects in South Oxfordshire, 1955. Entomologist's mon. Mag. 92: 46.
- " 1957 The incidence of some gall-causing insects and mites in South Oxfordshire and Central Berkshire in 1956. Entomologist's mon. Mag. 93: 26-29.
- " 1959 An annotated list of gall mites (Acarina: Eriophyidae) occurring in Central Berkshire and South Oxfordshire. Reading Naturalist No. 11: 30-33.
- " 1961 Biological notes on some Trypetids (Diptera) in South Oxfordshire and Central Berkshire. Reading Naturalist No. 15: 42-46
- " 1964 Gall midges (Diptera: Cecidomyiidae) in the Reading area. Reading Naturalist No. 16: 32-40.
- Marsden-Jones (E.M.) 1953 A study of the life-cycle of Adleria kollari Hartig, the marble or Devonshire gall. Trans. R. ent. Soc. Lond. 104: 195-221.
- Quinlan (J.) & Askew (R.R.) 1969 A new species of gall-wasp (Hymenoptera: Cynipidae) from Scotland. Proc. R. ent. Soc. Lond. (B) 38: 1-4
- Richards O.W. 1956 Hymenoptera. Introduction and key to families. Handb. Ident. Brit. Insects 6 (1). London.

Fertile Spawn Laid by Full Albino Frogs (Rana temporaria L.)

by Arthur Price

The two double recessive frogs which have been bred from the 1967 Highmoor-Road white spawn were weighed and measured on 2nd March 1969. The length and weight of the male were 61mm. and 28.26 g. and of the female 65 mm. and 36.5 g. The frog house had been divided into two sections and these two frogs, together with the Matriarch and Mickie, a double recessive male, were placed in the south enclosure. The north enclosure was occupied by the single recessive frogs. On 10th March 1969 the two 1967 double recessives were seen in amplexus. By 11th March 1969, Mickie had replaced the 1967 male who was clinging ventrally to the female. As this endangered the life of the female, the Matriarch and Mickie were removed to a 24" x 12" x 12" tank, whereupon the 1967 frogs resumed amplexus. After moving around the enclosure, both in and out of the water, still in amplexus, the female laid 325 ml. of white spawn on 6th April 1969. After oviposition the female weighed 23 g. which represents a weight loss of 36%. On 9th April 1969, the spawn was seen to be hatching, but owing to the conditions under which it was kept, only 25% of it developed. It can be assumed that there was a deficiency of oxygen in the water. On 11th April 1969, seventy double recessive tadpoles were isolated and by 13th April some of them were seen to be wriggling. By 19th April, eleven double recessive tadpoles were swimming with difficulty. They did not metamorphose, the last tadpole dying on 31st May 1969. The two 1967 frogs have been kept on their own so that a further attempt to breed from them can be made in the Spring of 1970. On 5th November 1969, the male measured and weighed 61 mm. and 27.64 g. and the female 65 mm and 39.00 g.

Much has been said about the deficiency of the albino eye. During the autumn of 1969 the albino frogs were seen to jump up to 10" and to take a hover fly, such as Eristalis tenax L. on the wing.

The twelve double recessive frogs bred from the 1968 Highmoor-Road white spawn were all alive on 5th November 1969 but so far no males have been positively identified. The frogs varied in size from 60 mm. to 45 mm. Some of the females could lay spawn precociously in 1970. The double recessive frogs of both the 1967 and 1968 white spawn are vigorous and aggressive and their eye-sight has already been mentioned. No suggestion is made that these frogs are typical of all albinos.

As previously stated, the Matriarch, which lays white spawn, and the double recessive male, Mickie, were placed in a tank in the glasshouse on 11th March 1969. The respective sizes of the female, 87 mm. and 100 g. and the male 65 mm. and 31.5 g. made amplexus difficult but on 21st March they were in amplexus. On 5th April, 630 ml. of white spawn was laid. No black eggs were laid on this occasion. After spawning the Matriarch weighed 57 g. which represented a weight loss of 43%. Again a deficiency of oxygen in the water might have affected the development of the spawn. Only thirteen tadpoles hatched, all of which had grey eyes and pigmented as they developed. One frog, which resembles the recessive stock, is still alive and in deference to his double recessive father has been called 'Arfer'. It weighed and measured 7 g. and 38 mm. on 30th October 1969. Genetically this frog is of great interest and a male is hoped for. In view of the scarcity of male frogs, the Matriarch's future will depend on the double recessive frogs breeding early and fertilising more than one female.

In 1969, only twelve clumps of white spawn were laid in the Highmoor Road pond as against sixteen clumps in 1968. Eight of these clumps were removed to 6 Mansfield Road, Reading and kept in separate tanks to ascertain the composition of each clump. No double recessive tadpoles were found in these eight clumps. Frost and ice damaged some of the white spawn in the pond on 28th March 1969, but later a few double recessive tadpoles were found in the pond and twenty-two were brought back for further study; they were typical, text-book albinos, weak, distorted and swimming in circles. Although a few survived until 21st August 1969, not one metamorphosed. The characteristics of these tadpoles when compared with those of the 1967 and 1968 white spawn double recessive tadpoles emphasises how fortunate I have been in the genetic make up of my albino stock.

The breeding experiments with the frogs which developed from the 1965 albino spawn have been unsuccessful owing to Charlie's inability to breed. Uno, who laid three infertile clumps of spawn, has been sent to Gerrards, who have mounted the skeleton. The main interest centres on the fact that UNO developed from one of the tadpoles with a kink in the tail and has as a result a distorted pelvic girdle. She is very badly distorted and a detailed account of this skeleton will be published later. Two females and Charlie survive but the breeding from recessive stock will be taken over by 1968 recessive stock which has made excellent progress. Some of the females have exceeded seventy millimetres in length in their second year. Two vigorous males are available so that an F1 generation should be forthcoming in 1970.

Nigger, who developed from one of the Matriarch's black eggs in 1967, was crossed with Jim and laid fertile black spawn. The progeny were placed in Whiteknights Lake together with other recessive stock. Nigger who has been kept in the same tank as the 1967 D.R. female has still not overtaken her.

Summary:

1. The two 1967 full albino frogs laid fertile white spawn which did not metamorphose.
2. The twelve 1968 full albino frogs survived. Some of the females could breed precociously in 1967.
3. Eight clumps of white spawn from Highmoor Road yielded no double recessive tadpoles.

Bibliography:

- Price A. 1967. The recurrence of spawn of albino frogs (Rana temporaria L.) in Reading in 1965-66. Reading Naturalist No. 19: 5-13.
- Price A. 1968. Further Work on the progeny of spawn from albino frogs (Rana temporaria L.) Reading Naturalist No. 20: 5-8.
- Price A. 1969. Full albino frogs bred from white spawn in Reading. Reading Naturalist No. 21: 27-29.

SOME NOTES ON BIRDS

by H.H. Carter

Wildfowl. Late records of duck which are normally winter visitors here continue to accumulate, and some are known to have begun breeding. This may be expected to continue as more and more abandoned gravel pits are colonised by aquatic plants and invertebrates, or deliberately planted.

Gravel Pits. A pair of Arctic Terns Sterna macroura have been seen during the breeding season at Henley Road (Inn's) gravel pit. Their behaviour was strongly suggestive of at least attempted nesting but this could not be proved.

Two Bearded Tits Panurus biarmicus also made a long stay in the area at Burghfield gravel pit, but were not seen after 5.3.69. This species is becoming an infrequent winter visitor wherever suitable stands of Reed Phragmites arundo develop.

Osprey. An Osprey Pandion haliaetus collided with an obstacle at Culham Laboratory at the beginning of October (reported 3.10.69) and was picked up with a broken wing. This bird subsequently died.

Notes on Feral Barking Deer (Muntiacus spp.) in the Reading Area.

by C. J. Leeke.

These notes arose from a project of the Chiltern Research Committee which set out to collect reports and thus to map the distribution of feral barking deer (Muntiacus spp.) in the Chilterns. Originally these small deer were imported from Asia to Woburn Park where they bred; subsequently some escaped during the 1939-45 war. There were two species, M. muntjak (Zimmerman) from India and M. reevesi (Ogilby) from China. The escaping animals from Woburn have established themselves in the wild, breeding successfully and also producing a hybrid between the two species. The following table shows the sizes of the three forms (4).

<u>Height at Shoulder</u>	<u>Indian</u>	<u>Reeves</u>	<u>Hybrid</u>
Bucks	22"	17-19"	19-20"
Does	21"	15-17"	17-19"
Antler Length	5½-6"	4"	5"

The hybrid is seen to be intermediate on all counts but the sizes are too close for positive identification in the field.

Unfortunately only one record named the species concerned. This was from R.S.R. Fitter, who accidentally drove over a deer killing it instantly. The carcass was sent to the British Museum (Nat. Hist.) where it was identified as M. reevesi and the skin was preserved.

As the records came in, they were plotted on a 1" map of the Chilterns and it soon became obvious that the deer were common in the eastern part of the Chilterns, that is, in the area of the Middle Thames N.H.S. whose members kindly sent me the bulk of my records.

General Distribution. The first record received was at Ashridge Park, grid ref. 995120 and is the most north-easterly, being only three miles from Whipsnade. The bulk of the records fell in the area extending westward from Ashridge to Princes Risborough, to High Wycombe and Amersham, with Gerrards Cross being the most south-easterly point. The only other records were at Lane End, grid ref. 817916 about two miles S.E. of High Wycombe and two others near Reading, one at Goring Heath, 666794 and one near Chazey Heath 692760, only two and a half miles from Broad Street, Reading.

Altogether we have twenty-six separate sites recorded and several duplications, that is records from the same wood or copse. The deer occur particularly where there is good ground cover, therefore they should be looked for mainly on heavier or more basic soils such as clay, marl and limestone but not on sands and gravels (4). This may account in part for the lack of records from the Mapledurham area almost to High Wycombe, about twelve miles, where the overlaying clay and flints of the Chilterns generally gives way to an area of gravels overlying the chalk. However, these gravels only extend roughly to the area between Mapledurham, Nettlebed, Turville and Henley, so perhaps the apparent density of deer is, in part at any rate, proportional to the density of observers.

So far there were no records from south of the Thames. I wondered whether this might prove too formidable a barrier for the deer or whether there were no observers. Then a rumour of muntjac at Ashley Hill was heard and during a visit to the forestry reserve with the Junior Section, tracks and droppings of suitable size and shape were seen. Mr. Price and I went back and took some plaster casts of four, different, small deer prints and one large one for comparison. Subsequently the deer casts were shown to Mr. Alfred Leutscher who confirmed that the four small ones were muntjac and thought that the large one was possibly fallow deer. Thus there is now good evidence of the muntjac at Ashley Hill, south of the Thames. This was further supported by a reference (6) which stated that a buck was shot by the Hon. J.W. Remnant in his garden at Twyford in May, 1956. The animal had persistently damaged roses and finally destroyed some newly planted camellias. So the Thames crossing was more than thirteen years ago and muntjac may well be looked for in the Newbury or Basingstoke areas by now. There are a number of islands that could have aided a swimming deer and there is a choice of several road and rail bridges which could have afforded a dry crossing.

The Natural History of the Muntjac. Because of their small size, cautious habits, and the nature of their preferred habitat, they are not easily observed and very little is known of their natural history. The Field Guide to British Deer, published by the Mammal Society, has a blank page under the name of Muntjac. The following notes, obtained from the British Museum (Nat. Hist.) may be of interest.

Reproduction. The age at first season is not known, neither is the gestation period (3). The duration of pregnancy is supposedly six months (2). The rut is probably November - December when 'fraying stocks' are found and the bucks are in hard horn (4). At Woburn birth is often in November but also at other times (3). There is no seasonal shedding of coat and no correlation between sexual condition and visual condition of coat and antlers. (2)

Suckling occurs once a day at sundown and lactation in pregnant does is regular. Impregnation may occur a few days after parturition (2). Delayed implantation is known only in Roe deer (3). There are one or two fawns at a birth (3). There is no pronounced rutting season in Java but in Lombok the rut is tied to the wet-dry seasons (2). One must bear in mind that this statement refers to the genus in S.E. Asia, but, nevertheless, either the animals are very variable in their breeding behaviour or some degree of delayed implantation may occur. There is certainly scope for further investigation, as indeed several of these authors have pointed out.

Feeding. Muntjac feed extensively on berries, other fruits and seeds (4). They are mainly browsers, feeding on the leaves of herbs and shrubs, fruits, mushrooms and bark, but no grass at all (2). One of the recorders kindly sent a long informative letter (P.A.K.) and had this to say about feeding, "They nearly always graze and do not browse to any extent as far as I can recollect", he goes on "and are rather restless just taking a mouthful or two en route and move in the manner one sees flocks of herded Mediterranean sheep. I think that their level of awareness remains at a constant, high level in contrast with other deer that look around then feed."

It seems to me that probably all the observers may be right. van Bommel (2) is rather dogmatic about grazing and that is always a dangerous thing.

Exploration and Colonisation. Exploration is mainly by young bucks which may travel several miles per night, later settling in a suitable place and becoming secretive (4). At the rut the solitary male marks his territory and may be joined by a doe. The territory is often from one to four square kilometres.

Successful breeding leads to colonisation but in hard winters they may die out. Seventy dead muntjac were found in Hazelborough Forest in 1947 (4). Low vegetation seems to be essential; beechwoods are therefore not suitable. When settled they may use well trodden paths (4).

All other comments I have read seem to support this statement pretty well. The general consensus of opinion is that these animals are solitary or at most occur in twos or threes (2). It would be interesting to know something about the size of territory that a male could mark out and presumably defend in this country.

The Canine Teeth. Permanent canine teeth appear in young males in the second month with the rest of the milk dentition, but later in females, presumably at one year. Only old does develop tusks but it is not known whether they are hinged (2). The tusks of bucks are loosely implanted in their sockets. they can be pressed backwards, and on release of pressure, will return to the anterior position by means of an annular ligament around the neck of the tusk, attached to the palatal side of the gum pad (1). The hinging allows the normal ruminant chewing because the animal can depress these teeth itself. There is however wear on the palatal side of the tusk due to attrition against the lower lip and the fur covering the lower jaw. This acts as a hone and keeps the tusks sharpened on the posterior palatal edge (1). The tusks themselves are strongly developed and sharp, curving downwards, backwards and outward, projecting visibly outside the mouth. They sometimes slash with their tusks when handled or when an enemy gets in under the antlers which they prefer to use against does, other bucks, dogs and animals of like size (1). It has been noted that in Chinese Water Deer, Hydropotes inermis the "snarling muscles" pull the tusks forward (1).

General Comments. The muntjac can usually be distinguished from the Chinese Water Deer, which is about the same size, by its generally brighter, redder coat. Muntjacs have sloping hindquarters, a distinct tail and although usually silent, have a barking call which may be repeated quickly or uttered at longish intervals. It can also make sounds which have been likened to castanets (S.C).

The antlers grow on a hair-covered pedicel which tends to become shorter and broader with age (2). Antlers may be shed irregularly; one buck shed one antler only and grew a new one (2). In Java the antlers are retained for more than one year (2). The size of the antlers is proportional to the size of the deer but the size of the tusks is inversely proportional to the size of the deer. When put to flight the muntjac can run with hooves spread so that the pedal glands lay a scent trail which enables them to retrace their steps later; this they do slowly with their hooves closed

Throughout Asia their main predator is probably the leopard. There are six sub-species of M. muntjak in Asia (2).

References.

1. Aitchison, J. 1946. Hinged teeth in mammals, a study of the tusks of muntjac (Muntiacus) and Chinese water deer (Hydropotes inermis).
Proc. Zool. Soc. London 116: 329-338.

2. van Bemmél, A.C.V. 1952. Contribution to the knowledge of the genera Muntiacus and Arctogalidia in the Indo-Australian Archipelago. Beaufortia 16, 50 pp.
 3. Chaplin, R.E. 1966. Reproduction in British Deer. Passmore Edwards Museum, London Borough of Newham.
 4. Pickvance, T.J. & Chard, J.S.R. 1960. Feral muntjac deer (Muntiacus spp.) in the West Midlands with special reference to Warwickshire. Proc. Bgham Nat. Hist. Phil. Soc. 19; 1-8.
 5. Whitehead, G.K. 1950. Deer and their management in the deer parks of Great Britain and Ireland. London, Country Life.
 6. Whitehead, G.K. 1964. Deer of Great Britain and Ireland: an account of their history, status and distribution. London, Routledge & Kegan Paul.
- S.C. Mrs. Susan Cowdy.
P.A.K. P.A. Kingsbury, M.R.C.V.S.

LICHENS IN THE THAMES VALLEY

by H.J.M. Bowen

Lichens are a sadly neglected group of plants which offer a fascinating field of study. As most people know, they consist of two quite different components, one an alga and the other a fungus, living in close association. It appears that the fungal hyphae which make up the bulk of the lichen provide the algal cells with a habitat in which they can resist drought; in return the alga is able to produce surplus food by photosynthesis, some of which helps to nourish the fungus.

Lichens appear to 'live on air'. They absorb little or no food from the substratum on which they live, but are efficient at trapping nutrients from the air or from natural rainfall. They prefer full exposure to sunlight for efficient photosynthesis, since the algal cells are usually screened by layers of fungal cells. Thus they occur in rather different habitats from mosses, which prefer humid, sheltered places which are often relatively dark. Lichens can grow on any undisturbed surface such as stone, soil, wood or bark; I have even seen them growing on cork, glass and cast iron. Beginners may like a few hints as to the best places to look for lichens around Reading.

Near the town itself, alkaline rock surfaces such as limestone, mortar and especially asbestos are much more productive than are acid rocks such as brick, tile, slate or sandstone. Chalk, however, is poor as it weathers so fast. A luxuriant flora of nitrophilous lichens may be seen on the walls of old farmyards, e.g. the well-known yellow Xanthoria parietina and grey Physcia spp.; similar species are to be found on walls and tombstones in old churchyards where bird-droppings are common. In open country, acid rocks have more species than do alkaline rocks and the lichen flora of the acid Sarsens stones in West Berks and Wilts is notable. Near Lambourn is the furthest inland locality for the strap lichen Ramalina siliquosa, usually coastal, recently found here by J.R. Laundon.

Soils show a similar picture to rock surfaces. Very few lichens are to be found on chalk, limestone or clay soils, but many species of the genus Cladonia occur (with smaller lichens) on acid peat, as at Burghfield and Mortimer. Cladonia is a large genus which includes the common cup-lichen, various red-tipped lichens and relatives of the so-called reindeer moss, most of which grow on bare peat near heather. Plants found on bare wood are more likely to be fungi than lichens, but the bark flora of large living trees can be extremely rich - some oak trees in the New Forest have over forty species of lichen growing on them. Ancient woods or Parks usually have rich lichen floras. The best trees for lichens round Reading are walnut, wych-elm, ash and willow. Oak and sycamore may also be interesting, especially isolated trees in parkland, but pines rarely have any lichens at all except the ubiquitous Lecanora conizacoides. The West or South-West aspect of the bole is usually best, especially near the ground, or along the rain-channel on sloping trunks.

Using a sharp knife, and perhaps also a cold chisel, it is easy to collect a large number of lichens specimens in a short time. It is a much more difficult matter to identify them, mainly because of the absence of good type material from most museums and the antiquity of standard manuals (1). Name-changers have had a wonderful time with lichens, but at least there is a standard list of the latest names available, which gives many synonyms (2). The best, perhaps the only way to learn to identify lichens is to build up a small collection of material named by experts to which reference can be made. Except in some difficult genera of small lichens such as Lecidea, most species can be identified with a hand-lens and do not need microscopic examination. However, it is useful to test some species by applying a solution of caustic potash to produce specific colours.

The Botany School at Oxford University is fortunate in possessing lichen specimens collected by W. Baxter about 1820, i.e. before the Industrial Revolution had got under way. The size and luxuriance of some of Baxter's specimens from near Oxford resemble those lichens found in Wales or West Scotland today, and many of the species he collected appear to be extinct in the Thames Valley. The cause is believed to be pollution of the air by sulphur dioxide, from coal burnt in domestic grates and in factories, which has decimated lichens in the midlands. Despite this effect of pollution, about 250 of the 1200 British species of lichen can still be seen in the region.

Many problems in lichen physiology and ecology remain to be solved (3), and some of these could be tackled by amateur botanists or by school biology classes. Measurements of rates of colonisation, rates of growth, optimum acidity of substrate and effects of pollution are obvious examples. Animals which eat lichens include slugs, springtails and mites, but little is known about which species are the most important predators. There is no doubt that the chances of an amateur naturalist making a novel discovery are much greater when working with lichens than they are with seed plants.

References.

- (1) A.L. Smith. British Lichens, Part I (1918) and Part II (1926). Second Edition, British Museum (N.H.).
- (2) P.W. James. Lichenologist 3,95 (1965).
- (3) M.E. Hale. The Biology of Lichens. Arnold (1967).

FUNGI OF THE WARBURG RESERVE

By H.J.M. Bowen and L.E. Cobb.

On 4th October 1969, members of the Society, under the leadership of Dr. F.B. Hora, attempted to survey the fungi of BBONT's Warburg Reserve at Bix Bottom, near Nettlebed, Oxon. Unfortunately, owing to a prolonged spell of dry weather, fungi were extremely scarce. Those found on this occasion and identified by Dr. Hora are indicated by an asterisk in the list below. The others listed were found in the Reserve by H.J.M. Bowen or B.A. Bowen in 1968 or 1969 as indicated and identified by them unless otherwise stated. The genera in the list are grouped according to the classification adopted in the fifth edition of Ainsworth & Bisley's Dictionary of the Fungi (1961).

ASCOMYCETES

Hypocreales

Nectria cinnabarina 1969

Phacidiales

Phytisma acerinum 1968-9

Sphaeriales

Hypoxylon multiforme 1969
det. Kew
on dead bark: this species
is yet unrecorded for Berks
as yet.

Helotiales

Chlorociboria aeruginascens*
staining dead timber an intense
blue-green: scarce

BASIDIOMYCETES

Tremellales

Auricularia auricula 1968
Dacrymyces delinquescent 1968
Tremella mesenterica 1968

Coprinus hiascens*
picacous*

Crepidotus mollis*

Flammulina veletipes 1968
det. FBH

Gomphidius rutilus*

Hygrophorus cossus*

Hypholoma fasciculare*

Inocybe fastigiata*

Lactarius blennius*
terminosus*
turpis*
vellericus*

Hycene galericulata
pura*

Oudemansiella radicata*

Paxillus atrotomentosus*

Pleurotellus porrigens*

Pluteus cervinus*

Russula nairai*

Stropharia aeruginosa*
semiglobata*

Tricholoma saponaceum*

Tubaria furfuracea 1968

Lycoperdales

Lycoperdon perlatum*

Agaricales

Thelophoraceae

Stereum hirsutum 1968
purpureum 1968
rugosum*

Clavariaceae

Sparassis crispa 1968

Polyporaceae

Fomes annosus 1968 det. FBH
(Phellinus) pomaceus 1968

Inonotus hipidus 1968

Trametes gibbosa 1968
hirsuta 1968
rubescens*
versicolor*

Tyromyces coesius*

Boletaceae

Boletus bevinus 1969
granulatus 1969

Agaricaceae

Armillaria mollea*
Gollybia dryophila*
erythropus*
maculata*
peronata*

FUNGI IMPERFECTI

Sphaeropsidales

Heteroglypha (Psilospora)
faginea 1968-9
on beech bark, simulating
a black lichen.

Moniliales

Bactridium flavum 1968 det.
Kew among moss

MONTHLY WEATHER NOTES - 1969

- JANUARY: A cloudy but mild month; it was the warmest January since 1957, and the wettest and dullest since 1962 and 1955 respectively.
- FEBRUARY: In contrast to January this was a cold month and was the coldest February since 1962. The 15th was the coldest February day since 3rd 1964.
- MARCH: A cold dull month with unusually persistent north-easterly winds. It was the coldest March since 1962 and the dullest since 1964.
- APRIL: A rather cold but sunny month. It was the driest April since 1960 and the sunniest since 1942. Temperatures reached 60° F for the first time this year on 6th (62° F).
- MAY: A dull month with unusual prevalence of thundery conditions. It was the dullest May since 1962. Some heavy falls of rain in short periods occurred, notably 0.36 in. in 15 minutes at 17h.36m. on 24th and 0.23 in. in 9 minutes at 09h.30m. on 27th.
- JUNE: This was the coldest June since 1956, the driest since 1962 and the sunniest since 1957. The 4th was the coldest June day since 1964 and the night of 4/5th the coldest since 1962. During a very heavy shower at 10h. on 22nd, 0.125 in. of rain fell in 3 minutes.
- JULY: The 6th was the coldest July day since 3rd 1950. Although the mean overall temperature was a little lower than that of July, 1967, which was a warm month, the average day temperature was the highest since 1959. A "dry spell" of 15 days occurred between 11th and 25th inclusive. 0.10 in. of rain fell in six minutes at 06h. 25m. G.M.T. on 29th.

- AUGUST: The warmest August since 1959; it was, however, considerably less sunny than that year when 254 hours of sunshine were recorded.
- SEPTEMBER: This was the driest September since 1959 and the dullest since 1956. A "dry spell" of 14 days ended on 10th, and the first ground frost of the autumn was recorded on 20th (grass minimum temperature 27°F).
- OCTOBER: The driest October since reliable records were available from the University station in 1921. The previous driest was 1947 with 0.41 in. A "dry spell" of 14 days ended on the 14th. The 9th was the warmest October day since 4th 1959.
- NOVEMBER: The 2nd was the warmest November day since 5th 1946 and the night of 2nd/3rd the warmest November night since 19th, 1948; the 29th was the coldest November day since 22nd, 1956. It was the sunniest November since 1965. The first autumn air frost occurred on 5th (31°F), and the first sleet of the winter fell on 17th.
- DECEMBER: This was the dullest December since 1956 when the total sunshine was only 7.8 hours. It was the driest since 1964.

WEATHER RECORDS IN 1967

By A. E. Moon

The data refer to Reading University Meteorological Station. This is situated on the eastern side of Whiteknights Park. Records were discontinued at the main site in London Road on 31st December 1967 after nearly 50 years of almost continuous recording. As the station is an entirely new siting, the averages for the main site station are no longer applicable and are omitted from this summary. A "rain day" is a day on which rainfall equals or exceeds 0.01 of an inch. For the definition of "frost" and "ground-frost" days see Weather Records in 1961.

STATION - READING UNIVERSITY, WHITEKNIGHTS. HEIGHT ABOVE MEAN SEA LEVEL - 226 feet.

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	YEAR
MEAN DAILY TEMPERATURES OF.	MAX.	47.4	39.7	45.6	56.2	61.9	67.5	73.9	70.9	65.9	63.3	48.9	42.6	57.1
	MIN.	37.0	29.7	33.7	37.7	45.1	47.6	54.3	54.4	51.2	47.3	35.9	33.4	42.4
	MEAN.	42.2	34.7	39.7	46.9	53.5	57.5	64.1	62.7	58.5	55.3	42.4	38.0	49.7
	RANGE	10.4	10.0	11.9	18.5	16.8	19.9	19.6	16.5	14.7	16.0	13.0	9.2	14.7
	GRASS MIN.	33.8	25.9	31.0	31.7	39.0	39.6	46.2	47.6	43.2	36.2	26.9	27.9	35.8
EXTREME TEMPERATURES OF.	E. MAX.	54	53	56	71	79	79	87	85	71	77	64	53	87
	DATE	21, 27	23	8	8, 9	13	14	16	11	3, 11, 25	9	2	3	July 16
	E. MIN.	26	20	23	28	37	39	45	46	33	34	24	24	20
	DATE	1	8	9	3	20	5, 6, 7	30	24	30	30	30	19	Feb. 8
	E. GRASS MIN.	19	11	15	18	28	27	35	38	18	21	9	11	9
DATE	1	8	9	20	2	7	30	7	30	30	18	6	Nov. 18	
DAYS WITH FROST		8	17	10	6	0	0	0	0	0	9	12	62	
" " GROUND FROST		15	22	12	18	2	4	0	0	5	9	24	22	135
SHINE HOURS	SUM.	40.2	71.9	70.7	215.1	148.1	274.1	236.7	160.7	107.0	117.4	81.6	25.3	1548.8
	% POSS.	15	26	19	52	31	56	48	36	28	35	31	10	35
	DAILY MEAN.	1.30	2.57	2.28	7.17	4.78	9.13	7.63	5.18	3.57	3.79	2.72	0.81	4.24
PRECIPITATION ins.	AMOUNT	2.88	1.63	2.22	0.77	3.13	0.99	1.85	2.87	0.57	0.14	2.63	2.10	21.78
	RAIN DAYS	22	14	12	10	20	12	8	16	9	8	20	21	172
	MAX. RAIN IN 1 DAY	0.37	0.66	0.51	0.20	0.78	0.32	0.84	1.10	0.18	0.05	0.78	0.32	1.10
	DATE	12	19	10, 12	23	24	22	6	2	14	18	14	11	Aug. 2
LARGEST RUN OF CONSECUTIVE RAIN DAYS		8	6	5	4	7	8	4	4	7	3	13	6	-
LARGEST RUN OF CONSECUTIVE DRY DAYS		3	6	9	10	3	12	15	5	9	12	2	5	-
SNOW OR SLEET DAYS		1	13	5	1	0	0	0	0	0	0	5	11	36
DAYS SNOW LYING		2	5	0	0	0	0	0	0	0	0	0	2	9
VISIBILITY	FOG AT 0900 G.M.T.	4	6	7	0	0	0	1	0	1	7	2	4	32
UNDERSTORM ACTIVITY	DAYS OF THUNDER	0	1	0	1	11	1	0	4	0	0	2	0	20
	DAYS OF HAIL	0	0	0	1	1	0	0	1	0	0	0	0	3

THE RECORDER'S REPORT FOR BOTANY
1968-69

B.M. Newman

The fine summer of 1969 was ideal for country walks and members sent records of plants from widely differing habitats. Three new county records for Berkshire, Abutilon theophrasti Med. and Verbena bonariensis L. were sent in by Dr. Bowen.

The nomenclature and order are according to the "Flora of the British Isles" by Clapham, Tutin and Warburg, 2nd edition 1962, as it is more recent than Dandy's List which has been used for several years. There are eight alien plants recorded this year which are not in the Flora. An alien taxon, i.e. one known or believed to have been introduced is indicated by an asterisk.

Records sent in by the following members are gratefully acknowledged: Dr. H.J.M. Bowen (HJMB); Mr. H. Carter (HC); Miss L.E. Cobb (LEC); Dr. B.R. Kemp (BRK); Mr. J.F. Newman (JFN); Mr. A. Price (AP); Mrs. M. Reiss (MR); Mr. M. Sell (MS); Mrs. E.L. Trembath (EMT). In many cases grid references were sent with records. These are very useful and are filed with the Society's records.

Members' Records

Phyllitis scolopendrium (L) Newm. Hart's-tongue fern
Ewelme. (LEC)

Asplenium adiantum-nigrum L. Black Spleenwort
Wall of Cold Cash churchyard. (HJMB)

Asplenium trichomanes L. Maidenhair Spleenwort
Ewelme. (LEC)

Asplenium ruta-muraria L. Wall-rue
Ewelme. (LEC)

Athyrium filix femina (L.) Roth. Lady Fern
Oak Wood, Coldharbour. (EMT)

Dryopteris dilatata (Hoffm) A. Gray. Broad Buckler-fern
Seymour Green. (LEC)

*Azolla filiculoides Lam. Water Fern
Basingstoke canal, near Hook, NHS walk. (MS).
Sulham Ponds, an old record. (EMT)

Juniperus communis L. Juniper
One bush on Applepie Hill (L.K. Ward) (HJMB)

*Delphinium ambiguum L. Larkspur
Tilehurst station car park. (MS)

Ranunculus lingua L. Greater Spearwort
Colony in roadside pond near Riseley. (MS)

- Papaver argemone L. Long Prickly-headed Poppy
On bare gravel of old tip, Norris Green. (HJMB)
- * Papaver orientale L.
Gravel pit, Sandford Mill. (HJMB)
- Reseda luteola L. Dyer's Rocket, Weld.
South of Ewelme. (LEC).
- Reseda lutea L. Wild Mignonette
Ewelme. (LEC)
- Hypericum humifusum L. Trailing St. John's Wort
Swan's Wood, Highmoor, Oxon. (BRK).
- Hypericum elodes L. Marsh St. John's Wort
South Lake, Earley, NHS walk; Hook Common, NHS walk. (MS)
- Silene dioica (L.) Clairv. Red Campion
Bradfield. Collected by Miss Phillips. (HC)
- Sagina nodosa (L.) Fenzl. Knotted Pearl-Wort
Re-found in Hungerford Meads by Miss W.M. Keens. (HJMB)
- * Amaranthus retroflexus L.
Small Mead tip. (HJMB)
- * Chenopodium hybridum L. Sowbane
Frequent on track near Buckland Warren. (HJMB)
- Malva neglecta Wallr. Dwarf Mallow
Ewelme. (LEC)
- * Abutilon theophrasti Med.
Small Mead tip. A new county record for Berkshire. (HJMB)
- Geranium pratense L. Meadow Cranesbill
Ewelme. (LEC)
- * Oxalis corniculata L. Procrumbent Yellow Sorrel
Garden and path weed, St. Leonards. (HJMB)
- * Impatiens capensis Meerb. Orange Balsam
By the Thames at Tilehurst. (MS)
- * Impatiens parviflora DC. Small Balsam
Binfield Heath. (MS)
- * Acer negundo L. Box Elder
Hedge near Twyford. (HJMB)
- * Melilotis altissima Thuill. Tall Melilot
South of Ewelme. (LEC)
- * Melilotis officinalis (L.) Pall. Common Melilot
South of Ewelme. (LEC)
- * Melilotus alba Medic. White Melilot
South of Ewelme. (LEC)
- Trifolium micranthum Viv. Slender Trefoil
Streatley golf course. (MS)

- Lotus tenuis Waldst. & Kit. ex Willd. Slender
Birdsfoot Trefoil
Sulham, NHS walk. (MS) a flourishing old station.
- *Tetragonolobus maritimus (L.) Roth. Dragon's Teeth
Large colony at Hanover Hill near Fingest. (MS)
- *Colutea arborescens L. Bladder Senna, Bladder Pea Tree
One bush far from houses, on chalk track, Knighton Bushes,
near Upper Lambourn. (HJMB)
- *Vicia pannonica Crantz.
Arable land near Kingston Bagpuize (G.A. Maclean) (HJMB)
- Lathyrus sylvestris L. Everlasting Pea
Ten or twelve plants in Clayfield Copse. (HC)
Tilehurst station, on bank near river. (MS)
- *Cotoneaster horizontalis Decaisne
On tomb, Remenham churchyard, self-sown. (HJMB)
- Saxifraga granulata L. Meadow Saxifrage
Streatley golf course. (MS)
- Chrysosplenium oppositifolium L. Opposite-leaved Golden
Saxifrage
Deep ditch, Alder Moors, Norris Green. (HJMB)
- Daphne laureola L. Spurge Laurel
Firhill Plantation, Whitchurch Hill. (EMT)
- *Coriandrum sativum L. Coriander
Small Mead tip. (HJMB)
- Sium latifolium L. Water Parsnip
Three plants near Donnington Bridge. (A.I. Spriggs) (HJMB)
- Oenanthe fistulosa L. Water Dropwort
By river Thames near Pangbourne. (MS)
- Silaum silaus (L) Schinz & Thell. Pepper Saxifrage
By river Thames near Pangbourne. (MS)
- Mercurialis annua L. Annual Mercury
Road verge Whitchurch Hill. (EMT)
- *Polygonum cuspidatum Sieb. & Zucc.
Ewelme. (LEC)
- *Rumex cristatus DC
Small Mead tip. (HJMB)
- Quercus petraea (Mattuschka) Liebl. Durmast Oak
Hawkridge Woods, Bucklebury; Holm's Farm above Hardwick.
(EMT)
- Calluna vulgaris var. incana
Heath near High Wood, Bulmershe. (HJMB)
- Primula veris L. Cowslip
By A.4. near Reading University. (HJMB)
- *Buddleja davidii Franch. Buddleia
Rwelme. (LEC)

- *Vinca major ssp. herbacea. Waldst. & Kit.
Established garden escape, Warren Row. (HJMB)
- Gentianella germanica (Willd.) Börner. Chiltern Gentian
Chalk bank, Wether Down, Lambourn.. (HJMB)
Between Britwell Hill and Howe Wood.. (LEC)
Turville Hill near Fingest; Hanover Hill near Fingest.
(MS)
- Cynoglossum officinale L. Hound's-tongue
Crowsley. (HC)
- *Symphytum tuberosum L. Tuberous Comfrey
Well established in shrubbery, St. Leonards. (HJMB)
- *Calystegia sepium var silvatica (Kit.) Maire
Bird-in-Hand, Sonning Common. (HC)
- Cuscuta epithymum (L.) L. Lesser Dodder
On Lotus, Beech Farm, Whitchurch. (EMT)
- Atropa bella-donna L. Deadly Nightshade
Firhill plantation, Whitchurch Hill. (EMT)
- Verbascum virgatum Stokes. Twiggy Mullein
On waste ground, Abingdon. (E.W. Pulsford) (HJMB)
- Antirrhinum orontium L. Weasel's Snout
Common in stubble fields undersown with grass/clover
mixture, Chalkhouse Green. (HC)
- Linaria repens (L.) Mill. Pale Toadflax
Ewelme; Nunhide Lane. (LEC)
- L. repens x vulgaris
Nunhide Lane. (LEC)
- Kickxia spuria (L.) Dumort. Male Fluellen
Nunhide Lane. (LEC)
- Kickxia elatine (L.) Dumort. Sharp-leaved Fluellen
Nunhide Lane. (LEC)
- Veronica scutellata L. Marsh Speedwell
Gravel pit, Sandford Mill. (HJMB)
- Parentucellia viscosa (L.) Caruel. Yellow Bartsia
From wet grassland at Yattendon Court (Miss F. Palmer)
A new county record. The nearest locality is South
Wilts. (HJMB)
- Crobanche elatior Sutton. Tall Broomrape
Chalk bank, Wether Down; Lambourn. (HJMB)
Churn rifle ranges, near Blewbury; Nunhide Lane,
Sulham. (MS)
Again numerous, Ridgeway, Wayland's Smithy. (JFN)

- Utricularia vulgaris L. Bladderwort
Ditch on Scrase's Farm, Pangbourne. (EMT)
Child Beale Trust, Pangbourne. (MS)
- Verbena officinalis L. Vervain
Sulham, NHS walk. (MS)
- Verbena bonariensis L.
Small Mead tip. A new county record. (HJMB)
- Mentha rotundifolia (L.) Huds.
Wrongly recorded from Sulham Wood in 1968. The
specimens were M. x niliaca var. alopecuroides
(Hull) Briq. (HJMB).
- *Salvia reflexa Hornem
Small Mead tip. (HJMB)
- Scutellaria minor Huds. Lesser Skullcap
South Lake, Earley, NHS walk. (MS)
- Campanula trachelium L. Nettle-leaved Bellflower
On dyke at Stapnall's Farm, Cold Harbour. (EMT)
Seymour Green. (LEC)
- Campanula glomerata L. Clustered Bellflower
Near Ewelme; Swyncombe churchyard. (LEC)
- Campanula rotundifolia L. Harebell
Ewelme; Swyncombe; Borocourt. (LEC)
- Legousia hybrida (L.) Delarb. Venus's Looking-glass
Nunhide Lane, NHS walk. (MS)
- Asperula cynanchica L. Squinancywort
Between Britwell Hill and Howe Wood. (LEC)
- Galium cruciata (L.) Scop. Crosswort, Mugwort
Seymour Green. (LEC)
With Pteridium, growing 3 metres tall, in Pack Wood,
Tidmarsh. (HJMB).
- Adoxa moschatellina L. Moschatel
Exlade Street. (LEC)
- Valerianella dentata (L.) Poll. Smooth fruited Cornsalad
Aston Upthorpe. (MS)
- *Helianthus petiolaris Nutt
Small Mead tip. (HJMB)
- Bidens tripartita L. Tripartite Bur-marigold
By Maiden Erlegh Lake. (BMN)
- *Ambrosia artemisiifolia L. Roman Wormwood, Ragweed
Small Mead tip. (HJMB)
- Erigeron acer L. Blue Fleabane
On slopes of Path Hill, where grazing was restricted.
(EMT)
On the lawn of Churn Lodge, Wantage Road, Streatley.
(MR).

Chrysanthemum segetum L. Corn Marigold

Ewelme (LEC).

Near Nettlebed (BMN)

Carlina vulgaris L. Carlina Thistle

Between Britwell Hill and Howe Wood. (LEC)

Cirsium acaulon (L.) Scop. Stemless Thistle

Growing on 9-inch stems in long grass, Beech Farm, Whitchurch. (EMT)

Picris hieracioides L. Hawkweed Ox-tongue

Chalk grass slopes of Bozedown Farm. (EMT)

Lactuca virosa L.

Ewelme, in sand pit near road from Cow Common to Swyncombe Downs. (LEC)

*Cicerbita macrophylla (Willd.) Wallr.

By 30-mile limit sign where Vantage Road enters Stratley. (MR)

Butomus umbellatus L. Flowering Rush

Pangbourne ditch. (EMT)

Polygonatum multiflorum (L.) All. Solomon's Seal

Ashridge Wood near Compton. (MS)

Damp hazel woods, Rushall's Farm, Stanford Dingley; woods by the Pang at Bradfield; Hogmoor Bridge. (EMT)

Ornithogalum pyrenaicum L. Spiked Star of

Bethlehem

Ashridge Wood near Compton. (MS) Still persisting in this old locality.

Luzula sylvatica (Huds.) Gaudin. Greater Woodrush

On shaded NW facing banks near Stapnall's farm and Bozedown Iron Age Camp, Whitchurch. (EMT)

Leucojum aestivum L. Lozden Lily, Summer Snowflake

Barely surviving, gravel extraction at Whistley Mill; a large colony still exists near Hurst and a small one at Sandford Mill. (HJMB)

*Iris sibirica L.

With I. pseudocorus L. in pond near Lea Farm, and also as a garden outcast in a pit at Sandford Mill. (HJMB)

Crocus speciosus Bieb.

Naturalised in Cold Ash churchyard. (HJMB)

Cephalanthera damasonium (Mill.) Druce. White

Helleborine

Many fine plants in beech woods near Nuffield, Oxon. (BRK)

- Epipactis purpurata Sm. Violet Helleborine
Aston Hill; Aston Rowant; Crowell Hill; Greathouse
Wood near Bradfield. (MS)
- Spiranthes spiralis (L.) Chevall. Lady's Tresses
Turville Hill near Fingest. (MS)
- Gymnadenia conopsea (L.) R.Br. Fragrant Orchid
Off Path Hill. (EMT)
One flowering plant in field at Hardwick Farm,
Oxon. (BRK)
- Platanthera chlorantha (Custer) Reichb. Greater
Butterfly Orchid
One flowering plant in field at Hardwick Farm, Oxon
(BRK)
Good specimen in rough pasture west of Whitchurch Hill
(EMT)
- Dactylorhiza praetermissa (Druce) Vermeul. Common Marsh
Marsh orchid, occurring on chalk downs Orchid
near Aston Upthorpe (W.D. Campbell) and near the
Devil's Punch Bowl (A.I. Spriggs) (HJMB)
- Anacamptis pyramidalis (L.) Rich. Pyramidal Orchid.
At least 50 in the lawn of Crabtree Cottage in Wantage
Road, Streatley. (MR)
- *Lysichiton americanus Hultén & St. John. Skunk Cabbage
Roadside pond near Risely. (HJMB)
- Lemna polyrrhiza L. Great Duckweed
Sulham Ponds. (EMT)
- Lemna trisulca L. Ivy-leaved Duckweed
Basingstoke Canal, near Hook, NHS walk. (MS)
- Lemna gibba L. Gibbous Duckweed
Abundant in a ditch at Scrase's Farm, Pangbourne. (AP)
- Typha angustifolia L. Lesser Reedmace
Thames near South Stoke. (MS)
- Carex pseudocyperus L. Cyperus sedge
Little John's Farm (EMT)
- Carex paniculata L. Tussock Sedge
Swamp near Crazies Hill; by river Pang, Tidmarsh. (HJMB)
- Catapodium rigidum (L.) C.E. Hubbard. Fern Grass, Hard
Ewelme. (LEC) Poa
- Polypogon monspeliensis (L.) Desf. Annual Beardgrass
On dumped soil in gravel pit near Cothill. (HJMB)
- *Phalaris canariensis L. Canary Grass
Small Mead tip. (HJMB)
- *Sorghum bicolor Moench
Small Mead tip.

THE RECORDER'S REPORT FOR ENTOMOLOGY

1968-69

by B.R. Baker.

Order Lepidoptera (Butterflies and Moths)

Immigrant Species

1969 proved to be another good year for certain immigrant and resident species and particularly so for Vanessa butterflies. For example Mr. Smallcombe phoned the Museum on 20th August to say all of the following species were present at one time on his buddleia bush: Commas, Small Tortoiseshells, Painted Ladies, Peacocks and Red Admirals. Additionally there were single specimens of the Speckled Wood and Wall butterflies and several Silver Y moths. Miss Cobb also recorded upwards of twelve Peacocks, two Red Admirals, one Large White and one Silver Y on a buddleia bush in Caversham Road.

The Red Admirals persisted well into the autumn and the last date on which the Recorder saw this beautiful species was 29th October.

Colias corceus (Geoff.) Clouded Yellow Butterfly

Our member Mr. Colin Horwood reported a single example of this species from Tilehurst on 15th June.

Herse convolvuli (L.) Convolvulus Hawk-moth

A specimen of this impressive hawk-moth was brought to the Museum on 22nd October for identification. It had been found at the rear of Katesgrove Junior School by Nigel Guest of 28 Orchard Road.

Resident Species - Butterflies

Apatura iris (L.) Purple Emperor Butterfly

The very cold weather persisting during early spring evidently favoured this species by retarding the awakening of the overwintering larvae which were then further helped by the hot, sunny weather of early summer. As a result there must have been a good emergence of the butterfly in July. Mr. Roy Leeke reported seeing several at Pamber Forest and in the same locality the Recorder was able to view a specimen for over half an hour as it soared around the oaks on 20th July. On the same day he was shown a very large specimen of a female Purple Emperor which had been taken in the Forest by a collector from Reading. Mr. J. Salmon records seeing a Purple Emperor at Great House Wood, Bradfield on 11th July.

Argynnis paphia (L.) Silver-washed Fritillary.

Dr. Burt reports seeing a specimen of the dark form of this butterfly (var. valesina) at Wokefield Common on 6th August and adds that this is the first record he has known in our area of this variety other than at the classic locality of Pamber Forest. The specimen was rather worn and was observed at 10.15 a.m. settled upon a ragwort flower. (The Recorder only knows of this variety locally from Pamber Forest - the condition of the specimen was to be expected, for A. paphia is usually on the wing by mid-July).

Resident Species - Moths

Hapalotis venustula (Hubn.) The Rosy Marbled

In Reading Naturalist No. 17 (1965) we recorded the first known occurrence of this species locally. This first record was followed up by Mr. Paul Betts who subsequently reported to the Recorder that venustula appeared to be well established in Pamber Forest. Events in 1969 have proved this to be the case; on 25th June the Recorder observed about a dozen specimens flying there at dusk, and on 27th June he, in company with Mr. Betts, again observed the species to be present in some numbers.

Nycteola revayana Scop. The Oak Nycteoline

A hibernated female was found amongst dead leaves at Pamber Forest on 19th April. She was kept for ova and subsequently released after 25 days having fed herself regularly throughout this period. N. revayana is a rewarding species to breed for the species is extremely variable.

Euproctis chryserrhoea (L.) The Brown-tail

A male of this normally maritime species was taken in the mercury vapour light-trap at Leighton Park School on 15th July. Simon Leach of School House informed the Museum of this capture after the identification had been confirmed by Mr. James Cadbury. The Brown-tail's normal range covers coastal areas from Essex to Hampshire - the Leighton Park record is therefore a notable one.

Selenia lunaria (Schiff.) The Lunar Thorn

Mr. James Cadbury reports one example of this local species taken in the trap at Leighton Park School.

Sphecia bembeciformis (Hubn.) Osier Hornet Clearwing Moth

When the Society held its first summer excursion of 1969 (Beenham) some large, recently felled willows showed the characteristic borings of this clearwing. Several early morning visits were paid to this locality during July and an adult bembeciformis was found on 6th July.

Aegeria sphaeciformis (Schiff.) White-barred Clearwing

Dr. Burt took one specimen of this clearwing at Wokefield Common on 16th June. *A. Sphaeciformis* is locally abundant in birch at Padworth and Riseley, also in alders at Pamber Forest, but almost all records refer to the discovery of the immature stages, rarely does one see an adult moth.

Aegeria tipuliformis (Clerck). Currant Clearwing

A single adult was found at Tilehurst Allotments on 21st June. The moth was sitting upon a black-currant leaf at 4.00 p.m. and is the first the Recorder has seen for 27 years, and the first ever that he has seen in Berkshire.

Aegeria formicaeformis (Esp). Red-tipped Clearwing

Infested osiers were discovered at Woolhampton on 10th June and one adult moth bred from cut stumps on 21st June.

Aegeria myopaeformis (Borkh). Red-belted Clearwing

Thanks to Nigel and Jonathan Duke, pupils of Mr. Price, and to his former pupil Colin Sims, the Recorder was able to observe this clearwing on several occasions in the neighbourhood of Redlands School during June and early July. It is evidently well established in several of the apple trees in neighbouring gardens.

The Society's Entomological Evening. 12/13th July

Between the hours of 10.00 p.m. and 1.00 a.m., 14 members again enjoyed a night session around a mercury vapour light at Pamber Forest. Conditions on this warm summer evening were ideal for night-flying Lepidoptera and Christopher Dyczek manfully coped with the task of logging the various species as they thronged upon the outspread sheets. Species were still arriving in numbers at 1.00 a.m. by which time Christopher, somewhat weary of eye, had written down the names of 86 different moths. The full list of species can be made available to any interested member if they call at the Museum; of particular interest were:-

<u>Hapalotis venustula</u> (Hubn.)	The Rosy Marbled
<u>Bomolocha crassalis</u> Treitschke.	The Beautiful Snout
<u>Pseudoips prasinana</u> (L.)	The Scarce Silver Lines
<u>Nola strigula</u> (Schiff.)	The Small Black Arches
<u>Apeira syringaria</u> L.	The Lilac Beauty
<u>Zeuzera pyrina</u> (L.)	The Leopard Moth
<u>Apoda avellana</u> (L.)	The Festoon

There is in preparation a revision of the Hampshire Lepidoptera in which all active Lepidopterists in the County are collaborating. For this purpose, records of all species are required and our Society's lists for this, and previous years, will be particularly helpful.

Order Coleoptera (Beetles)

Endomychus coccineus (L.)

Dr. Burttt records seeing about 120 larvae of this beetle clustered in dense groups upon a felled beech trunk at Goring Heath in early spring. The Recorder visited the spot on 4th May, at which date few larvae were visible, but both he and Dr. Burttt were able to breed out a small number of adults. The beetles, being bright red and black, somewhat resemble Ladybirds and are to be found amongst fungal growth, particularly upon dead beech and elm.

Order Diptera (True Flies)

Tipula maxima Poda.

A fine series of this handsome insect, which has a larger wing expanse than any other British fly, was taken by Dr. Burttt at Wokefield Common between 27th May and 17th June. The specimens have recently been incorporated in the Museum's Diptera Collection, in which the only previous Berkshire specimen is a single example from Cothill Fen.

Ctenophora flaveolata (Fabr.)

Again noted sitting on the beech trunks at Goring Heath - two males and one female on 4th May.

Among the large number of Diptera collected by Dr. Burttt on behalf of the Museum, the following merit special mention:

<u>Bombylius discolor</u> Mikán	Goring Heath, 3rd May.
<u>Conops strigata</u> Wied.	Wokefield Common, 11th June.
<u>Scaeva sclenitica</u> (Meig)	Bred from aphidivorous larva taken on sycamore, Wokefield Common, 26th June.
<u>Didea fasciata</u> Macq.	Wokefield Common, 24th July.
<u>Syrphus lunulatus</u> Meig.	Wokefield Common, 13th May, 22nd May - 22nd June.
<u>S. annalatus</u> (Zett.)	Wokefield Common, 3rd June.
<u>S. quadrimaculatus</u> Verr.	Goring Heath, 12th and 16th April.
<u>Sericomyia lappona</u> (L.)	Wokefield Common, 20th May - 15th July.
<u>Criorhina asilica</u> (Fall.)	Wokefield Common, 23rd May.
<u>Linnaemyia pudica</u> (Rond.)	Wokefield Common, 5th Sept.

The Recorder expresses his thanks to those members who have sent in records from which this Report has been compiled and again acknowledges our indebtedness to the Director of Reading Museum for the facility to incorporate the relevant Museum records.

THE RECORDER'S REPORT FOR VERTEBRATES 1968-69
by H.H. Carter

FISHES

Esox lucius L. Pike

Seven pike up to a metre in length were seen spawning in a backwater of the Thames by Caversham Warren on 16.3.69. by M.B.
No other reports of fish have been received.

AMPHIBIA

Rana temporaria L. Frog

Breeding reported from a farm near Calcot, 30.5.69.
Tadpoles in a garden pool at 49 Grosvenor Road were beginning to metamorphose on 22.8.69. (S.E.B.)

Bufo bufo (L.) Toad

One seen dead on the Peppard Road on 16.9.69. and another on the same road near Chalkhouse Green next day.

REPTILIA

Vipera berus (L.) Adder

A male killed at Burghfield Common on 23.3.69. 40 cm. long.

Natrix natrix (L.) Grass Snake

A young example at Shinfield Grange on 2.1.69. (A.G.)
A female 62 cm. in length captured at 134 Reading Road, Woodley on 25.4.69. Seen on three occasions beside the Thames at Whitechurch in April by E.M.T. who also saw one swimming along a ditch at the same locality in August.

Lacerta vivipara Jacquin Lizard

One on the railway bridge at West Reading on 27.5.69.

MAMMALIA

INSECTIVORA

Sorex araneus L. Shrew

One in Nunhide Lane, 30.12.68. (Z.K. & P.D.) One at Bur Wood, Sonning Common, 8.2.69. One to three at Kennylands, Sonning Common on 28.2.69, 8.6.69 and 9.6.69. About 12 at Burghfield Gravel Pit, 8.3.69. One at Sonning Eye Gravel Pit, 30.4.69. One at Clayfield Copse, Emmer Green, 2.6.69. One seen by A.B. at Compton, 26.7.69. One at Bishopsland Farm near Sonning Common, 1.3.69. and 30.4.69.

Neomys fodiens Pennant. Water Shrew

B.R.B. and A.H.B. had excellent views of one both in and out of the water at Pamber Forest 19.4.69.

Talpa europaea L. Mole

Molchills near Sulham, December 1968 (Z.K. Z.J.K. & P.D.) at New Copse, Gallowstree Common, 21.12.68. At Sonning Eye Gravel Pit 27.2.69, and at Binfield 17.3.69. A mole resident at Halls Road, Tilehurst throughout the summer T.E.E.) An injured mole infested with fly larvae seen in my garden at 82 Kennylands Road, Sonning Common. This tried to bury itself in freshly dug soil but soon emerged and made its way above ground into the next door garden. (See next year's report for further information).

Erinaceus europaeus L. Hedgehog.

Common throughout the year in Beech Lane, Earley (H.D.L.) Five seen dead on the Peppard Road from Caversham to Sonning Common in May and July. K.R. found one entangled in nylon netting at 65 Tilehurst Road on 17.9.69. She released and fed it, and it continued to come for food for the next fortnight. This was a juvenile. One at 27 Western Elms Avenue 27.9.69. (A.B.)

CHIROPTERA

Pipistrellus pipistrellus (Schreber) Pipistrelle.

One in Gosbrook Road, Caversham 21.10.68. (L.L.)
One at Sonning Common 17.6.69.

CARNIVORA

Vulpes vulpes (L.) Fox.

Tracks seen at Theale gravel pit in December 1968 (Z.K. and P.D.) P.D. also found tracks in December at the Norcot clay pit, together with a dead hare, later found to have been eaten: this he believes to have been the work of foxes. The same two observers found droppings of this species on 23.11.68. in the Sulham area, where Z.J.K. found an occupied earth. E.M.C. driving by night, saw a fox on the road from Aldermaston to Burghfield Common 4.11.68. Foxes were numerous near Tokers Green around the pheasantry there (reported in January 1969 by R.B.) At the same period Mrs. Burr reported a pair in residence at Warren Court. I found tracks at Sonning Eye Gravel Pit on 27.2.69. On the same date M.J.E. saw one dead on the A4 east of Jack's Booth. M.R.W.S. saw one (on one occasion two) regularly at 8.15 p.m. in Tilehurst from 4.4.69 to 11.4.69, and later in the month his brother saw one there at night carrying a cat.

O.W.S. reported an occupied earth under a garden shed at 48 Allcroft Road on 18.5.69. A.B. saw one at 27 Western Elms Avenue on 13-14.5.69. One was seen on the M4 near Maidenhead, also in May, and one in Remenham Wood in July. On 31.7.69. I found a deserted earth, which had evidently been used for breeding earlier in the year, near Chalkhouse Green. One at Whitchurch at the end of August. (E.M.T.) One on the Berkshire Downs near Blewbury at the end of September (C.D.) One in Beech Lane, Earley, 1.10.69. (H.D.L.)

Moles meles (L.) Badger

Z.K., Z.J.K. and P.D. in December 1968 found seven holes in use at Mount Skyvers Wood, two in Beals Plantation (both in the Sulham area) and one at Hogtrough Bottom leading up to Juniper Valley. Road works at Grove Hill, Caversham opened up a number of disused holes on 11.2.69. Mrs. Burr reported a sett at Warren Court in January 1969. On 28-29.1.69. a badger about 75 cm. (30") long was found dead at Easthampstead Park College of Education. One at Remenham Wood in July 1969. A sett found at the Crays Pond end of College Wood, SU 642 808. A sett found by E.M.T. at Whitchurch, SU 633 783.

ARTIODACTYLA

Cervus dama L. Fallow Deer

A very dark example seen at Rumerhedge Wood in May 1969 and again in late June.

LAGOMORPHA

Lepus capensis Pallas. Brown Hare.

Recorded on 14 dates from 25.2.69 to 10.7.69 in fields beside the Peppard Road, between Reading and Sonning Common, but never more than five individuals in the whole stretch on any one day. One in the same place 2.10.69.

Oryctolagus cuniculus (L.) Rabbit

Z.K. and P.D. found droppings and burrows at Nunhide Lane and Sulham Wood 30.12.68. and Mr. Davis reports increasing numbers during the year in this locality. The first two observers also found droppings at Hogtrough Bottom in December 1968. Present at Sonning Eye on 13.11.68 and 4.12.68 and 27.2.69. Up to four individuals seen on 11 occasions between Sonning Common and Reading.

RODENTIA

Sciurus carolinensis Gmelin Grey Squirrel

Seen throughout the year at 27 Western Elms Avenue, by A.B. and 65 Tilehurst Road (several here) by K.R. Up to four at Hagspits Wood; Sonning Common on 12 occasions throughout the year by myself and P.J.C. One in Caversham on 19.3.69. 26.3.69. and (dead) 16.6.69. One in Clayfield Copse, Emmer Green, 30.4.69. One beside the Peppard Road near Chalkhouse Green 28.4.69. and (dead) 30.9.69. One at Yeomanry House, Bath Road, 17.1.69, Withy Copse and College Wood 28.3.69. and Crowsley 5.9.69. Three in Old Copse, Sonning Common 8.6.69 and 18. feeding along the edge of a ploughed field beside Bur Wood, Sonning Common 19.4.69. One nest-building in Hagspit Wood 13.4.69.

Rattus norvegicus (Erxleben) Brown Rat

Seen on the Peppard Road near Chalkhouse Green, one dead 13.11.68, one 15.1.69. two dead 20.8.69, one dead 20.9.69; also one dead in Reade's Lane, Sonning Common 4.10.69. Droppings found at Hogtrough Bottom December 1968 (Z.K. and P.D.) One seen at Theale gravel pit 30.12.68. (Z.K. and P.D.) Three at Burghfield gravel pit 8.3.69.

Apodemus sylvaticus (L.) Wood Mouse

A store of food thought to have been hoarded by this species found in Little Heath Road (Z.K. and P.D.)

Arvicola amphibius (L.) Water Vole

One at Reading Bridge 6.12.68. One at Sonning Eye gravel pit 2.4.69.

METATHERIA

Macropus sp. Wallaby

One seen at Rumerhedge Wood by the observer of the Fallow Deer; his name and the date of the observation are unfortunately unknown to me, but this genus could scarcely be confused with any other.

Members who have contributed to the Report:

B.R. Baker; Mark Baker; A. Boesley; S.E. Bland; Christopher Dyczek; Mrs. H.D. Lambden; Miss Linda Lynton; Mrs. K. Rhodes; Mrs. E.M. Trenbath.

Other contributors:

Anne H. Baker; R. Bell; Mrs. Burr; Mrs. E.K. Carter; P.J. Carter; Mr. Davis; Peter Dunn; Mrs. T.E. Edwards; A. Goddard; M.J. Hitchcock; Zbigniew Karpowicz; Zdzislaw J. Karpowicz; M.R. Sell.

ASTON UPTHORPE RESERVE - 1969

by M. Snell

This year, large patches of the Aston Upthorpe Nature Reserve were cut using a 'Flymo' rotary-action mower as an experiment. This machine effectively cuts back dead grass to within about an inch of the ground, and has had no ill effects on any later plant growth. It was noticeable, however, that where we had cut the grass in this way, there was much less growth of tall grasses subsequently than in the areas left untouched.

This season has been a very late one indeed, and we were able to mow the grass as late as March 29th, when the short-eared owls and field-fares were still in evidence on the Reserve. Even as late as April 26th, there were only four blooms of Pulsatilla vulgaris (Pasque flower) but by May 5th there were 28 blooms or buds in the small enclosure and ten outside (four of these with heads missing - probably due to damage by voles). On May 25th there were still six blooms and two further buds to come!

By this time Orchis ustulata (Burnt Orchid) was just beginning to appear, as was Senecio campestris. On June 9th there were 68 plants of O. ustulata in bloom in the Reserve and 15 outside, and a glorious display of S. campestris.

On July 4th, the approach path from the Aston-Tirrold end was a mass of Iberis amara (candytuft), so much so that entire patches alongside the path were areas of pure white. This contrasts with last year when just the occasional plant was to be seen, two of which were in the Reserve itself.

There was also a fine display of Filipendula vulgaris (dropwort), one flowering spike of Ophrys apifera (bee orchid) which was not seen last year, and ten flowering plants of Coeloglossum viride (frog orchid) which did not appear until July. Evidence was noticed of juniper regeneration, and several very young trees were appearing at widely scattered intervals.

Generally, there seems to have been a larger number of flowering plants than last year, and the use of the 'Flymo' appears to have been beneficial in reducing growth of coarse grass. This process will be continued, and it is hoped that a much larger area will be cut in the spring of 1970.

MEMBERSHIP

The following changes in membership have occurred since the publication of the Reading Naturalist No. 21.

Newly elected Honary Members:

Dr. F.B. Hora, Dept. of Botany, The University, Reading.
Mrs. H. Sandels, Stonecroft, 33 Walterbush Road,
Chipping Norton OX7 5DP.

Loss through death:

Miss M.M. Swadling.

Resignations and lapses:

Mark Baker, Miss B. Bernard, A.E. Bolton, Mr. & Mrs.
Brookfield, G.R. Brown, Mrs. J.H. Chapman, Miss S.J.
Clark, P.N. Crow, Miss P. Dicker, Mrs. A.T. Ford, Dr.
D.W. Headford, Mr. & Mrs. Holland, Mr. & Mrs. R.A. Jones,
Mrs. Meikle, Miss J.H. Messeter, J. Nannery, G.W.
Paterson, Miss T. Phillips, Miss M. Phillips, Mrs. Price,
Miss R. Price, Dr. & Mrs. Price-Jones, Mr. & Mrs. Road,
Miss S. Rowe, Miss H.R. Shelah, Mrs. Stevens, Mr. & Mrs.
Thomas, Miss A. Tolworthy, Miss S. Williams. J.C. Wright.

Changes of address:

Cheke, Miss V.E., 50 Petworth Court, Bath Road, RG1 6PH.
Moon, A.E., F.R.Met.S., Flat 22, Leighton Court, Pepper
Lane, Earley, RG6 2SG.
Phillips, Mrs. V.A., 3 Longleaze, Wootton Bassett, Wilts.
Tel. No. 3115.
Whittaker, Mrs. P.M., 67 Inglewood Court, Reading.

New members:

Adlan, K.W.H., Moonrakers, Busgrove Wood, Stoke Row,
Nr. Henley, Oxon.
Annereau, E.A., 272 Silverdale Road, Earley, Reading.
Annereau, Mrs. " " " " "
Blinco, Miss Linda, 26 Leyburn Close, Woodley, Reading.
Davies, J.R., M.P.S., F.B.O.A., 50 Elmstone Drive,
Tilehurst, Reading.
Harrison, Mrs. J.D., 42 Lea Road, Sonning Common, Oxon.
Henken, E., Audley House, Station Road, Earley, Reading.
Hill, Miss. 159 Kentwood Hill, Tilehurst, Reading.
Lewis, B.E.C., 13 Buxton Avenue, Caversham, Reading.
Lewis, Mrs. " " " " "
Lindsay, A.R., F.F.S., F.R.G.S., M.R.S.H.,
17 Walter Road, Wokingham.
Lockwood, J., 20 Drayton Road, Reading.
Lockwood, Mrs. D. " " "
McMullin, Mrs. E., 214 Kidmore Road, Caversham, RG4 7ND
Mallett, Miss S., 33 Coley Hill, Reading.
Meek, Mrs. F.A., 42 Alexandra Road, Reading.

Merrifield, Miss E.N., 2 Morton Court, Christchurch Road,
Reading.

Needs, Miss B., 6 Prospect Street, Reading.

Parry, Miss, Bunkum Cottage, Highclere, Newbury.

Potts, T.A., Bockhampton Manor, Lambourne, Berks.

Rand, Miss B., 2 St. James Close, Pangbourne, RG8 7AP.

Surplice, Kenneth, 3 Savernake Close, Tilehurst, Reading.

Towers, Mark S., 24 De Beauvoir Road, Reading.



Handwritten notes or scribbles, possibly including the word "Lecture" and some illegible text.

