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Meetings and Excursions 1975-76

The winter session of evening meetings opened with the Annual General Meeting, at which Dr. H. J. M. Bowen gave his Presidential Address on 'Indicators of Old Forest' (attendance 51). Other lectures given during the winter were 'Birds of Iceland and Birds of Florida', by Dr. J. A. Morton (54); 'Fossil Plants and changing Climate', by Professor W. F. Challoner (45); 'Spiders', by Mr. S. J. Moore (50); 'Engines, Dinosaurs and Pterodactyls', by Dr. G. Whitfield (71); 'Harvest Mice', by Mr. S. Harris (48); 'Flora of Roadside Verges', by Dr. F. H. Perring (54); 'The Ecology of South Dorset and the New Forest', by Mr. K. M. Turner (51); and 'Rivers and Fishes', by Dr. P. Varley (52). Each half of the winter season was wound up with a Members' Evening of Films, Talks and Exhibits (43 and 54).

Winter walks were taken to Hamstead Park, for lichens and birds, on November 15th; Reading gravel pits, for birds, on December 13th; Bradfield, for general interest, on January 10th (20); the Pang Valley, for general interest, on February 7th (32); and the Cleeve area, for mosses, on March 6th.

The summer field excursions were to Bottom Wood, Mapledurham, on April 24th (20); Twyford gravel pits, an evening meeting, on May 5th (9); a Thames-side walk from Reading to Sonning Eye on May 8th; Bisham Woods, Winter Hill, on May 22nd (26); the Bramshill area, an evening meeting, on May 26th (23); Inkpen Common and Ham Hill on June 5th (26); Bearwood Lake, an evening meeting, on June 9th (23); Cothill and Dry Sandford on June 19th (22); Mortimer West End, an evening meeting, on June 25th (29); the Bledlow Ridge area on July 3rd; Silchester and Pamber, with Abingdon Natural History Society, on July 17th (20-30); the canal bank at Aldermaston, an evening meeting, on July 21st (23); Thursley Common on July 31st (27); a Thames-side walk from Sonning to Shiplake on August 7th (17); Crowsley Forest on August 21st (15); Radipole Lake, Chesil Bank and Portland Bill, a coach excursion, on September 4th (49); Aldermaston gravel pits on September 18th (26); Moor Copse, for fungi, on October 2nd (45); and Crowell Hill, for fungi, on October 16th (about 20).

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At the Annual General Meeting on 14th October 1976, the Fishlock Prize was presented to Miss K. Pickhaver for her studies on owl pellets.

Members will wish to join with the Committee in congratulating Mr. F. C. Padley on the well merited award of the M.B.E. which he received in the New Year Honours. Mr. Padley is one of our most long-standing members, and he acted as the Society's projectionist when we met at the University.

The Society received with much gratitude a bequest of £50 from a well known member of long standing, Miss Dora Mason, who died on 13th June 1976 after a long illness.

Indicators of old forest

The Presidential Address
to the Reading and District Natural History Society
16th October 1975

by H. J. M. Bowen

Most of Britain must once have been covered by forest. Evidence from pollen and other plant remains, dated from their radiocarbon content, shows that the climax forest was largely oak between 5000 and 3000 B.C. About 3000 B.C. the long-barrow people began to clear the forest, and clearance has continued to the present day, when only a few acres of natural woodland still remain in England. Rather more survives in Scotland, and perhaps in a few places in Wales. The counties around Reading are believed to contain no primaeval woodland at all.

The historical reasons for conserving woodland are threefold. First, woods are a self-renewing timber resource. Most local woods have been managed to produce a timber crop, and the management practices can be dated back to the 11th century, though such management often lapsed at the end of the 19th century. Oaks were thinned to a density of 8 - 20 per acre, and felled when they were 25 - 70 years old. The undergrowth, especially hazel, was cut back for poles at intervals of about 15 years, leading to the type of woodland called coppice with standards. There are good examples in the Pang and Bourne valleys west of Reading. Beech woods on the Chilterns were managed in a different way, but were regularly cropped by timber merchants or itinerant chair bodgers.

Secondly, large woodland areas have been set aside for hunting purposes. Obvious examples are the New Forest and much of Windsor Forest and Great Park. Here less management was carried out, so that older trees often survived for centuries, but the woodland tended to become more like parkland where grazing by deer or other animals was intensive. The effects of grazing can be seen in the glades of the New Forest, and in deer enclosures such as Englefield Park and Hamstead Park.

Thirdly, limited areas of woodland have been preserved for religious reasons. Sacred groves are known from most parts of the world, but they are extremely rare in Britain. Perhaps examples may be found in the clumps of trees planted near ancient tombs on the Chilterns or Berkshire Downs, such as the ring of trees round Waylands Smithy, a long barrow near Whitehorse Hill.

To discover which woods are relicts of ancient forests, as distinct from more or less recent plantations, we can cull evidence from many sources, such as place-names, prehistoric and historic evidence, careful field observations and the presence of indicator species.

It might pay a local historian to map county place-names referring to woods and trees on a statistical basis, using gridded maps. Names indicating woods may include the root words GRAF

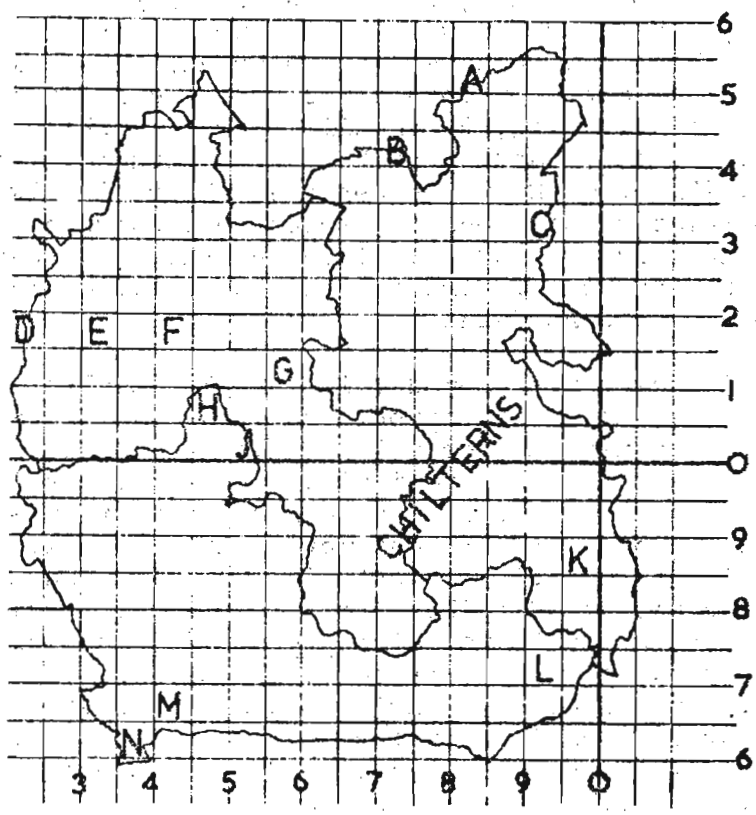
(Grove), HOLT, HURST, LEAH (Lea, Ley), SHAW, WALD and WOOD. Thus near Reading we have Crowsley, Earley, Farley Hill, Fawley, Grazeley, Great Lea Common, Henley, Long Leas, Riseley, Streatley, Whitley and Finchampstead Leas, as well as Bearwood, Kingwood Common, Woodcote and Woodley; woods survive near all these places. Names referring to trees are even more numerous. Local examples include Ashley Hill, Aldermaston, Beech Hill, Birchen Inhams, Holly Copse, Mapledurham, Wokefield and Wokingham. The word oak often appears as AC, AGE, OKE or WOKE in place-names. There is always an abundance of names relating to woods and trees near known old forests. Thus around Windsor, names include Buckhurst, Forest Farm, Forest Gate, Forest House, Forest Park, Harewood, Oakley Green, Silwood, Woodend and Woodside.

Prehistoric evidence comes from detailed pollen analysis and sometimes from archaeological excavation, as at Roman Silchester. Where peat has been accumulating for a long time, the type of pollen trapped in it records the botanical changes that have occurred nearby. In Northern Ireland, it has been shown that prehistoric human disturbance of the forest cover can be readily detected by a drop in the relative amount of oak pollen and a great increase in the amount of pollen from grasses and species of disturbed ground, such as plantains (Plantago spp.). Such disturbances have effects which can be traced for about 500 years in the layers of peat, long after the original human colonists had departed. Five hundred years is therefore considered to be the approximate period of time needed for climax forest to establish itself after a disturbance, and we do not know of any simple way of distinguishing primaeval forest from woodlands which were planted more than 500 years ago. Local peat deposits, such as those at Thatcham, Snelsmore and Crowthorne, have not yet been analysed for their pollen records, though studies have been made of the fen peat at Cothill, near Abingdon.

Historical evidence is mostly sketchy and requires collating from many sources before useful conclusions can be drawn. There are few existing maps dating back before the 16th century, and the outlines of woods on early maps are often poorly drawn. Domesday Book only refers to woods in terms of their relative capacities to feed pigs. Historical records show that the following woodlands in Berks., Bucks. and Oxon. are probably ancient: Wychwood (N.W. of Oxford); Bagley Wood (S.W. of Oxford); Bernwood (N.E. of Oxford); Salcey Forest and Whittlewood (N. Bucks./Northants. border); Brickhill (Bucks./Beds. border); Chilterns (Bucks. + Oxon.); Burnham Beeches (S.E. Bucks.); Windsor Great Park and Forest (E. Berks.). This is by no means an exhaustive list.

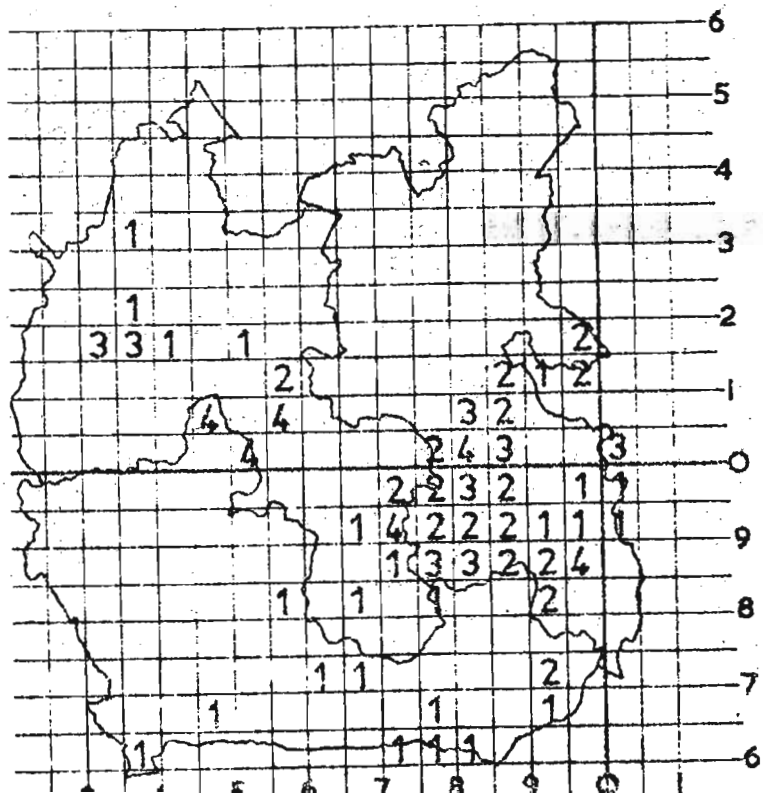
Rackham (1974) has described a number of field observations which should be made in supposedly ancient woods, and are as follows:- (a) Boundary banks should be looked for. These may support unusual woody plants because neither owner has felled trees along the boundary line. (b) The number of woody species in the shrub layer should be noted. Old woods have a rich flora, while recent plantations have very few species, e.g. nothing but ivy. (c) The extent of variation in trunk shape, angle of branching, twig density, date of leaf expansion and leaf fall in the dominant tree, usually oak, should be examined. Old woodlands retain greater variability in most characters than do plantations.

OLD WOODLAND IN BERKS, BUCKS AND OXON

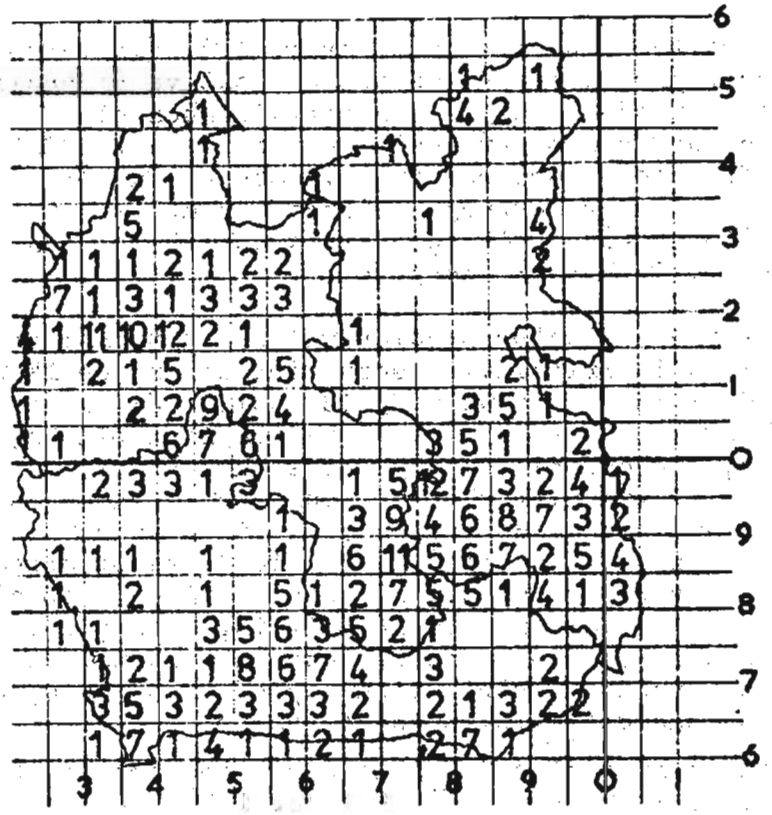


A = Salcey: B = Whittlewood: C = Brickhill: D = Taynton:
E = Wychwood: F = Woodstock: G = Bernwood
H = Wytham: J = Bagley: K = Burnham Beeches:
L = Windsor: M = Hamstead: N = Rivar

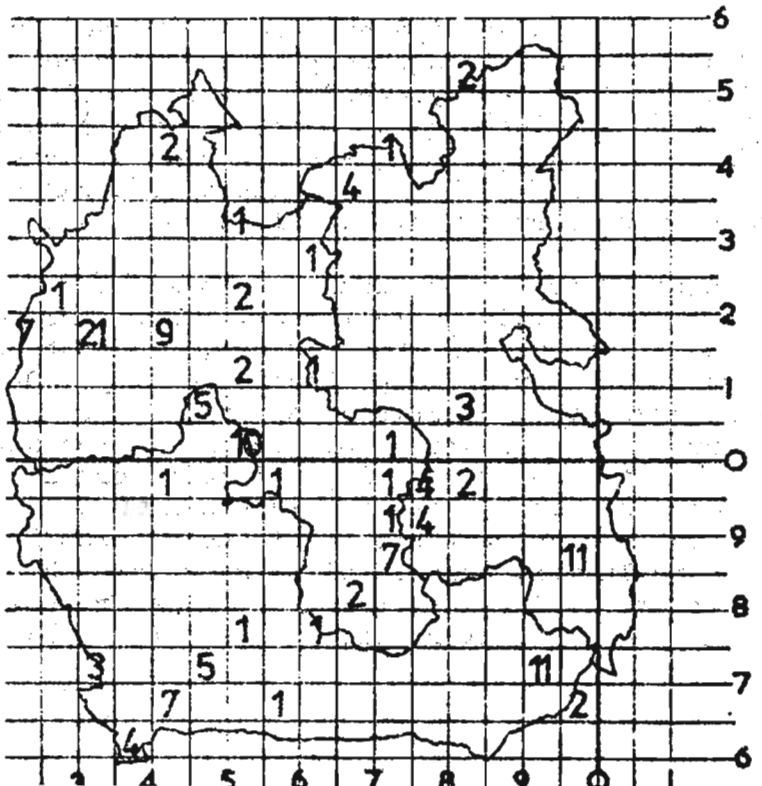
Old woodland mollusc species (max. 12)



Old woodland plant species (max. 33)



Old woodland lichen species (max. 44)



Observations of this kind are seldom made, though they could be carried out by amateur naturalists or local societies.

In view of their history and management, old parks, and especially deer parks, may be as representative of ancient forest as are existing woods. They often contain much older trees than do woods, and the form of branching can be used to distinguish park-reared from forest-reared trees. Stonor Park near Henley, and Hamstead Park near Newbury are local examples. Some oaks of noble proportions survive in Thame Park and also in the western part of Blenheim Park near Woodstock.

What are the indicator species which might characterise ancient woodland in Britain? Observation of Broadbalk Wilderness at Rothamsted, which was a wheatfield until 1882 and is now a strip of oak wood, has shown that many woodland plants, such as Dog's Mercury, can colonise young woods quite rapidly. There is no published list of vascular plants which are faithful to old woodland, so two years ago I drew up such a list, using the following criteria: (1) Shade tolerance. (2) Slow rate of spread. (3) Perennial or woody habit. I ended up with 56 species, many of which are very local or rare in Britain, with a remarkably high proportion (nearly 50%) of monocotyledonous plants. Dr. F. H. Perring has produced a distribution map of these 56 species in Britain, which shows the following features:

(a) A high density of old woodland species around the lower reaches of the Thames and Severn, in the New Forest, the Isle of Wight, north Lancashire and Yorkshire, East Perth and the Moray Firth region.

(b) Low densities in Cornwall and Devon, most of Wales, the Isle of Man, East Anglia, South Scotland and the Western Highlands.

(c) Practically no old woodland species along an axis from North Bucks. to Cheshire, around the Wash, in S.E. Yorkshire, Wigtown, Caithness, Sutherland and the Scottish Islands.

Only 33 of these 56 species have been recorded from Berks., Bucks. and Oxon. A 5km Grid square plot of their combined distribution picks out greater Wychwood (11 - 12 species), the Chilterns (11 - 12 species) and Wytham (9 species) as important centres of old woodland, and suggests minor areas around Inkpen and Ashampstead in Berks. The clay soils of central Berks. and north Bucks. support very few old woodland species indeed.

Other groups of organisms should be considered as possible indicators of the survival of old forest. There are too few species of ferns to be of much use in this respect, and most bryophytes are indicators of shelter and high local humidity. Only three of the epiphytic bryophytes described as faithful to old woodland by Rose (1974) survive in our area. Old forests often have a rich fungus flora, as at Windsor, but insufficient work has been done to list indicator species. Rose (1974) has listed 50 species of bark lichen which are characteristic of ancient woodland. Perhaps because of air pollution, only 15 of these species have been recorded from near Reading, and three of these are now extinct. I have drawn up a supplementary list of 29 extra species which

appear to be characteristic of old woods in Berks., Bucks, and Oxon.; all are rare. A 5 km Grid square plot of their combined distribution clearly picks out Wychwood (21 species), Blenheim Park (9 species), Bagley Wood (10 species), the Chilterns, Burnham Beeches (11 species) and Windsor (11 species) from the surrounding countryside, which has from 0 - 3 old woodland indicator species per Grid square. However, north Bucks. and east Berks. are known to be affected by air pollution, which has killed off many species of lichens over large areas, so that absence of indicator species may be due to more than one cause.

Among animals, deer may be woodland indicators, but all mammals are too mobile to be restricted to old woodlands. Birds are even more mobile, but some 15 species are more of less characteristic of woodland. About 11 species of butterfly, including the Purple Emperor and several Fritillaries and Hairstreaks, prefer old woods, but this is too small a number to give good statistics. Bark beetles would be a better group to study in this respect. Donisthorpe (1939) recorded over 60 species of old woodland beetles from Windsor Park and Forest, but records from other sites are scanty or non-existent because of the lack of specialists able to identify these insects. Boycott (1934) considers that 12 species of mollusc are characteristic of old woodland. These are good indicator species, since they spread very slowly and are mostly rare. They include the Roman Snail (Helix pomatia), now largely restricted to the Wychwood region in Oxon., and the rare Ena montana, which has only been seen recently near Wychwood, Bernwood, the Chiltern woods and in the small but ancient Rivar Copse near Inkpen.

Summing up, it can be said that the different methods of tracing old forest relicts agree fairly well, and the existence of such relicts is clear. A great deal more detailed work on such aspects as local history and the relict fauna remains to be done, but valuable studies are possible by amateur naturalists. Conservation of old woodland in our area has made little progress as yet; most of the best areas have been preserved more or less accidentally by private owners, but it is hoped that efforts will be made to continue the management practices which have allowed this interesting habitat to survive.

References:

Boycott, A. E. (1934) The habitats of land molluscs in Britain. J. Ecol. 22, 1.

Donisthorpe, H. St. J. K. (1939). A preliminary list of the Coleoptera of Windsor Forest. Lloyd.

Rackham, O. (1974). The oak tree in historic times. In The British oak (M. G. Morris and F. H. Perring, Eds). Faringdon: E. W. Classey. p. 62.

Rose, F. (1974). The epiphytes of oak. ibid., p. 250.

Indicator species for old woods in Berks., Bucks. and Oxon.

Vascular plants:

Bromus benekenii, Campanula patula, Cardamine bulbifera, Carex laevigata, C. strigosa, Cephalanthera longifolia, C. rubra, Colchicum autumnale, Convallaria majalis, Corydalis claviculata, Cynoglossum germanicum, Daphne mezereum, Epipactis purpurata, Epipogium aphyllum, Gagea lutea, Helleborus foetidus, H. viridis, Hordelymus europaeus, Lathraea squamaria, Lathyrus sylvestris, Luzula forsteri, Monotropa hypophegea, Neottia nidus-avis, Ophrys insectifera, Orchis militaris, Ornithogalum pyrenaicum, Paris quadrifolia, Physospermum cornubiense, Polygonatum multiflorum, Polygonum dumetorum, Pyrola minor, Tilia platyphyllos, Vicia sylvatica.

Bryophytes: (epiphytes)

Frullania tamarisci, Neckera pumila, Zygodon viridissimus var. vulgaris.

Lichens: (epiphytes)

Arthonia aspersella, A. cinnabarina, A. didyma, Arthopyrenia cinereopruinosa, A. fallax, Calicium salicinum, Caloplaca sarcopisioides, Catillaria atropurpurea, C. sphaeroides, Chaenotheca brunneola, Cladonia ochrochlora, C. parasitica, Coniocybe sulphurea, Enterographa crassa, Gyalecta flotowii, G. truncigena, Gyalideopsis anastomosana, Haematomma elatinum, Lecanactis abietina, L. premnea, Lecidea sublivescens, Lobaria pulmonaria, L. scrobiculata, Melaspilea ochrothalamia, Nephroma laevigatum, Ochrolechia androgyna, Opegrapha lyncea, O. ochrocheila, O. rufescens, O. sorediifera, Pachyphiale cornea, Parmelia perlata, P. reticulata, Peltigera horizontalis, Pertusaria flavida, P. hemisphaerica, Phaeographis dendritica, Phlyctis agelaea, Porina leptalea, Rinodina roboris, Stenocybe septata, Thelotrema lepadinum, Tomasellia gelatinosa, Usnea articulata.

Birds: (breeding species)

Crossbill, Cuckoo, Garden Warbler, Hawfinch, Hobby, Jay, Long-tailed Tit, Nightjar, Nuthatch, Sparrow Hawk, Tawny Owl, Tree Pipit, Woodcock, Wood Warbler, Wryneck.

Butterflies:

Chequered Skipper; Dark Green, High Brown, Pearl-bordered, Silver Washed and Small Pearl-bordered Fritillaries; Black, Brown and Purple Hairstreaks; Purple Emperor; White Admiral; Wood White.

Molluscs:

Abida secale, Acanthinula lamellata, Acicula fusca, Azeca goodalli, Clausilia rolphi, Ena montana, Helix pomatia, Limax tenellus, L. cinereoniger, Marpessa laminata, Vitrina major, Zonitoides excavatus.

Roadside Verges as Nature Reserves

by B. Levy

Most members will know about BBONT's Nature Reserves, which can vary in size from over 200 acres down to a small part of an acre, but they may not be aware that BBONT also looks after some even smaller reserves - those that consist of small stretches of roadside verge. Oxfordshire has 45 such reserves and Buckinghamshire 23, but so far Berkshire has only five. We used to have more when Mrs. Sandels (then Mrs. Simmonds) was looking after them, but after she left the area supervision rather lapsed and several sites became useless. Several more sites were lost to the new Oxfordshire. It was at this point that Brian Baker asked me to take over.

Before taking any action, it seemed sensible to ask myself what was the object of conserving any piece of roadside verge. Firstly, there was the concept that some verges represent vestiges of the original flora of the prehistoric country-side. As Dr. Perrins explained in his talk to the Society, the first roads were wide tracks across uncultivated country-side. When field cultivation began, the flora began to change in the fields but not on the tracks. At the time of the enclosures, the wide tracks were still left, but, with the development of metalling for road surfaces, only the centre portion of the old track was so treated and the sides became what are now known as the verges. One can see how these verges might (at least in theory) retain some of the original flora. Nobody pretends that our verges now carry exactly the same flora as in prehistoric times - they have obviously got pretty depleted over four or five thousand years. But they may contain remnants, including species that may be difficult to find anywhere else, except perhaps on small areas of uncultivated downland or undisturbed heaths. Secondly, there is no doubt that rare plants do turn up on verges (whether part of the original flora or not!) and are in need of protection. Thirdly, there are often stretches with a general display of wild flowers which may be common enough but none the less can look very attractive and are worth preserving for their aesthetic and sentimental appeal alone. Moreover, as other habitats, such as field headlands, are lost to them, verges may in future become their main sanctuary. Lastly, there may well be places on the verges where insect or other animal life needs looking after. Reptiles and small mammals need the verges to live in and to use as thoroughfares. Grasses, nettles and flowers are necessary for butterflies and moths.

But what sort of protection do all these things need? That, I think, is a problem that has yet to be fully solved. Over the last twenty years or so, the County Council has been carrying out regular mechanised cutting, several times a year. This has been done partly for the sake of safety, to give a clear view for motor traffic, and this is often fully justified - particularly on main roads and sharp corners; partly for the sake of tidiness, and the justification for this is very much a matter of opinion; and partly - on narrow roads with banks - to prevent the vegetation from growing out over the road. This regular cutting has the effect of removing the flowering stems of most of the plants, thus stopping them from seeding and so preventing their propagation. The exceptions are very low growing

plants, persistent perennials that can propagate vegetatively (by runners, etc.) and plants such as grasses that will produce new shoots after cutting.

Machine cutting also results in the deposition of cut plant-material. This not only forms a mulch but also, when it rots, returns nutrients to the soil. Some plants will survive under a mulch, many will not; some plants will thrive in nutrient-rich soils, but, again, many will not. Some of the verge plants that we wish topreserve do in fact prefer starvation conditions. So this regular cutting is selecting the plants which are going to survive and those which are going to fade out. Up till now, BBONT's answer has been to arrange with the County Council that some stretches of verge, where there are certain plants of particular interest, shall be marked by posts and not cut. This may allow the plants to flower and seed, but it does not necessarily give them the conditions which allow them to thrive or even to continue to exist. For instance, grasses and shrubs may well grow over the chosen plants, which may, but often do not, like such a condition of shade and competition and may not appreciate the mulch of dead plant material which also returns nutrients to the soil.

How then does this arrangement of leaving designated verges uncut work in practice? The answer can best be given by describing some of the sites in Berkshire and South Oxfordshire and seeing what has happened.

Spiked Star of Bethlehem (Ornithogalum pyrenaicum) - South of Hungerford

This stretch of about 400 yards of verge we can claim as a success. It has been managed now for ten years, and in most seasons there is a fine show of flowers in June. The grasses and nettles grow to a height of several feet but the habit of our plant is such that it can support itself on the grasses and thus reach the light. The verge is wide here and most of the plants are set well back from the road. This may be because a 3-foot-wide cut has been taken occasionally by mistake and killed out the roadside plants, or it may be fortuitous. But another vital factor ensuring their survival is, I am sure, that they have in Mrs. Frankum a devoted warden who visits them regularly and keeps in touch with the local verge-cutters. So far, there is no sign of a decrease in numbers; in fact, this year was "the best for several years".

Dwarf Elder (Sambucus ebulus) - near Benson

Here we have a case where no cutting is beneficial, the Elder being itself the dominant species. It can and does successfully swamp any potential competitors. This uncommon plant is a good sight when in bloom - so much so that someone asked me whether the flowers would make good wine; I was able to dissuade him!

Early Purple Orchid (Orchis mascula) - near Bucklebury

A narrow country lane has a small verge on both sides and they are backed by what used to be coppice wood, where orchids used to thrive. For some years, coppicing has ceased, the copse has grown

very dense and the orchids have gone. However, a remnant of the population has survived on the verges - about twenty on one side and a few on the other. The effect here of leaving the verge uncut is that weed growth (mostly Hedge Parsley) romps away and smothers the orchids. "A good thing", I have been told, "then they won't be seen and picked!" This year there were twelve plants on one side only and none of them flowered. Was this due to the drought or to shade and competition in previous years? Should we do some hand weeding in spring and risk them being picked or leave them alone and hope?

Yellow Figwort (Scrophularia vernalis) - also near Bucklebury

Here is another problem! This handsome and rare figwort had been known for some years to grow on the banks of a winding lane. When, in 1973, I first looked at the site, there was no sign of any plants on the banks, which had been thoroughly scraped by the cutter-bar and looked very inhospitable. After scrambling around for awhile, Mrs. Trembath and I found three good specimens over the bank in a copse on the edge of a rubbish tip. Since the colony was still there in 1974, I thought it worth putting up posts on the bank and was rewarded in 1975 by the appearance of three plants; one between the posts, one outside them and one on top of the bank. Due to a misunderstanding, the bank was cut in the summer and two plants were cut off before seeding, leaving the survivor on top. For 1976, the posts were moved farther apart and the result, in spite of no cutting, was ...NIL - apart from one specimen on the edge of a nearby wood. This, then, is an example of a plant that is not going to stay put just because we put up posts for it! Considering also that it is a biennial, not flowering the first year, it is going to be difficult to predict where it is going to turn up. Do we leave the posts where they are and hope that in some years at least it will appear on the banks or leave it to look after itself, as it has apparently done for some years?

These four examples will, I hope, have given some idea of the factors that make for success and failure in verge conservation. There are other sites in the area and I will confine myself to brief notes on the rest of them.

Bere Court Road is a narrow lane with high banks which used to be regularly cut (or rather, scraped) so that the banks were mostly bare. A rare fescue grass (Festuca heterophylla) struggled to grow here. Since the lane has been a reserve site, the fescue has spread and now almost covers the bank, the leaves gracefully drooping down the slope. The lane now looks much more pleasant, particularly when the grass is in flower, and the bank has been stabilised against erosion. Along

Hardwick Road, Whitchurch, there is a reserve a quarter of a mile long, on a chalk bank. We have recorded here seventy-four species of plants, including one rarity, in spite of occasional cutting by mistake. This is an example where late cutting and raking up could well be beneficial and help prevent domination by Brome grasses. Rather farther away, near

Eastbury, there is a small colony of Violet Helleborines (Epipactis purpurata) which are uncommon in this downland country. Again it is

a narrow lane with high banks where passing vehicles prefer to scrape the banks rather than each other and the orchids suffer. This year one plant only managed to flower and seed. Finally, there is a possible new site along the Drift Road near Hawthorn Hill. It has in the past carried quite a nice show of chalkland flora (Elecampane, Common Fleabane, Chicory, Musk Thistle, Musk Mallow, etc.) which is rather unexpected in this area. In 1975 the Post Office forestalled us by carrying out roadworks and upsetting the verge. During 1976 it has to some extent recovered and I hope to install it as a reserve for 1977.

Of the eight sites described above, six are in Berkshire. This is not very many compared with Oxon. and Bucks. Although I think it important not to have more sites than can be properly looked after, we could do with some more. This is where the RDNHS can help! If any member knows of a verge or comes across one in the future, that would be suitable for bringing into the scheme, I would very much like to hear of it - particularly if a volunteer warden can be supplied as well.

In conclusion, I would just like to summarise the four factors on which, it seems to me, success depends. They are a preliminary study of the plants that it is desired to conserve in order to decide what ecological conditions they require; deduction from this as to what the management plan should be; suitable recording over several years (where practicable with actual counts) in order to measure the effect of the management; a warden who lives nearby and who is prepared to supervise the site and help with the recording.

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Reptiles and Amphibians in the Warburg Reserve

by N. J. Phillips

The Warburg Reserve is a nature reserve owned by the Berks., Bucks. and Oxon. Naturalists' Trust and lies in the dry chalk valley of Bix Bottom, roughly four-and-a-half miles from Henley-on-Thames. The reserve is two hundred and forty-seven acres in area and is composed of approximately two hundred acres of mixed conifer-broadleaf woodland and forty-seven acres of glades, rides and areas of rough grass with scrub. It is mainly famous for the four hundred and fifty species of flowering plants which occur there. However, more detailed investigations of the fauna have shown that the valley is also rich in vertebrate animals, including the herpetofauna.

The reptiles occurring are the grass snake, adder, common lizard and slow worm and the amphibians, the common frog and common toad. Snakes, including 'Slow Worms' have suffered heavily from being killed by humans in the Bix area, as is probably the case in many others. A number of older local residents, including game-keepers, readily admit to hitting out at any 'snake' they were likely to come across and to pursuing them to ensure that they were despatched!

Status and distribution of the species in Warburg

Grass Snake The grass snake is the commoner of the two snakes occurring in the valley and can be found in most areas of the reserve. Grass snakes are equally at home on the open grass areas and deep in woodland, but not beech woodland. They appear to breed regularly and successfully, as young have been observed every year since 1971 when my observations started. Their reputed favourite food, the common frog, occurs very occasionally in the reserve, but most certainly cannot be an important part of their diet. There is, however, an abundance of common lizards, assorted small mammals and nestlings available, and to find adequate food would be no problem. As has been stated, the valley is dry and no natural water is available for the snakes to frequent. In 1969, a small artificial pond, roughly two metres square, was constructed in the rough grass-scrub area of Range Bottom and grass snakes are frequently found in its vicinity. During the very hot dry summer of 1976, grass snakes could be found lying in the shallow water on most days during June, July, August and September. The earliest recorded date for their first appearance in the year is 29th February, though in general it is later - about mid-March. I once found five young snakes entwined and rather torpid and can only presume that they had recently emerged from their hibernaculum. The largest recorded grass snake found in the reserve is 116 cm. long. The cast skin of this particular snake can be seen in the reserve office. The dates for entering hibernation are harder to determine as the rank vegetation, not present in spring, makes it rather difficult to record the presence or absence of the snakes. However, from the end of September sightings rapidly decline, and cease by the end of October.

Adder This is the shyest and most retiring of the reptiles found in the reserve. All sightings of adders have been confined to boundaries between woodland and scrubby grass areas. This would seem to be an ideal site, as far as adders are concerned. The rough grass provides excellent opportunities for sunbathing and also a very rich feeding area, being much frequented by small mammals and lizards. The wood edge, with thick shrubs and brambles, offers a very safe area in which to retreat on being alarmed. The following is an extract from observations made in 1974. "The first adder to be seen in '74 was on the Rifle Range on 20th March. The weather was warm and sunny. This snake, a female, was very torpid and obviously relatively fresh from hibernation. It was not at all disturbed on being closely approached to within one foot. A common lizard, which adders eat, was seen to walk in front and eventually over it with no response from the snake at all!" The earliest recorded date in the year for adders is 27th February, a day of very heavy frost with a shade temperature of -4°C. On 16th March 1975, when snow lay quite thick in the Bix Valley, an adder was sunbathing in the snow at mid-day. A male and female were seen entwined together on 27th May 1976, the usual month for mating to take place. They remained in close contact for the major part of the day, only the male being alarmed at my approach. In the middle and latter parts of the year, sightings of adders are very brief. They quickly become conscious of the observer's presence and move off rapidly. They appear to maintain their numbers successfully and young adders, around 25 cm. long, have been seen on a number of occasions over the years. Again, the end of October is their usual

time to disappear into hibernation.

Slow Worm Slow worms are found in all the main rough-grass areas and are reasonably common. The blue-spotted form is found quite frequently. They are occasionally seen crossing or sunbathing on open ground, but in general they remain in cover, especially in the region of large logs and piles of rotting brushwood. Areas which have a lot of mole activity with burrows opening on to the surface are also well frequented, the slow worms using the burrows to make their escape on being approached. Mole burrows would also presumably make suitable hibernacula, but I have at present no proof of this. At a number of sites in the reserve there are sheets of corrugated iron lying flat on the ground. These were once part of the local gamekeeper's equipment for collecting water for his pheasants. At the present time, however, they make ideal hiding places for slow worms and other reptiles. The corrugated iron absorbs heat from the sun, and on a cool day the temperature beneath it will be higher than on the surrounding ground. During the fierce summer heat of 1976, reptiles gave up this hideaway as the corrugated iron became too hot to touch. Young slow worms are frequently found in the reserve, and breeding would appear to be successful. Slow worms are usually found later in the year than the previous two species and are not commonly seen until the beginning of April.

Common Lizard These lizards are common throughout the reserve in all rough-grass areas and glades in woodland and are frequently found sunbathing on tree stumps and logs wherever the sun can reach. Their earliest recorded date of appearance is 27th February. Lizards have been seen on a number of occasions moving about while snow was on the ground. On 25th February 1975, while a small glade was being cleared of encroaching scrub, a common lizard was found hibernating beneath a log. It was curled up in a small circular depression approximately 1½ ins. across and 1 in. deep. During the summer, certain 'sunny' logs on the Rifle Range may have up to a dozen lizards basking in the sun. Very young lizards when basking in these groups show very little concern on being approached closely. The reserve is richly endowed with invertebrate fauna and lizards obviously find an abundance of food available.

Common Frog As has been stated, the reserve lies in a dry chalk valley and there are no breeding ponds for this and the following species. There are a number of artificial watering sites for birds and mammals, but at present none satisfy the breeding requirements of frogs or toads. Although frogs have been found in every year since 1970, only young ones approximately 5 cm. in length have been seen. April is the month when they are usually observed.

Common Toad The main area where toads are found is the bottom track running through the reserve, where they are frequently squashed by passing cars. During the summer, toads can often be found in any muddy patches which remain on shady parts of the track. Toads of all sizes have been found, from individuals a few centimetres in length to large fat adults. They do not breed in the reserve.

Conservation of these species in Warburg Reserve

Frog and Toad As frogs and toads do not breed in the reserve and only occur as what might be termed 'passage migrants', little can be

done in the way of management to maintain their presence. However, if a fairly large pond were to be constructed, which would be a relatively simple matter, breeding colonies of both could be established. With the continual disappearance of many ponds, despite the excellent work carried out by organisations such as the 'Save the Village Pond' campaign and local school 'action' groups, many species will suffer from the loss of their aquatic habitat. It may well prove necessary to construct and maintain ponds in nature reserves which are naturally dry owing to geological and other factors. As ponds are almost all man-made, there can be little strength behind the argument that it would be unnatural to build ponds in these new areas.

Reptiles Fortunately, the management carried out in the reserve to maintain the diversity of habitats and the species which occur in them suits the reptiles to a high degree. No special conservation is necessary. Management procedures which seem directly to benefit them, although not carried out strictly for them, are annual cutting with a mechanical swipe round marginal areas of young woodland and the maintenance of small glades in woodland areas. An excellent way in which breeding in all the reptiles can be encouraged, and one that can also improve one's chances of finding reptiles on demand for visiting groups, etc., is to lay slashings from tree-thinning and any manageable cut material from scrub clearance into small piles, with all the branches lying parallel, By doing this, numerous hideaways in which many animals, apart from reptiles, can conceal themselves, are provided.

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A further note on the banded snails (Cepaea spp.) of Swyncombe Down

by R. H. Smith

In a previous report (Smith, 1976), the variation in the population was described and summarised in terms of the colour (yellow or pink) and banding of the shells. Banding patterns were classified as either effectively unbanded (top two bands on each whorl missing) or banded. It was then shown how the effectiveness of different combinations of colour and banding as camouflage could be inferred from comparisons of samples from the population of living snails with shells that had been smashed by thrushes. The classification of banding patterns as either banded or unbanded only reveals a fraction of the variability in the population, although this simple classification may be adequate as far as predation by thrushes is concerned (Cain and Sheppard, 1954).

The shell fragments collected from the thrush 'anvil' stones in 1974 and 1975 were retained, and the larger fragments were classified in more detail as was done with the living snails in the field. Bands on each whorl are numbered from the top downwards and a missing band is denoted by a 0, thus 00345 means that the top two bands on each whorl are missing. Bands that are fused together are bracketed.

Banding pattern	Living		Dead		Total
	Yellow	Pink	Yellow	Pink	
00000	2	3	16	17	38
12345	646	75	312	21	1054
123(45)	165	10	78	4	257
(123)(45)	25	0	8	0	33
(12)3(45)	69	2	37	1	109
(12)345	2	1	0	0	3
(12345)	13	0	7	0	20
1(23)45	3	0	1	0	4
10345	10	7	2	2	21
023(45)	17	4	3	0	24
02345	6	2	2	0	10
12045	2	0	3	0	5
00345	1	13	0	1	15
00300	0	1	0	0	1
1(23)(45)	12	0	0	0	12
TOTAL	973	118	469	46	1606

The first point to note about the banding data is that there is a large amount of variability in the population, most of which is genetically determined (Cain, Sheppard and King, 1968). How this variability is maintained under natural selection is not clear.

A second point is that there is considerable heterogeneity in the table, in the sense that colour and banding patterns are apparently not independent of one another. As already noted (Smith, 1976), pink banded and yellow unbanded snails seem to be at a disadvantage to pink unbanded and yellow banded snails as far as thrush predation is concerned. Looking at particular banding patterns, there is an excess of yellow over pink with patterns 123(45) and 023(45), and an excess of pink over yellow with the pattern 00345. Although the effectively unbanded 00345 pattern (due to a dominant allele at a single locus) may be related to visual predation, the fusion of the two lower bands in 123(45) and 023(45) must be related to some other selective force such as climatic selection (Jones, 1973; Tuttle, 1976). The Swyncombe Down population was sampled in May, 1976 and will be sampled again in 1977, and it may then be possible to see whether changes in the population can be related to climatic factors.

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British Butterflies - who cares?

by D. C. F. Cotton

"WAR...or why even the law-abiding are off to battle, binoculars and nets at the ready" read the banner headline to page 7 of the Daily Mail on July 20th. The full-page article written below this headline gave a summary of the split between the two groups of people who have strong feelings about our butterflies and which had already been widely publicized on radio, television and in the national press. Over the previous two months it had been generally acknowledged that 1976 was a year of butterfly abundance with many uncommon species being seen back in their old haunts where they had not been recorded for several years. However, a good year for butterflies also revived the activity of collectors and stimulated the new generation of butterfly-watchers, photographers and conservationists to go into the field. Inevitably the two groups confronted one another and from the widespread publicity it was shown that a lot of people care about our butterflies.

The tradition of butterfly collecting has been highly honourable and, like the collecting of wild flowers, dragonflies, shells, birds and bird eggs, it was a hobby associated with clergymen and genteel persons. This pastime fulfils several psychologically satisfying criteria; it has an intellectual element, it is considered to be a healthy outdoor activity, there is the 'thrill of the chase' and, significantly in a materialistic society, the collector gains prestige by the acquisition of beautiful possessions. There can be no doubt that most collectors initially select the class of object that interests them on an aesthetic basis, but that once the collection has been started it often leads to a deeper understanding and accumulation of knowledge about the group. The majority of early butterfly collectors contributed nothing to science, but of those who did lay down the foundations of present-day knowledge, by making the first descriptions of each insect, its life-cycle and behaviour, we must recognise that their collecting was not in vain. Today's collector of butterflies is, through the passage of time, in a different position. He is still driven by the same motives, but in the knowledge that his activity is no longer socially acceptable for several reasons. Firstly, the amateur butterfly-collector can offer little or nothing new to our understanding of the group, and, whilst there are still many facts lacking, the job is one for the professional entomologist. Secondly, in the past collectors killed specimens for the purpose of identification. Today, the excellent standard of field-guides and the possibility of making a photographic

record invalidates this reason for collecting. For those who still wish to own dead butterflies there are commercial butterfly-farms which breed and sell specimens from a captive stock. The most important reason why butterfly collecting is no longer an acceptable hobby in this country is because of the scarcity and decline shown by many of our breeding species.

Butterflies are essentially a tropical group of creatures and in Britain they are reaching their northern limit, so many of our species are severely affected by climate and would be rare whether man was present or absent. However, there can be absolutely no doubt that the primary cause of the decline of many of our species is through the destruction and fragmentation of habitats, such as the replacement of deciduous woodland with conifer plantations, the destruction of wild herbaceous plants in hedgerows and chalk grasslands with herbicides and machinery, and the reclamation of wetlands and heaths for building or farmland. The use of persistent insecticides has also played a part in the decline in some species of butterfly.

Given the decline of a species, from whatever cause, the very fact that it is becoming rare increases its value to collectors who are driven on by the desire to obtain a complete set. This is an admirable objective if we are talking about stamps or coins, because collecting protects the rarer ones from becoming lost, but clearly the converse is true for living things. Unfortunately the collector can easily and rapidly gain precise information about the location of rare species because he is helped by better methods of communication through books, maps and the telephone. He can also easily travel over large distances in order to collect the necessary minimum of four specimens; two males and two females so that he may display both the upperside and the underside of the wings. The specimens collected will also be the most perfect obtainable, which makes it best to go early in the season when the newly emerged insects, that have of course not mated or laid their eggs, are available. The net effect of collecting could be disastrous for those species that are now only to be found in widely scattered colonies because we do not know how few animals there need be to maintain a viable population. It could be that the removal of a few insects from a population of over one hundred will take the colony below a threshold level from which it cannot recover.

It is important that those interested in the conservation of butterflies should argue their case on factual rather than emotive grounds. They must also be sympathetic to the psychological needs of the collector and manipulate these issues by suggesting alternatives to collecting specimens, such as photography and the study of the living creature, or by re-directing the collector to some other insect group in which no damage may be caused and possibly something new may be learnt about the group.

Although the extinction of a species of butterfly in the British Isles may not lead to a global loss, because all our species are found in continental Europe, it is our duty to conserve the endangered species from all causes of destruction for the heritage of future generations.

Leave nothing but footprints, take nothing but photographs and kill nothing but time.

1976, The Mushroom Year

by P. Andrews & J. Andrews

After the hot, dry summer and heavy autumn rains of 1976, local fields began to produce unusually heavy crops of field mushrooms (Agaricus campestris) and horse mushrooms (A. arvensis). The horse mushroom also appeared in ones and twos on grassy roadside verges, whilst recurrent crops of A. bisporus, the wild form of the cultivated mushroom, could be found in bare soil at the roadside, beside tracks or in fields. The yellow-stainer (A. xanthodermus) was also found and unfortunately eaten in mistake for A. arvensis, by some, with adverse effects on the digestion. After one such report, we tracked down a fine crop of yellow-stainer in a derelict graveyard near Shinfield.

In our experience, the variety of Agaricus species appearing this year was also remarkable. To those species already mentioned we can add A. bitorquis, found near Fawley, A. silvaticus and A. villaticus, both identified at the Moor Copse Foray, and A. haemorrhoidarius which appeared in quantity under a small clump of trees in Whiteknights. This latter species shows a rapid and striking reddening of the flesh when cut or broken. Perhaps the most interesting find of all, however, was our discovery of A. bernardii on two roadside verges, one in Earley and the other near Shinfield. According to the reference books, this uncommon agaric, which has a thick fleshy cap with coarse scales and an inrolled edge, occurs in pastures near the sea.

The shaggy parasol (Lepiota rhacodes), which makes excellent eating, was also very common this year and appeared near woods, along roadsides and hedgerows (even in Kendrick Road) and in gardens, including our own. The very fine 'fairy rings' that appeared this year on lawns and pastures were due to Marasmius oreades, also an edible species but of no great value. Last amongst the species worthy of mention, but by no means least, was the giant puff-ball (Lycoperdon giganteum). Usually found in meadows in the late summer, this year it began to appear in the Shinfield area in September, when the ground was saturated by rain, and continued well into October. At one time, specimens up to a kilogramme in weight were found almost daily within quite a small area.

Although it has been the general impression that the edible fungi of pastures have decreased in recent years, it appears that the mycelia were still abundantly present in the soil and that only the right weather conditions were needed to stimulate the production of fruiting bodies.

We should like to thank Dr. F. B. Hora for identifying several of the Agaricus species mentioned, including A. bernardii Quél.

Extracts from a Bird-watcher's Notebook

by M. Hallam

(Reading School)

These represent for me the highlights of an exciting year and are a reward for many cold and fruitless hours spent at the sewage works, and at Smallmead or by the local gravel pits.

Of course I was thrilled to see these unexpected visitors, but not first because of their rarity. Some are handsomely marked and it is a pleasure to be able to recognise identification features hitherto only seen in books. Perhaps watching them go about the everyday business of feeding, preening and so on was best of all.

1. Velvet Scoter (Melanitta fusca). December 19th 1975.

I found this sea-duck whilst walking along the Kennet Canal at Burghfield towards the sewage works. At first, when I heard a 'plop', I thought it was a dabchick. Then it surfaced about fifteen yards distant and turned its huge boat-shaped bill towards me, showing the two white facial patches; even at rest it was sometimes possible to see the white secondaries. It moved up- and down-stream until it was last seen about one mile down-stream at Fobney Lock.

2. Night Heron (Nycticorax nycticorax). January-March 1976.

Many people came from miles around, even as far as Cheshire and Derbyshire, to see this bird. It was an immature specimen and was hard to find amongst the many ivy-clad trees around Burghfield gravel pit. It was sometimes given away by the raucous calls of black-headed gulls which mobbed it. Most local people had excellent views of the bird, but many went away disappointed and cold.

3. Eider (Somateria mollissima). February 8th 1976.

I found this bird at Theale gravel pit with another bird-watcher. It stayed on this pit for ten days. It was an immature male showing irregular plumage, i.e. generally dark with white patches on the back, left flank and left-hand base of the neck, and also showing two white cheek patches. After first spotting the bird we spent several agonising minutes wading through ice-cold water to reach an island so as to obtain closer views. Fortunately for us, the duck flew from the centre of the pit and alighted on the water within thirty yards of us.

4. Red-crested Pochard (Netta rufina). February 17th 1976.

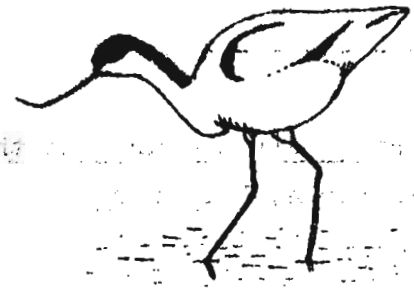
This extremely beautiful bird was one of my favourites. It stayed for two days in the Reading area, moving from Theale to Burghfield gravel pit. It was shy, but good views were obtained by most observers. At Burghfield it rested in the shade of trees with a flock of pochard and tufted duck. Its flanks were white barred slightly with brown. This contrasted with the black tail and breast and orange head.

1. VELVET SCOTER

2. NIGHT HERON

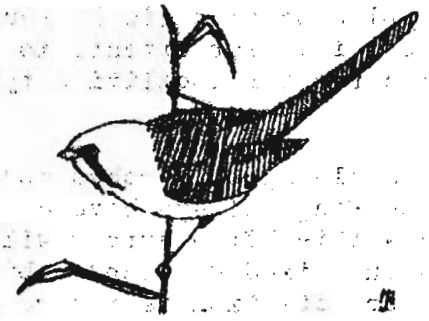
3. EIDER DRAKE

4. RED-CRESTED POCHARD



5. AVOCET

6. KITTIWAKE



7. BEARDED TIT

5. Avocets (Recurvirostra avosetta). April 26th 1976.

They were first seen on the 24th and stayed in the Twyford gravel-pit area for a few days. In this time, they became celebrities with the local press, but their exact location was not published. The pair could be seen wading and feeding with a sideways sweeping motion of the head and beak as they caught submerged invertebrates. In deeper water, they would swim, sometimes upending like a mallard. On one occasion, they performed a courtship greeting. One bird stood with its head down and bill held horizontally while the other walked round it seemingly unconcerned.

6. Kittiwake (Rissa tridactyla). May 12th 1976.

This was rather an unusual date for a gull normally found only at sea. It appeared, after a westerly gale, on Theale gravel pit where it stayed for an afternoon. It never moved from the pit as it flew into the wind, following a zig-zag course. It then would turn and fly swiftly back to where it had started. It had the characteristic 'W' on the wings and a slightly forked tail with a black band.

7. Bearded Tit (Panurus biarmicus). October 16th 1976.

A group of us were aroused by a loud 'ping' as a long-tailed bird bounded into a bush next to us. At the base of the bush crept an adult male bearded tit, with a beautiful blue head and black moustachial stripe. This was the first of a small group which spent the first half of the winter there.

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An Interim List of the Lepidoptera of Ufton Court and the Surrounding Woodlands at Padworth, Berkshire

by B. R. Baker

This interim list of the butterflies and moths of the Ufton Court area has been prepared as part of the Reading Museum's continuing programme of field recording at woodland, heathland, chalkdown and marshland habitats in our district. The Museum, as well as participating in national mapping schemes (10 km squares) and local schemes based on map squares of lesser extent, is also building up a corpus of biological records for localities typifying the broad habitats mentioned above.

River valley localities such as Woolhampton Marshes and Moor Copse Nature Reserve in the Kennet and Pang Valleys have already been well documented entomologically - this Ufton survey will provide records for both a heathland and mixed woodland habitat; chalkdown and beechwoods will claim our attention as future opportunity allows.

With the face of the countryside undergoing more rapid change

than ever before and thereby making earlier recording obsolete, we sought an area of mixed woodland and heathland which would, we hoped, not be subjected to a major change of forestry or farming regime in the foreseeable future. Ufton Court and the surrounding heaths and woods seemed to offer this stability of habitat and for permission to work there and for valuable assistance in the provision of facilities for operating light traps we are much indebted to Mr. A. H. Bush, Warden of Ufton Court Residential Centre, and to Mr. W. Beer, Chief Forester of the Englefield Estates.

Our plan paralleled that of other areas surveyed, namely to operate mobile and static light traps on one particular night per week throughout the flying season for nocturnal Lepidoptera regardless of weather conditions. Friday was the set night chosen (eminently suitable when very late nights are the order of the day!) and twenty night excursions were made to Ufton over the period April to December 1975. Adverse weather conditions (snow) made certain Fridays rather inhospitable and it was necessary to arrange an additional night (28th February, 1976) in order to record certain species which, although almost certainly present, had been missed the previous spring due to poor trapping nights.

As was the case at Moor Copse, the writer received invaluable manpower assistance from our members Peter Cuss, Philip Hooper and Robert Wood; on several occasions we were also joined by Peter Davey from Bucklebury who kindly brought along a second generator, thereby making our sampling of the various areas more comprehensive.

I allow myself a moment's digression from the preparation of the detailed lists of Lepidoptera which follow this introduction to say that many of these nights out on heath or in the depths of the woodlands had for all of us a magic which defies description.

Lepidoptera recorded in the static and mobile traps

Nomenclature as per Kloet and Hincks Check List of British Insects Second Edition (Revised) December, 1972

HEPIALIDAE

Hepialus hecta (L.)	Gold Swift
H. lupulinus (L.)	Common Swift

LASIOCAMPIDAE

Poecilocampa populi (L.)	December Moth
Trichiura crataegi (L.)	Pale Eggar
Malacosoma neustria (L.)	Lackey
Philudoria potatoria (L.)	Drinker

DREPANIDAE

Falcaria lacertinaria (L.)	Scalloped Hook-tip
Drepana binaria (Hufn.)	Oak Hook-tip

DREPANIDAE (cont.)

D. falcataria (L.)	Pebble Hook-tip
Cilix glaucata (Scop.)	Chinese Character

THYATIRIDAE

Thyatira batis (L.)	Peach Blossom
Habrosyne pyritoides (Hufn.)	Buff Arches
Tethea ocularis (L.)	Figure of Eighty
Ochropacha duplaris (L.)	Lesser Satin Moth
Cymatophorima diluta (D. & S.)	Lesser Lutestring
Achlya flavicornis (L.)	Yellow Horned

GEOMETRIDAE

Geometra papilionaria (L.)	Large Emerald
Comibaena pustulata (Hufn.)	Blotched Emerald
Hemithea aestivaria (Hübn.)	Common Emerald
Cyclophora albipunctata (Hufn.)	Birch Mocha
Cyclophora punctaria (L.)	Blood Vein
Scopula imitaria (Hübn.)	Small Blood Vein
Idaea biselata (Hufn.)	Small Fan-footed Wave
I. subsericeata (Haw.)	Satin Wave
I. aversata (L.)	Riband Wave
I. straminata (Borkh.)	Plain Wave
Xanthorhoe designata (Hufn.)	Flame Carpet
X. spadicearia (D. & S.)	Red Twin-spot Carpet
X. ferrugata (Clerck)	Dark-barred Twin-spot Carpet
X. quadrifasiata (Clerck)	Large Twin-spot Carpet
X. montanata (D. & S.)	Silver-ground Carpet
X. fluctuata (L.)	Garden Carpet
Scotopteryx chenopodiata (L.)	Shaded Broad-bar
Epirrhoe alternata (Müll, O. F.)	Common Carpet
Anticlea derivata (D. & S.)	The Streamer
Mesoleuca albicillata (L.)	Beautiful Carpet
Pelurga comitata (L.)	Dark Spinach
Cosmorhoe ocellata (L.)	The Purple Bar
Eulithis testata (L.)	The Chevron
E. pyraliata (D. & S.)	Barred Straw
Ecliptopera silaceata (D. & S.)	Small Phoenix
Chloroclysta citrata (L.)	Dark Marbled Carpet

C. truncata (Hufn.)	Common Marbled Carpet
Cidaria fulvata (Forster)	Barred Yellow
Thera firmata (Hübn.)	The Pine Carpet
T. obeliscata (Hübn.)	Grey Pine Carpet
Electrophaes corylata (Thun.)	Broken-barred Carpet
Hydriomena furcata (Thun.)	July Highflyer
H. impluviata (D. & S.)	May Highflyer
Philereme vetulata (D. & S.)	Brown Scallop
Euphyia unangulata (Haw.)	Sharp-angled Carpet
Epirrita dilutata (D. & S.)	November Moth
Operophtera brumata (L.)	Winter Moth
Perizoma alchemillata (L.)	Small Rivulet
P. flavofasciata (Thun.)	Sandy Carpet
Eupithecia pulchellata Steph.	Foxglove Pug
E. exiguata (Hübn.)	Mottled Pug
E. centaurearia (D. & S.)	Lime-speck Pug
E. absinthiata (Clerck)	Wormwood Pug
E. assimilata Doubl.	Currant Pug
E. vulgata (Haw.)	Common Pug
E. subfuscata (Haw.)	Grey Pug
E. icterata (Villers)	Tawny-speckled Pug
E. succenturiata (L.)	Bordered Pug
E. nanata (Hübn.)	Narrow-winged Pug
E. abbreviata Steph.	Brindled Pug
E. dodoneata Guenée	Oak-tree Pug
E. lariciata (Freyer.)	Larch Pug
Chloroclystis v-ata (Haw.)	V Pug
C. rectangulata (L.)	Green Pug
Gymnoscelis rufifasciata (Haw.)	Double-striped Pug
Chesias legatella (D. & S.)	The Streak
Aplocera efformata (Guenée)	Lesser Treble Bar
Euchoeca nebulata (Scop.)	Dingy Shell
Asthena albulata (Hufn.)	Small White Wave
Hydrelia flammeolaria (Hufn.)	Small Yellow Wave
Lobophora halterata (Hufn.)	Seraphim
Trichopteryx carpinata (Borkh.)	Early Tooth-striped
Pterapherapteryx sexalata (Retz.)	Small Seraphim
Lomaspilis marginata (L.)	Clouded Border

Semiothisa liturata (Clerck)	Tawny-barred Angle
S. wauaria (L.)	V-moth
Petrophora chlorosata (Scop.)	Brown Silver-line
Plagodis dolabraria (L.)	Scorched Wing
Pachycnemia hippocastanaria (Hübn.)	Horse Chestnut
Opisthograptis luteolata (L.)	Brimstone
Apeira syringaria (L.)	Lilac Beauty
Ennomos alniaria (L.)	Canary-shouldered Thorn
E. fuscantaria (Haw.)	Dusky Thorn
E. erosaria (D. & S.)	September Thorn
Selenia dentaria (Fabr.)	Early Thorn
S. lunularia (Hübn.)	Lunar Thorn
S. tetralunaria (Hufn.)	Purple Thorn
Odontopera bidentata (Clerck)	Scalloped Hazel
Crocallis elinguaria (L.)	Scalloped Oak
Ourapteryx sambucaria (L.)	Swallow-tail Moth
Apocheima hispidaria (D. & S.)	Small Brindled Beauty
A. pilosaria (D. & S.)	Pale Brindled Beauty
Lycia hirtaria (Clerck)	Brindled Beauty
Biston strataria (Hufn.)	Oak Beauty
B. betularia (L.)	Peppered Moth
Agriopis leucophaearia (D. & S.)	Spring Usher
A. aurantiaria (Hübn.)	Scarce Umber
A. marginaria (Fabr.)	Dotted Border
Erannis defoliaria (Clerck)	Mottled Umber
Menophra abruptaria (Thun.)	Waved Umber
Peribatodes rhomboidaria (D. & S.)	Willow Beauty
Alcis repandata (L.)	Mottled Beauty
Boarmia roboraria (D. & S.)	Great Oak Beauty
Serraca punctinalis (Scop.)	Pale Oak Beauty
Ectropis bistortata (Goeze)	Engrailed
E. crepuscularia (D. & S.)	Small Engrailed
E. extersaria (Hübn.)	Brindled White-spot
Aethalura punctulata (D. & S.)	Grey Birch
Bupalus piniaria (L.)	Bordered White
Cabera pusaria (L.)	Common White Wave
C. exanthemata (Scop.)	White Wave
Lomographa bimaculata (Fabr.)	White Pinion Spotted
L. temerata (D. & S.)	Clouded Silver

Campaea margaritata (L.)	Light Emerald
Hylaea fasciaria (L.)	Barred Red

SPHINGIDAE

Hyloicus pinastri (L.)	Pine Hawk
Laothoe populi (L.)	Poplar Hawk
Deilephila elpenor (L.)	Large Elephant Hawk

NOTODONTIDAE

Phalera bucephala (L.)	Buff Tip
Harpyia furcula (Clerck)	Sallow Kitten
Stauropus fagi (L.)	Lobster Moth
Notodonta dromedarius (L.)	Iron Prominent
Eligmodonta ziczac (L.)	Pebble Prominent
Peridea anceps (Goeze)	Great Prominent
Pheosia tremula (Clerck)	Swallow Prominent
Ptilodon capucina (L.)	Coxcomb Prominent
Odontosia carmelita (Esp.)	Scarce Prominent
Pterostoma palpina (Clerck)	Pale Prominent
Drymonia dodonaea (D. & S.)	Marbled Brown
Clostera pigra (Hufn.)	Small Chocolate Tip
Diloba caeruleocephala (L.)	Figure of Eight Moth

LYMANTRIIDAE

Orgyia antiqua (L.)	Vapourer Moth
Dasychira pudibunda (L.)	Pale Tussock
Euproctis similis (Fuessly)	Gold Tail
Lymantria monacha (L.)	Black Arches

ARCTIIDAE

Miltochrista miniata (Forster)	Rosy Footman
Cybosia mesomella (L.)	Four-dotted Footman
Eilema griseola (Hubn.)	Dingy Footman
E. complana (L.)	Scarce Footman
E. deplana (Esp.)	Buff Footman
E. lurideola (Zincken)	Common Footman
Arctia caja (L.)	Garden Tiger
Spilosoma lubricipeda (L.)	White Ermine
S. luteum (Hufn.)	Buff Ermine
Phragmatobia fuliginosa (L.)	Ruby Tiger
Tyria jacobaeae (L.)	Cinnabar Moth

NOLIDAE

Nola confusalis (Herrich-Schäffer)	Least Black Arches

NOCTUIDAE

Agrotis segetum (D. & S.)	Turnip Moth
A. clavis (Hufn.)	Heart and Club
A. exclamationis (L.)	Heart and Dart
A. ipsilon (Hufn.)	Dark Sword Grass
A. puta (Hübn.)	Shuttle-shaped Dart
Axylia putris (L.)	Flame
Ochropleura plecta (L.)	Flame Shoulder
Noctua pronuba (L.)	Yellow Underwing
N. comes (Hübn.)	Lesser Yellow Underwing
N. fimbriata (Schreber)	Broad-bordered Yellow Underwing
N. janthina (D. & S.)	Lesser Broad-bordered Yellow Underwing
Paradiarsia glareosa (Esp.)	Autumnal Rustic
Lycophotia porphyrea (D. & S.)	True Lover's Knot
Diarsia mendica (Fabr.)	Ingrailed Clay
D. brunnea (D. & S.)	Purple Clay
D. rubi (Vieweg)	Small Square Spot
Xestia c-nigrum (L.)	Setaceous Hebrew Character
X. ditrapezium (D. & S.)	Triple-spotted Clay
X. triangulum (Hufn.)	Double Square-spot
X. baja (D. & S.)	Dotted Clay
X. sexstrigata (Haw.)	Six-striped Rustic
X. xanthographa (D. & S.)	Square-spot Rustic
Anaplectoides prasina (D. & S.)	Green Arches
Cerastis rubricosa (D. & S.)	Red Chestnut
Discestra trifolii (Hufn.)	The Nutmeg
Hada nana (Hufn.)	The Shears
Polia hepatica (Clerck)	Silvery Arches
P. nebulosa (Hufn.)	Grey Arches
Melanchra persicariae (L.)	Dot Moth
Lacanobia thalassina (Hufn.)	Pale-shouldered Brocade
L. oleracea (L.)	Bright-line Brown-eye
Ceramica pisi (L.)	Broom Moth
Hadena bicruris (Hufn.)	Lychnis
Cerapteryx graminis (L.)	Antler Moth

Tholera cespitis (D. & S.)	Hedge Rustic
T. decimalis (Poda)	Feathered Gothic
Orthosia cruda (D. & S.)	Small Quaker
O. gracilis (D. & S.)	Powdered Quaker
O. stabilis (D. & S.)	Common Quaker
O. incerta (Hufn.)	Clouded Drab
O. gothica (L.)	Hebrew Character
O. munda (D. & S.)	Twin-spot Quaker
Mythimna conigera (D. & S.)	Brown-line Bright-eye
M. ferrago (Fabr.)	The Clay
M. impura (Hübn.)	Smoky Wainscot
M. pallens (L.)	Common Wainscot
M. comma (L.)	Shoulder-striped Wainscot
Cleoceris viminalis (Fabr.)	Minor Shoulder-knot
Aporophyla lutulenta (D. & S.)	Deep-brown Dart
A. nigra (Haw.)	Black Rustic
Xylocampa areola (Esp.)	Early Grey
Dichonia aprilina (L.)	Merveille du Jour
Eupsilia transversa (Hufn.)	Satellite
Conistra vaccinii (L.)	The Chestnut
Agrochola lota (Clerck)	Red-line Quaker
A. macilenta (Hübn.)	Yellow-line Quaker
A. litura (L.)	Brown-spot Pinion
A. lychnidis (D. & S.)	Beaded Chestnut
Atethmia centrago (Haw.)	Centre-barred Sallow
Omphaloscelis lunosa (Haw.)	Lunar Underwing
Xanthia icteritia (Hufn.)	Common Sallow
Acronicta psi (L.)	Grey Dagger
A. rumicis (L.)	Knotgrass
Cryphia domestica (Hufn.)	Marbled Beauty
Amphipyra pyramidea (L.)	Copper Underwing
A. berbera Rungs	New Copper Underwing
A. tragopoginis (Clerck)	Mouse Moth
Dypterygia scabriuscula (L.)	Bird's Wing
Rusina ferruginea (Esp.)	Brown Rustic
Thalpophila matura (Hufn.)	Straw Underwing
Euplexia lucipara (L.)	Small Angle Shades
Phlogophora meticulosa (L.)	Angle Shades

Cosmia affinis (L.)	Lesser-spotted Pinion
C. diffinis (L.)	White-spotted Pinion
C. trapezina (L.)	Dun-bar
C. pyralina (D. & S.)	Lunar-spotted Pinion
Apamea monoglypha (Hufn.)	Dark Arches
A. lithoxylaea (D. & S.)	Light Arches
A. remissa (Hübn.)	Dusky Brocade
A. sordens (Hufn.)	Rustic Shoulder-knot
A. scolopacina (Esp.)	Slender Brindle
Oligia strigilis (L.)	Marbled Minor
O. fasciuncula (Haw.)	Middle-barred Minor
Mesoligia literosa (Haw.)	Rosy Minor
Mesapamea secalis (L.)	Common Rustic
Photedes minima (Haw.)	Small Dotted Buff
P. pygmina (Haw.)	Small Wainscot
Luperina testacea (D. & S.)	Flounced Rustic
Amphipoea oculea (L.)	Ear Moth
Hydraecia micacea (Esp.)	Rosy Rustic
Gortyna flavago (D. & S.)	Frosted Orange
Charanyca trigrammica (Hufn.)	Treble Lines
Hoplodrina alsines (Brahm)	The Uncertain Moth
H. blanda (D. & S.)	The Rustic
H. ambigua (D. & S.)	Vine's Rustic
Caradrina morpheus (Hufn.)	Mottled Rustic
C. clavipalpis (Scop.)	Pale Mottled Willow
Elaphria venustula (Hübn.)	Rosy Marbled
Lithacodia pygarga (Hufn.)	Marbled White Spot
Bena prasinana (L.)	Scarce Green Silver Lines
Pseudoips fagana (Fabr.)	Green Silver Lines
Diachrysia chrysitis (L.)	Burnished Brass
Autographa gamma (L.)	Silver Y
A. pulchrina (Haw.)	Beautiful Golden Y
A. jota (L.)	Plain Golden Y
Abrostola triplasia (L.)	Light Spectacle
Catocala nupta (L.)	Red Underwing
Laspeyria flexula (D. & S.)	Beautiful Hook-tip
Hypena proboscidalis (L.)	Common Snout
Schrankia costaestrigalis (Steph.)	Pinion-streaked Snout

Polypogon tarsipennalis (Treit.)	Fan-foot Snout
P. nemoralis (Fabr.)	Small Fan-foot Snout

The above lists enumerate 265 species.

Additional species known to occur in the areas sampled

Many of the species listed below are diurnal of habit (the butterflies and certain of the moths) and therefore would not normally be taken at light traps, and one or two are night-flying moths which, though recorded in earlier years, were not represented in the 1975/76 survey:-

SESIIDAE

Synanthedon vespiformis (L.)	Yellow-legged Clearwing
Conopia spheciformis (D. & S.)	White-barred Clearwing
Aegeria culiciformis (L.)	Large Red-belted Clearwing

HESPERIIDAE

Thymelicus sylvestris (Poda)	Small Skipper
Ochlodes venata (B. & G.)	Large Skipper
Erynnis tages (L.)	Grizzled Skipper
Pyrgus malvae (L.)	Dingy Skipper

PIERIDAE

Gonepteryx rhamni (L.)	Brimstone
Pieris brassicae (L.)	Large White
P. rapae (L.)	Small White
P. napi (L.)	Green-veined White
Anthocharis cardamines (L.)	Orange Tip

LYCAENIDAE

Quercusia quercus (L.)	Purple Hairstreak
Strymonidia w-album (Knoch)	White-letter Hairstreak
Lycaena phlaeus (L.)	Small Copper
Polyommatus icarus (Rott.)	Common Blue
Celastrina argiolus (L.)	Holly Blue

NYMPHALIDAE

Ladoga camilla (L.)	White Admiral
Vanessa atalanta (L.)	Red Admiral
Cynthia cardui (L.)	Painted Lady
Aglais urticae (L.)	Small Tortoiseshell

Inachis io (L.)	Peacock
Polygonia c-album (L.)	Comma
Boloria selene (D. & S.)	Small Pearl-bordered Fritillary
Argynnis aglaja (L.)	Dark Green Fritillary
A. paphia (L.)	Silver-washed Fritillary

SATYRIDAE

Pararge aegeria (L.)	Speckled Wood
Lasiommata megera (L.)	Wall Brown
Hipparchia semele (L.)	Grayling
Pyronia tithonus (L.)	Small Meadow Brown
Maniola jurtina (L.)	Meadow Brown
Coenonympha pamphilus (L.)	Small Heath
Aphantopus hyperantus (L.)	Ringlet

LASIOCAMPIDAE

Macrothylacia rubi (L.)	Fox Moth

SATURNIIDAE

Saturnia pavonia (L.)	Emperor Moth

THYATIRIDAE

Tethea or (D. & S.)	Poplar Lutestring

SPHINGIDAE

Hemaris fuciformis (L.)	Broad-bordered Bee Hawk

NOCTUIDAE

Xestia castanea (Esp.)	Grey Rustic
Parastichtis suspecta (Hübn.)	The Suspected

The list of additional species totals 39.

SUMMARY

An interim list of 304 species of Lepidoptera recorded from Ufton Court and the surrounding woodlands at Padworth, Berkshire has been prepared from the results of a survey undertaken in 1975/76 (265 species) and the results of fieldwork in the same area during the previous twenty years (39 species).

The Recorder's Report for Entomology 1975-76

by B. R. Baker

The splendid summer weather of 1976 brought forth a wide variety of insects in great abundance, and as a result of this unusual upsurge in the insect population several of our members have contributed detailed lists of their observations from which the Recorder has of necessity had to be selective. Sun-loving insects such as dragon-flies and butterflies figure predominantly in the lists submitted, but certain Orthoptera such as Acheta domestica (L.) the House Cricket, little recorded until this year, have made their presence known out-of-doors - all indicative of the high temperatures which prevailed for so long. The names of our contributors are given at the end of the Report - to all of them the Recorder is indebted, especially so as he was able to contribute little to that which follows.

Order Orthoptera (Crickets, Grasshoppers, Ground-hoppers, etc.).

Acheta domestica (L.) House Cricket

Reading 22nd June, A.E.R.E., Harwell (CB). Thatcham, abundant on a rubbish tip, 24th. July. 98, Conisborough Avenue, Caversham, 20th August (SE). Sonning Common, unusually common out-of-doors (HHC). 82, Kennylands Road, Sonning Common (EMC & MJC).

Tetrix subulata (L.) Slender Ground-hopper

Several observed in a backstream of the Loddon near Sindlesham Mill, 20th May. Some of the specimens were at the water's edge, others completely submerged and walking along the shallow stream bed.

Order Odonata (Dragon-flies)

Pyrrhosoma nymphula (Sulzer)

Wasing Wood (GSV). Whiteknights Park, 16th June (CB).

Ischnura elegans (van der Linden)

Wasing Wood, Kennet at Aldermaston (GSV). Kennet at Burghfield, 3rd July. Whiteknights Park, 2nd August (CB).

Enallagma cyathigerum (Charp.)

Thames at Sonning. Wasing Wood (GSV).

Coenagrion puella (L.)

Wasing Wood (GSV).

Lestes sponsa (Hansemann)

Wasing Wood (GSV).

Agrion splendens (Harris).

Ramsbury Drive, Earley, 28th June (BTP). Thames at Sonning, Wasing Wood. Pamber Forest (GSV). Thames at Shiplake, 25th June. Kennet at Burghfield, 3rd July. Kennet at Reading, 1st August (CB). Moor Copse Nature Reserve, 17th July (KIT).

Agrion virgo (L.)

Pamber Forest. Occurring with A. splendens along the Silchester Brook (GSV).

Aeshna cyanea (Muller)

Shinfield Grange, 16th October (CB).

A. grandis (L.)

Wasing Wood. Thames at Sonning (GSV). Ramsbury Drive, Earley, 9th and 12th July (BTP). Whiteknights Park, 1st September (CB). Moor Copse Nature Reserve, 17th July (KIT).

A. juncea (L.)

Wasing Wood (GSV).

A. mixta Latreille

Wasing Wood. Pamber Forest. Kennet at Aldermaston (GSV).

Anax imperator Leach

Wasing Wood (GSV).

Cordulia linaenea Fraser

Pamber Forest (GSV).

Orthetrum cancellatum (L.)

Wasing Wood. Thames at Sonning (GSV). Kennet at Burghfield, 3rd July (CB).

Libellula depressa (L.)

Wasing Wood (GSV). Moor Copse Nature Reserve, 5th June. Kennet at Burghfield, 3rd July. Shinfield Grange, 30th June. Whiteknights Park, 2nd August (CB).

L. quadrimaculata L.

Wasing Wood (GSV).

Sympetrum scoticum (Leach in Donovan)

Wasing Wood (GSV).

S. striolatum (Charp.)

Wasing Wood. Pamber Forest. Benyon's Enclosure (GSV). Whiteknights Park, 15th July. Shinfield Grange, 16th October (CB).

N.B. The locality Wasing Wood also includes the adjacent gravel pits.

Order Hemiptera (Plant Bugs, etc.)

Nabis flavomarginatus Scholtz; male, Crowsley Forest, 7/7/76; HHC.

Physatocheilus dumetorum (Herrich-Schaeffer); female, Sonning Common, 8/2/76; HHC.

Pithanus maerkeli Herrich- Schaeffer; male, Chalkhouse Green, 22/6/76; HHC.

Orthotylus ochrotrichus Fieber; male, Crowsley Forest, 29/6/76; HHC.

Phytocoris dimidiatus Kirschbaum; male, Crowsley Forest, 7/7/76; HHC.

Allygus mixtus (Fabricius); male, Crowsley Forest, 7/7/76; HHC.

Agallia consobrina Curtis; female, Crowsley Forest, 9/9/76; HHC.

Malacocoris chlorizans (Panzer); female, Crowsley Forest, 9/9/76; HHC.

Stenocranus minutus (Fabricius); female, Crowsley Forest, 21/9/76; HHC.

Idiocerus decimusquartus (Schrank); male, Manor Farm, 9/7/76; HHC.

Thamnotettix confinis (Zetterstedt); female, Crowsley Forest, 13/7/76; HHC.

Megaloceraea recticornis (Geoffroy); male, Crowsley Forest, 7/7/76; HHC.

Order Neuroptera (Lace-wings)

Sisyra terminalis Curtis; male, Reading, 19/7/72; EB.

Micromus variegatus (Fabricius); female, Reading, 17/8/72; EB.

Hemerobius lutescens Fabricius; female, Reading, 3/9/72; EB.

Kimminsia subnebulosa (Stephens); female, Reading, 23/2/71; EB.

Wesmaelius concinnus (Stephens); Wokefield Common, 9/7/68; EB.

Order Coleoptera (Beetles)

Lampyris noctiluca L. Glow-worm

Numerous this summer, in and near Crowsley Forest, 22nd June, 8th July, and 28th July. Sonning Common, 20th, 21st and 29th July. Peppard Hospital Sewage Works, 22nd July (HHC).

Dorcus parallelipipedus (L.) Small Stag Beetle

Noted emerging in quantity from a stump in the garden of 70, South Street, Reading, 28th May and about thirty specimens on 6th June (MVF & IF).

Order Lepidoptera (Butterflies and Moths)

Hesperia comma (L.) Silver-spotted Skipper

Watlington Hill, 24th August (BTP).

Pyrgus malvae (L.) Dingy Skipper

Gatehampton area, 15th August. The hot weather induced this species to produce some second-brood specimens.

Quercusia quercus (L.) Purple Hairstreak

Earley, a male on buddleia in garden, 17th July (BTP). Farley Hill, numerous (BTP). Warburg Reserve, Bix Bottom, numerous during July, six specimens at a time on the concrete path at the back of the Reserve Office (NP). Pamber Forest, common, often coming down very

low and one at stream level by the Silchester Brook (GSV).

Strymonidia w-album (Knoch) White-letter Hairstreak

Two specimens in garden of 82, Kennylands Road, Sonning Common, 11th July (HHC). Warburg Reserve, common, one specimen on the back doorstep (NP). Mapledurham, 3rd July. Whitchurch Hill, 17th July (KIT). Upper Basildon, in Miss Stone's garden.

Lysandra coridon (Poda) Chalkhill Blue

Watlington Hill, 27th July (BTP). Warburg Reserve, at two sites (New record) (NP). Goring area, 30th June (ACP). Aldworth, 7th August (CB).

L. bellargus (Rott.) Adonis Blue

This beautiful butterfly has been reported by several observers and undoubtedly made a come-back in 1976 at sites at which it had not been seen for very many years. It is still by far our rarest blue and those of our members who have been fortunate enough to come across colonies in 1976 will equally understand the requirement for witholding localities.

Celastrina argiolus (L.) Holly Blue

Warburg Reserve, common (NP). Kidmore End, 2nd July (KIT). Sonning, 8th May (CB). Earley, a fresh male in garden in Ramsbury Drive, 5th July (BTP). Caversham, garden in Matlock Road, 29th April, 8th and 28th May, 31st July eggs and larvae on ivy, 19th August larvae on ivy. Moor Copse Nature Reserve, on several occasions during the summer (new reserve record) (EMT).

Ladoga camilla (L.) White Admiral

Warburg Reserve on several occasions (NP). In Pamber Forest and other north Hampshire woodlands this species had a splendid season and has been noted by most contributors. It was in peak numbers by early July and its season ended earlier than usual due to the heat. Bearwood, 27th June, nearly over there by 8th July (BTP). PS records the rare black variety nigrina, and further specimens of this variety and of semi-nigrina were reported from Pamber Forest.

Apatura iris (L.) Purple Emperor

Warburg Reserve, 30th June, a male photographed in the Warden's garden and six sightings of specimens near the House during the following week (NP). Pamber Forest, females out by 6th July and an egg discovered on 15th July (BTP). Specimens also observed 3rd, 4th and 18th July.

Vanessa atalanta (L.) Red Admiral

Adults, eggs and larvae in numerous places, Bearwood, Ramsbury Drive, Earley (BTP). Woolhampton, 5th November (BTP). Pinkneys Green, Maidenhead 8th November (TJGH). Goring area, latest record 10th October (ACP). Many examples during the autumn at Little London, one female in mercury-vapour light-trap 8th October (GSV). Purley, 16th August, 19th September. Hardwick, 21st September. Kidmore End, 12th October (KIT). Shinfield Grange, 16th October, Whiteknights Park, 17th October (CB).

Cynthia cardui (L.) Painted Lady

Aldworth, 7th August (CB). Purley, 11th, 15th and 25th August (KIT).

Little London, during the autumn (GSV). Earley, 28th July (BTP).

Nymphalis antiopa (L.) Camberwell Beauty

Mrs. Stemp phoned the Recorder on the afternoon of 22nd August to report a specimen of this very rare immigrant in her garden at 36, Allcroft Road, Reading. By the time the garden was visited the specimen had moved on, but we later heard that a large immigration must have taken place about this time, for in excess of two hundred records have been reported to scientific journals. By far the most records come from the eastern counties, indicating that the butterflies originated from Scandinavia.

Inachis io (L.) Peacock

In abundance during late summer, this beautiful species was still on the wing in the Warren at Caversham on the late date of 5th November.

Boloria euphrosyne (L.) Pearl-bordered Fritillary

Warburg Reserve, two specimens observed in the valley bottom (NP).

Argynnis aglaja (L.) Dark Green Fritillary

Aldworth Downs, 13th June (very early date) (CB). Gatehampton, 6th June (exceptionally early) (ACP). Watlington Hill, 27th July, mostly worn specimens (BTP).

Agrius convolvuli (L.) Convolvulus Hawk-moth

Pinkneys Green, Maidenhead, 29th September (TJGH).

Macroglossum stellatarum (L.) Humming-bird Hawk-moth

Ashford Hill, 2nd July. Matlock Road, Caversham, 21st, 25th September (HGB).

Callimorpha dominula (L.) Scarlet Tiger Moth

Observed in unusual abundance in its regular haunts along the banks of the Kennet and Avon Canal between Aldermaston and Brimpton (AP); (GSV). Also noted wider afield, this dispersal undoubtedly due to the high temperatures prevailing at that time. Little London at mercury vapour-light (GSV). Aldermaston at mercury vapour light (G.E-F). Upper Basildon, noted by Miss Stone.

N.B. The above species is normally a day-flying insect and the above rec rds of its attendance at mercury-vapour light-traps are unusual.

Order Hymenoptera (Saw-flies, Bees & Wasps)

Dolerus sanguinicollis Klug; male, Crowsley Forest, 18/5/76; HHC.

D. picipes Klug; male, Crowsley Forest, 18/5/76; HHC.

Tenthredo acerrima Benson; female, Crowsley Forest, 27/7/76; HHC.

Tenthredopsis excisa (C. G. Thomson); male, Crowsley Forest, 18/5/76; HHC.

Pachynematus scutellatus (Hartig); male, Crowsley Forest, 10/5/76; HHC.

Anoplonyx destructor Benson; female, Goring Heath, 30/4/1966; EB. (previously recorded in error as Pachynematus imperfectus (Zaddach)).

Passaloecus insignis Linden; female, Crowsley Forest, 15/6/76; HHC.

P. corniger Shuckard; female, Crowsley Forest, 7/6/76; HHC.

Ablepharipus podagricus (Linden); male, Crowsley Forest, 17/8/76; HHC

Symmorphus gracilis Boulle; female, Crowsley, 7/7/76; HHC.

(The record of S. bifasciatus (L.) from Goring Heath in 1970 is erroneous.)

Andrena dorsata (Kirby); males, Crowsley Forest, 26/4/76; HHC.

Hoplismenus bidentatus (Gmel.) male, Crowsley Forest, 21/9/76; HHC.

Ctenichneumon panzeri (Wesmael); male, Crowsley Forest, 10/8/76; HHC.

Spilichneumon raptorius (Linnaeus); male, Crowsley Forest, 10/8/76; HHC.

Neuroterus tricolor (Hartig); agamic female, Sonning Common, 11/4/76; HHC.

N. numismalis (Geoffroy); male, Crowsley Forest, 25/5/76; HHC.

Biorrhiza pallida (Olivier); males, Sonning Common, bred from a batch of galls, 1976; also females, bred from a separate batch of galls; HHC.

Andricus fecundator (Hartig); galls of agamic generation on Q. robur growing with Q. cerris which was apparently unaffected, Crowsley Forest, 9/9/76; HHC. This is a comparatively new species in Britain. The galls are conspicuous and unmistakeable, causing hypertrophy of the cupule with reduction of the acorn, but an attempt to breed them out was unsuccessful.

Cinetus iridipennis Lep.; female, Crowsley Forest, 25/5/76; HHC.

Contributors

Mrs. Heather Baker (HGB); Dr. Christopher Bucke (CB); H. H. Carter (HHC); Mary Carter (EMC); Master Stuart Eggleton (SE); M. V. Fletcher (MVF); Mrs. Iris Fletcher (IF); Lt. Col. G. G. Eastwick Field (GEF); T. J. G. Homer (TJGH); N. Phillips (NP); A. C. Pont (ACP); A. Price (AP); B. T. Parsons (BTP); Mrs. Olive Stemp (OS); P. Silver (PS); Mrs. Mary Trembath (EMT); K. I. Thomas (KIT); G. S. Vick (GSV).

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The Recorder's Report for Vertebrates, 1975-76

by H. H. Carter

FISH.

Carp Cyprinus carpio L.

One estimated at 500 gm. in a pond at Yattendon, reported 5/4/76 by Stephen Woodbridge.

Roach Rutilus rutilus (L.)

Two in Holy Brook near Burghfield Bridge, 16/5/76 (R. Aubrey). One in Holy Brook at its junction with the Kennet. One in Thames at Caversham Court.

Crucian Carp Carassius carassius (L.), Goldfish Carassius auratus (L.), Barbel Barbus barbus (L.), Chub Leuciscus cephalus Day and Golden Orfe Leuciscus idus (L.) can all be seen in the pool surrounding the Forbury fountain.

AMPHIBIANS.

Frog Rana temporaria L.

Large quantities of spawn were laid in a garden pond at 41 Russell St. (Mr. Wells). As there was more than the pond could support, about fifteen litres were removed by bucket to Twyford gravel pits and an adjoining stream; levels were then very low and destined to fall further, so the move was probably to no avail.

Toad Bufo bufo (L.)

Heard at Twyford gravel pits, 10/4/76; Two or three dead on road at Binfield Heath breeding site, 26/4/76.

Common Newt Triturus vulgaris (L.)

Present in Burghfield gravel pits (Patrick Spencer).

REPTILES.

Slow-worm Anguis fragilis L.

One at Crowsley Forest, injured, 10/5/76. One photographed at Silchester Common Bog on R.D.N.H.S. excursion, 17/6/76.

Grass Snake Natrix natrix (L.)

One at Wargrave, 1.2 metres long, 8/7/76 (Mr. Prisnall). One at W. W. Hall's depot, Elgar Road, 13/8/76. One by River Kennet at Southcote, 550 mm. long (Patrick Spencer).

Adder Vipera berus (L.)

One killed at Rosedale Crescent (SU 743 738), 300 mm. long, 10/7/76. Four males and three females at Bramshill, 19/4/76; two of the males were "dancing", a form of territorial combat (K.V.P.)

INSECTIVORES

Mole Talpa europaea L.

Molehills at Binfield, 6/1/76, Highmoor, 10/1/76, Elcot near Hungerford, 16/1/76, by Thames below Henley, 30/4/76, and above Goring, 1/5/76. Dead mole at Crowsley Forest, 8/6/76. A mole above ground at Burghfield gravel pits, 21/8/76, had great difficulty in digging into the sun-dried soil when approached (K.V.P.).

Common Shrew Sorex araneus L.

One at Kent Hill, 16/1/76; at Chalkhouse Green, 14/4/76, 22/7/76 (two) and 30/7/76; at Bishopsland Farm 16/4/76 (two) and 24/6/76; at Crowsley Grange, 24/4/76; at Goring, 1/5/76; and at Peppard, 20/5/76.

Hedgehog Erinaceus europaeus L.

Eighteen dead on roads in the Sonning Common area, and one each at Reading, Earley, Caversham and Newbury, October to December 1975 and April to August 1976. Live hedgehogs in the Sonning Common area, seven adults and three juveniles, July to August (E. M. Carter, Claire Naylor and Recorder).

BATS.

Pipistrelle Pipistrellus pipistrellus (Schr.)

One at Spencers Wood, 15/11/75 (Mrs. Whitfield). Many sightings of small bats conforming to the appearance and flight habits of this species in the Sonning Common area during the year.

Serotine Eptesicus serotinus (Schr.)

A bat seen at Sulham Woods, 19/8/76, of medium to large size, with erratic flight at medium height and a clicking flight call, was considered by the observers to be of this species and seems to fit this better than any other.

RABBITS.

Hare Lepus capensis Pall.

Seven in one field at Lowbury, 20/5/76; many in Southridge area during Spring (K.V.P.). Twenty (maximum three together) in the Sonning Common area January-May, July, September (M. J. Carter and Recorder). One dead on A4 at Ufton Nervet, 16/1/76.

Rabbit Oryctolagus cuniculus (L.)

Seen taking windfall apples at Buscot Copse, Bradfield, in Summer during shortage of more normal food (K. V. P.) Many warrens on Felix Farm, Binfield (SU 848 739) and three rabbits seen nearby (852 744), 4/1/76. Four hundred and thirty-five sightings (maximum nineteen in August) in the Sonning Common area from February to October, juveniles

from March to August; three cases of myxomatosis.

RODENTS.

Brown Rat Rattus norvegicus Berk.

One dead on Peppard Road, Chalkhouse Green, 18/10/75; one dead on road in Reading 2/3/76. One at Manor Farm, 1/9/76.

House Mouse Mus musculus L.

One dead at roadside near Coppid Hall, Binfield Heath, 6/8/76.

Harvest Mouse Micromys minutus Pall.

Nest in Cocksfoot, Dactylis glomerata L., by Thames near Wargrave, SU 784 804, 4/1/76; nest at edge of cereal field on Wood's Farm, Wokingham, SU 822 678, 30/11/75; nest in hedge by footpath among Couch Agropyron repens (L.), at Easthampstead Park, SU 839 672, and mouse caught 9/12/75.

Water Vole Arvicola amphibius (L.)

Thames below Henley, 30/4/76 and above Goring, 1/5/76.

Short-tailed Vole Microtus agrestis (L.)

One disturbed from its nest under an old door at Sonning Common in an overgrown orchard, 11/9/76 (M. J. Carter).

Bank Vole Clethrionomys glareolus Schr.

One dead on road near Toad site, Binfield Heath, 6/8/76.

Grey Squirrel Sciurus carolinensis Gm.

Over twenty dreys in a small block of woodland on Felix Farm, Binfield, SU 845 742, 4/1/76. Seventeen sightings, and six dead on roads, in Sonning Common area in every month except February and August (Deda Stanejko and Recorder).

CARNIVORES.

Badger Meles meles (L.)

Sett in use, with fifteen holes, north of Wargrave (SU 784 806), 4/1/76. Sett with three holes, no evidence of use, Ashley Hill (SU 831 804), 2/11/75. Sett in use, with many holes, Gatehampton Lane, 9/11/76 (A. C. Pont). Signs at Crowsley Forest, 4/4/76.

Stoat Mustela erminea L.

Two on bank of River Pang at Bradfield, chasing each other, one swimming, one approaching observer within twelve metres, 21/2/76; one at Allen's Hill, Bradfield, in hedge 2/4/76 (K. V. P.).

Weasel Mustela nivalis L.

One crossing road at Bradfield Southend, 22/8/76 (K.V.P.)
One dead on St. George's Road, Caversham, May, 1976.

Polecat Ferret Putorius eversmanni Les.

One killed on A321 at SU 804 718, 11/7/76 (P. D'aeth).

Mink Mustela vison Schr.

Albinistic example by Kennet and Avon Canal, Theale, 20/10/75 (K.V.P.)

Fox Vulpes vulpes (L.)

One near Smallmeads Tip, Manor Farm, mobbed by Rooks Corvus frugilegus L., 23/1/76; a second individual at the same place, 31/1/76; two there, 6/8/76; one at roadside near Sulham Woods, 3/2/76; detailed notes received of a pair with six cubs watched from a stationary car at Great Bear Woods, Bradfield, from 14/5/76 to 22/5/76; one seen raiding bantam pens of Mr. Bags in same area, 25/5/76; adult with well-grown cubs at Fisher's Copse, Bradfield, 4/8/76 (a very late date) (K.V.P.) One on Shinfield Road by University, 27/11/75; Binfield (SU 852 739), 19/12/75; one at Padworth, 18/1/76; one on M4 near White Waltham, dead, 4/3/76 (Malcolm Hitchcock). Heard calling at night on fourteen occasions in the Sonning Common area in November 1975 and January-July 1976; no definite peak of activity. (I have never heard barking in this area, only the call attributed to the vixen but also used at times by dog foxes.

DEER.

Fallow Deer Cervus dama L.

All records are from Crowsley Forest and its neighbourhood, where bucks were heard "groaning" in October 1975, and thirteen sightings of does were made, in groups of 1-5 animals from December to May, 1976.

Muntjac Muntiacus reevesi Og.

Sixteen sightings (Maximum two) from the Bradfield/Upper Basildon area in March, May (peak) and August 1976 (K.V.P.). Tracks found at Hartslock, 23/7/76 (B.T.P.). One at Burghfield Common, 21/7/76. Barking at Crowsley Forest on 6/3/76 (three minutes), 10/5/76 in mid-morning, and 27/5/76 (forty-eight consecutive calls); tracks and droppings in quantity there, 4/4/76; ninety-seven consecutive calls from Crosscroft Wood in the same area, 4/6/76. One at Crowsley, 6/7/76.

Roe Deer Capreolus capreolus (L.)

One seen at Pamber, and tracks at Bearwood during the summer drought (B.T.P.).

The Recorder's Report for Botany 1975-76

by B. M. Newman

The memorable feature of 1976 was the hot dry summer which baked the countryside a golden brown. As a result of the drought many plants were stunted and their flowering periods were shorter than usual. On the other hand, the weather was good for plant observers, and the number of records received is higher than last year.

The nomenclature and order are according to the "Flora of the British Isles" by Clapham, Tutin and Warburg. An alien taxon is indicated by an asterisk (*). The English names are from "English Names of Wild Flowers", the recommended list of the Botanical Society of the British Isles, but if a different name is commonly used in this area it is added to the record.

Records are gratefully acknowledged from: Dr. J. Andrews (JA); Miss L. E. Cobb (LEC); Mr. S. R. Diserens (SRD); Mr. J. F. Newman (JFN); Mr. J. P. Warrick (JPW).

List of Members' Records

Caltha palustris L. — Marsh-marigold
Bucklebury Common. 11/6/76. (JPW)

Helleborus foetidus L. — Stinking Hellebore
Beside A4155 opposite entrance to Wargrave Marsh. 13/3/76 (SRD)

Helleborus viridis L. — Green Hellebore
Grim's ditch near Nuffield. 28/3/76 (SRD)
Mongewell Woods. 10/5/76 (JPW)

Ranunculus flammula L. — Lesser Spearwort
Bucklebury Common. 11/6/76 (JPW)

*Papaver somniferum L. — Opium Poppy
Ashridge Wood, East Ilsley. 6/6/76 (SRD)

Meconopsis cambrica (L.) Vig. — Welsh Poppy
Well naturalised along B480 at Pishill. 27/5/76 (SRD)
Highmoor Woods. 4/6/76 (JPW)

Chelidonium majus L. — Greater Celandine
Hartslock. 29/7/76 (JPW)

Raphanus raphanistrum L. — Wild Radish
Colemans Moor. 14/8/76 (JPW)

*Cardaria draba (L.) Desv. — Hoary Cress
Roadside, Brookers Hill, Shinfield.
Near Farley Hill. (JA)

Dentaria bulbifera L. — Coralroot
Horton Wood. 2/5/76 (SRD)

Rorippa sylvestris (L.) Besser — Creeping Yellow-cress
By Whiteknights Lake. 20/6/76
Colemans Moor. 14/8/76 (JPW)

Reseda luteola L. (Dyer's Rocket) Weld
Chazey Wood. 14/6/76
Colemans Moor. 14/8/76 (JPW)

Viola palustris L. Marsh Violet
Silchester. 17/8/76 (JPW)

Viola arvensis Murr. Field Pansy
Off Cutbush Lane. 10/1/76 (JPW)

Polygala serpyllifolia Hose Heath Milkwort
Silchester. 17/8/76 (JPW)

Polygala calcarea F. W. Schultz. Chalk Milkwort
Swyncombe Down. 9/5/76 (SRD)

Hypericum androsaemum L. Tutsan
Lambridge Wood. 18/7/76 (SRD)

Lysimachia vulgaris L. Yellow Loosestrife
By the river, Hartslock. 29/7/76 (JPW)

Lychnis flos-cuculi L. Ragged-Robin
Left bank of new road before Sheffield Bottom.
North side of Bath Road opposite Sterling Cables. 11/6/76. (JPW)

Cerastium arvense L. Field Mouse-ear
Swyncombe Down. 9/5/76 (SRD)

Cerastium semidecandrum L. Little Mouse-ear
Bear Wood. 9/6/76. (HJMB) Sent in by (LEC)

Stellaria neglecta Weihe Greater Chickweed
By the brook, Shinfield Grange. 1/8/76 (JPW)

*Linum usitatissimum L. Flax
Aldermaston. 18/9/76 (LEC)

Geranium pratense L. Meadow Cranesbill
Sonning.Eye. 20/7/76 (JPW)
Aldermaston. 18/9/76 (LEC)

*Impatiens capensis Meerburgh Orange Balsam
Colemans Moor. 14/8/76 (JPW)

*Impatiens parviflora DC. Small Balsam
Whiteknights Woods. 9/6/76 (JPW)
By Whiteknights Lake. 27/6/76 (SRD)
A few plants appeared after road widening in Pepper Lane. (JA)

*Impatiens glandulifera Royle Indian Balsam
Colemans Moor. 14/8/76 (Himalayan Balsam) (JPW)

Trifolium micranthum Viv. Slender Trefoil
Bear Wood. 9/6/76 (HJMB) Sent in by (LEC)

Trifolium arvense L. Hare's-foot Clover
Colemans Moor. 14/8/76 (JPW)

*Tetragonolobus maritimus (L.) Roth Dragon's-teeth
Hanover Hill, Fingest. 2/10/76 (SRD)

*Galega officinalis L. Goat's-rue
By Whiteknights Lake. 30/6/76 (SRD)

Lathyrus pratensis L. Meadow Vetchling
Whiteknights Park. 9/6/76 (JPW)

Aphanes microcarpa (Boiss. & Reut.) Rothm. Bear Wood. 9/6/76 (HJMB)	Slender Parsley-piert Sent in by (LEC)
Sanguisorba officinalis L. Mortimer. 10/6/76	Great Burnet (JPW)
Sedum telephium L. Rotten Row. 2/10/76.	Orpine (SRD)
Saxifraga granulata L. Marlston Church. 25/4/76	Meadow Saxifrage (SRD)
Ribes nigrum L. Bucklebury Common. 11/6/76	Blackcurrant (JPW)
Drosera rotundifolia L. Silchester. 17/8/76	Round-leaved Sundew (JPW)
Epilobium hirsutum L. (Codlins & Cream) Colemans Moor. 14/8/76	Great Willow-herb (JPW)
Viscum album L. On Tilia, at Hambleden.	Mistletoe (JA)
Sanicula europaea L. Ashampstead Common. 3/6/76	Sanicle (JPW)
Petroselinum segetum (L.) Koch Near Stratfield Saye. 24/8/76	Corn Parsley (JPW)
Asarum europaeum L. Swyncombe Churchyard. 16/5/76	Asarabacca (SRD)
Mercurialis annua L. Pepper Lane, Earley. 13/9/76	Annual Mercury (SRD)
Vaccinium myrtillus L. Pamber Forest. 10/6/76	Bilberry (JPW)
Pyrola minor L. Davenport Wood. 11/7/76	Common Wintergreen (SRD)
Primula veris L. x vulgaris Huds. Moulsford Downs. 19/4/76 Marlston. 25/4/76	False Oxlip (SRD)
Hottonia palustris L. Great Lea Common. 7/6/76	Water-violet (JPW)
Lysimachia nemorum L. Ashampstead Common. 3/6/76	Yellow Pimpernel (JPW)
Vinca minor L. Ardington. 19/4/76	Lesser Periwinkle (SRD)
*Vinca major L. Moulsford Downs. 19/4/76 Little Marlow. 2/5/76	Greater Periwinkle (SRD)
Blackstonia perfoliata (L.) Huds. Hillside above Bottom Farm, Mapledurham. 14/6/76	Yellow-wort (JPW)
Gentianella germanica (Willd.) Börner Hanover Hill, Fingest. 2/10/76	Chiltern Gentian (SRD)
Menyanthes trifoliata L. Bear Wood. 9/6/76 (HJMB)	Bogbean Sent in by (LEC)

Pentaglottis sempervirens (L.) Tausch — Green Alkanet
Bisham Woods. 22/5/76 (LEC)

Myosotis discolor Pers. — Changing Forget-me-not
Bear Wood. 9/6/76 (HJMB) Sent in by (LEC)

Cuscuta epithymum (L.) L. — Dodder
On Calluna, Pamber Forest. 17/7/76 NHS walk. (BMN)

*Lycium halimifolium Mill. — Duke of Argyll's Teaplant
Roadside near Manor Farm, Ashampstead. 5/9/76 (SRD)

Atropa belladonna L. — Deadly Nightshade
Plantation near Manor Farm, Ashampstead. 5/9/76 (SRD)

*Datura stramonium L. — Thorn-apple
Several plants appeared after road widening in Pepper Lane, Earley. (JA)
Whiteknights Park. (JPW)

Verbascum thapsus L. — Great Mullein
Chazey Wood. 14/6/76 (JPW)

*Antirrhinum majus L. — Snapdragon
Lambridge Wood. 18/7/76 (SRD)

Linaria repens (L.) Mill. — Pale Toadflax
Hartslock. 29/7/76 (JPW)
By a footpath in Fingest. (SRD)

Chaenorhinum minus (L.) Lange — Small Toadflax
Sliding Wood, Swyncombe. 13/6/76
Ashridge Wood, East Ilsley. 4/7/76 (SRD)

Veronica beccabunga L. — Brooklime
Bisham Woods. 22/5/76 (LEC)

Melampyrum pratense L. — Common Cow-wheat
Pamber Forest. 10/6/76 (JPW)

Odontites verna (Bell.) Dum. — Red Bartsia
Plantation near Manor Farm, Ashampstead. 5/9/76 (SRD)

Lathraea squamaria L. — Toothwort
Ashampstead. (SRD)

Verbena officinalis L. — Vervain
Thurle Down. 9/7/76
Lambridge Wood. 18/7/76 (SRD)
Hartslock. 29/7/76 (JPW)

Betonica officinalis L. — Betony
Cutbush Lane, near sewage farm. 12/7/76
Colemans Moor. 14/8/76 (JPW)

Scutellaria galericulata L. — Skullcap
Beside Whiteknights Lake. 30/6/76 (SRD)

Plantago coronopus L. — Buck's-horn Plantain
Bear Wood. 9/6/76 (HJMB) Sent in by (LEC)

Campanula trachelium L. — Nettle-leaved Bellflower
Ashridge Wood. 4/7/76 (SRD)

Campanula rotundifolia L. — Harebell
Colemans Moor. 14/8/76 (JPW)

Legousia hybrida (L.) Delarb. — Venus's-looking-glass
Sliding Wood, Swyncombe. 13/6/76

Dipsacus fullonum L. — Teasel
Foundry Brook, Grazeley. 11/8/76 (JPW)

Bidens cernua L. — Nodding Bur-marigold
Aldermaston. 18/9/76 (LEC)

Bidens tripartita L. — Trifid Bur-marigold
Pamber. 17/8/76 (JPW)

*Galinsoga parviflora Cav. — Gallant Soldier
A large number of plants appeared after road widening in Pepper Lane, Earley. (JA)

*Galinsoga ciliata (Raf.) Blake — Shaggy Soldier
Pepper Lane, Earley. 13/9/76 (SRD)

Senecio viscosus L. — Sticky Groundsel
By the Kennet at Aldermaston. 21/7/76 (SRD)

Inula conyza DC — Ploughman's-spikenard
Hartslock. 29/7/76 (JPW)

Pulicaria dysenterica (L.) Bernh. — Common Fleabane
Whiteknights Park. 21/7/76 (JPW)

Achillea ptarmica L. — Sneezewort
Silchester Common. 17/7/76 (SRD)
By Whiteknights Lake. 13/9/76

Chrysanthemum segetum L. — Corn Marigold
Beenham and Silchester. 10/6/76 (JPW)

Cichorium intybus L. — Chicory
Thurle Down. 9/7/76 (SRD)
Hardwick Lane, Whitchurch. 29/7/76 (JPW)
Cutbush Lane. 10/9/76 (SRD)

Tragopogon pratensis L. — Goat's-beard
Sonning Eye. 20/7/76 (JPW)

Lactuca serriola L. — Prickly Lettuce
Skew bridge over Sonning cutting, A4. 20/7/76 (JPW)

Hieracium pilosella L. — Mouse-ear Hawkweed
Hillside above Bottom Farm, Mapledurham. 14/6/76 (JPW)

Alisma plantago-aquatica L. — Water-plantain
Bucklebury Common. 11/6/76 (JPW)

Sagittaria sagittifolia L. — Arrowhead
Aldermaston. 21/7/76 (LEC)

Butomus umbellatus L. — Flowering-rush
Aldermaston. 21/7/76 (LEC)
Binfield. (JFN)

Zannichellia palustris L. — Horned Pondweed
Bear Wood. 9/6/76 (HJMB) Sent in by (LEC)

Narthecium ossifragum (L.) Huds. — Bog Asphodel
Silchester. 17/8/76 (JPW)

Polygonatum multiflorum (L.) All. Solomon's-seal
Frilsham. 25/4/76
Ashridge Wood, East Ilsley. 4/7/76
Pamber Forest. 17/7/76 (SRD)

Ruscus aculeatus L. Butcher's-broom
Near Cold Harbour. 15/4/76 (JPW)

Ornithogalum umbellatum L. Star-of-Bethlehem
Winter Hill. 22/5/76 (LEC)

*Ornithogalum nutans L. Drooping Star-of-Bethlehem
Ardington. 19/4/76 (SRD)

Allium vineale L. Wild Onion
Earley Sewage Works and Elm Lane, Earley. 10/7/76 (SRD)

Allium ursinum L. Ramsons
Near Cold Harbour. 1/5/76 (JPW)

Colchicum autumnale L. Meadow Saffron
Naturalised in grass verge in Shinfield Road, Reading, near entrance to Pepper Lane. (SRD)

Juncus squarrosus L. Heath Rush
Bear Wood. 9/6/76 (HJMB) Sent in by (LEC)

Cephalanthera damasonium (Mill.) Druce White Helleborine
Bisham Woods. 22/5/76 (LEC)
Ashampstead Common. 3/6/76 (JPW)

Epipactis purpurata Sm. Violet Helleborine
One fine specimen in Lambridge Wood. 18/7/76 (SRD)

Epipactis leptochila (Godf.) Godf. Narrow-lipped Helleborine
Lewknor Copse and Davenport Wood. 11/7/76 (SRD)

Listera ovata (L.) R. Br. Common Twayblade
Mongewell Woods. 10/5/76 (JPW)

Neottia nidus-avis (L.) Rich. Bird's-nest Orchid
Homefield Wood. 22/5/76 (SRD)

Ophrys insectifera L. Fly Orchid
Homefield Wood. 22/5/76 (SRD)

Orchis mascula (L.) L. Early Purple Orchid
Frilsham. 25/4/76 (SRD)

Anacamptis pyramidalis (L.) Rich. Pyramidal Orchid
Hillside above Bottom Farm, Mapledurham. 14/6/76 (JPW)

*Acorus calamus L. Sweet Flag
Whiteknights Lake. 27/6/76 (SRD)

Aira praecox L. Early Hair-grass
Bear Wood. 9/6/76 (HJMB) Sent in by (LEC)

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Weather Records in 1976

by A. E. Moon

The data refer to Reading University Meteorological Station. Since this is a new site, as mentioned in the summary for 1971, no comparison with an average is yet possible. All temperature readings are in Celsius degrees and rainfall measurements in millimetres which is now standard practice. A "rain day" is a day on which rainfall equals or exceeds 0.2 mm. For the designation of frost and ground frost days see Weather Records in 1961, but using all values below 0.0°Celsius.

STATION - READING UNIVERSITY. HEIGHT ABOVE MEAN SEA LEVEL - 215 ft.

		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	YEAR
MEAN DAILY TEMPERATURES °F	MAX.	8.4	7.3	8.9	13.0	18.0	24.1	25.6	24.3	17.8	14.0	9.3	5.0	14.7
	MIN.	2.9	2.2	1.3	3.8	7.6	12.0	13.3	11.4	9.8	8.1	2.8	-0.7	6.2
	MEAN	5.7	4.7	5.1	8.4	12.8	18.1	19.5	17.9	13.8	11.1	6.1	2.1	10.5
	RANGE	5.5	5.1	7.6	9.2	10.4	12.1	12.3	12.9	8.0	5.9	6.5	5.7	8.5
	GRASS MIN.	-1.1	-0.5	-2.8	-1.0	2.4	6.7	8.7	5.1	5.4	4.8	-1.9	-4.4	1.8
EXTREME TEMPERATURES °F	E. MAX.	13.4	14.5	13.4	18.5	27.4	34.0	33.5	29.6	23.2	18.7	12.3	9.1	34.0
	DATE	2	29	25,27,28	20	7	26	3	24	7	11	5	22	June 26
	E. MIN.	-5.0	-2.5	-3.4	-2.8	1.0	7.0	8.5	5.4	5.6	2.0	-1.7	-8.4	-8.4
	DATE	28	4	2	29	1	3,4	29	1	3	24	14	29	Dec. 29
	E. GRASS MIN.	-9.1	-7.5	-9.0	-10.9	-5.9	0.2	2.0	-2.6	-1.6	-2.4	-8.1	-13.8	-13.8
	DATE	28	9	9	29	1	3	29	1	3	24	23	29	Dec. 29
DAYS WITH FROST		9	8	10	2	0	0	0	0	0	0	8	15	52
" " GROUND FROST		18	20	26	17	9	0	0	1	1	5	21	26	144
SUNSHINE HOURS	SUN	75.0	41.7	125.1	188.7	206.3	279.5	282.5	280.9	127.3	58.2	59.7	67.1	1792.0
	% POSS.	29	15	34	46	43	57	57	63	34	18	22	27	40
	DAILY MEAN	2.42	1.44	4.03	6.29	6.65	9.32	9.11	9.06	4.24	1.88	1.99	2.16	4.90
PRECIPITATION m.m.	AMOUNT	14.3	28.4	15.2	10.3	25.9	17.5	47.4	13.6	110.8	107.5	88.7	77.6	557.2
	RAIN DAYS	10	14	8	6	12	4	7	3	17	25	16	13	135
	MAX. RAIN IN 1 DAY	6.5	15.2	5.5	4.5	9.0	9.2	35.1	10.7	23.8	14.9	25.4	17.0	35.1
	DATE	4	12	15	14	24	2	15	29	10	3	30	31	July 15
LONGEST RUN OF CONSECUTIVE RAIN DAYS		4	6	4	2	4	2	2	3	9	8	6	5	-
LONGEST RUN OF CONSECUTIVE DRY DAYS		9	5	10	8	5	13	11	26	6	0	9	6	-
SNOW OR SLEET DAYS		4	3	2	1	0	0	0	0	0	0	0	2	12
DAYS SNOW LYING		0	1	0	0	0	0	0	0	0	0	0	5	6
VISIBILITY	FOG AT 0900 G.M.T.	0	6	1	1	0	0	0	1	2	3	3	7	24
THUNDERSTORM ACTIVITY	DAYS OF THUNDER	0	0	0	0	3	0	5	0	6	1	0	1	16
	DAYS OF HAIL	0	0	0	0	1	0	0	0	0	0	0	1	2

Monthly Weather Notes, 1976

January — The driest January since 1950 and sunniest since 1959. The first sleet of the winter fell on 23rd and snow showers on 24th. A wind gust of eighty-seven miles per hour was recorded during a severe gale during the evening of the 2nd.

February — The 29th was the warmest February day since 14th 1961. Freezing drizzle occurred on 3rd and snowfalls at the beginning of the month were negligible, consisting mainly of snow grains.

March — Driest and sunniest March since 1973. The frequency of ground frosts was also as high as in 1973.

April — Driest April since 1957 and sunniest since 1969. It was the seventh consecutive month with rainfall below the expected average. Temperature reached 15.56°C (60°F) for the first time this year on 10th (16.4°C).

May — Warmest May since 1970; the maximum on 7th was the highest May value since 14th 1965. The low rainfall total now produces the eighth consecutive month with below average rainfall, bringing the deficit to 242.3 mm. Solar haloes were observed on fourteen days, the highest in any month of records since 1959.

June — Warmest June since reliable records began in 1921. 32.2°C (90°F) was recorded on three consecutive days (26th, 27th, 28th); 90°F has only been recorded in June on one previous occasion, viz. 29th 1957. The highest recorded temperature was 94°F on 12th and 13th July 1923 and 29th July 1948. The night of 26th/27th was the warmest in June since 28th/29th 1949. The 30th was the sunniest June day since at least 1959.

July — Warmest July since 1921; the 3rd was the warmest July day since 29th 1948 and the night of 3rd/4th the warmest since 30th June/1st July 1968. It was the sunniest July since 1959 and the tenth consecutive month with rainfall below average. Among three occasions of notably heavy rainfalls in short periods (all during thunderstorms) was 11.7 mm. in six minutes at 23h.20m. (G.M.T.) on 15th.

August — In spite of the consistently fine warm weather the average temperature (½ max. + min.) was 1°C lower than last August. Rainfall was the lowest in August since 1955 and a drought period of thirty-seven days ended on 27th. It was the sunniest August since sunshine records started in Reading in 1939.

September — Wettest month since November 1974; September 1975 was the last month with rainfall above average. Sunshine was the lowest September total since 1969. 2.8 mm. of rain fell in three minutes at 22.05m. (G.M.T.) on 25th during a thunderstorm.

October — This was the wettest October since 1967, and had the greatest number of rain days since 1932. The sunshine total was the lowest in October since records started in Reading in 1939, the previous lowest being 72.4 hours in 1966.

November — Coldest November since 1969, though on the whole temperatures showed close similarities to 1975 and 1973. The first ice (thin) was noted on evaporation tank on 14th.

December — Coldest December since 1962. The screen minimum on 29th was the lowest December value since 21st 1946. It was the wettest December since 1968 and at 09h. on 17th 8cm. of snow was lying. The number of days with snow lying (at 09h.) was the greatest since February 1970 and in December since 1968. The total sunshine hours, however, was the highest since 1967.

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Atmospheric Pollution

1976

Measurements of smoke concentration and sulphur dioxide (SO_2) are summarised in the following table. They constitute the results of daily measurements of smoke and SO_2 pollution by air filter and volumetric method respectively from apparatus installed in the Geography Department, Reading University, at Whiteknights.

	Smoke Concentration Microgrammes per cu. m.					Sulphur Dioxide (SO_2) Concentration Microgrammes per cu. m.				
Month	Mean	Highest		Lowest		Mean	Highest		Lowest	
January	13	78	27	0	10	48	79	27	20	2
February	30	116	6	2	10 12 22	83	316	19	27	22
March	21	92	4	0	26 31	81	264	3	29	31
April	8	28	9 16	0	3	44	82	9	14	24
May	5	26	6	0	*	43	121	6	8	20 21 22
June	5	26	8	0	12 18 19	45	113	28	13	19
July	7	18	2	0	13 18	44	101	3 6	13	13 14 30
August	11	35	12	0	1	38	66	23	19	1
September	11	29	21	1	10	33	52	24	14	10
October	16	52	27	2	2 5 11	39	67	25	21	5
November	30	112	14	5	**	57	109	12 23	23	26
December	43	139	13	1	6	80	160	14	25	6
Year	17	139	13 Dec.	0	See below	53	316	19 Feb.	8	20 21 22 May

* 3, 15, 18, 19, 21, 30, 31

** 1, 4, 26, 27, 28