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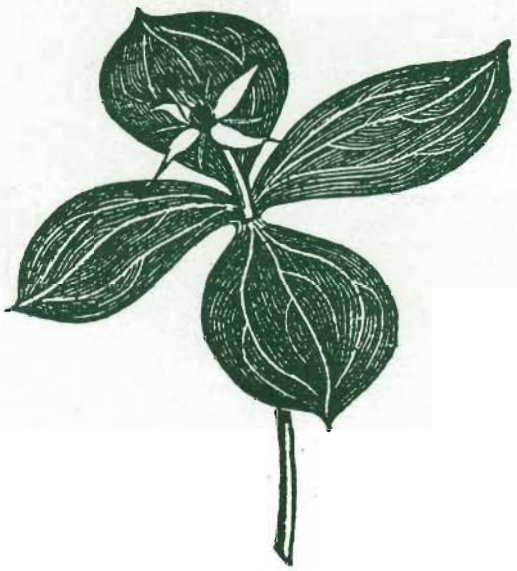

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EDITORIAL

Now that I am feeling at home with word processing I can say that editing The Naturalist is a pleasure and in no way a chore. I have learned how the computer can check spelling and grammar and how the format set for previous years can be quickly duplicated. Compared with the task facing editors before the use of computers, mine is now very easy.

I must thank those who have contributed articles and, as ever, the recorders who have supplied their material in good time and have checked my copy to ensure there are no errors.

It is said that nature abhors a vacuum and as editor I dislike the look of a half-empty page. Such a situation arose on page 4, following the section on Membership. I must thank Graham Saunders, who at very short notice, agreed to provide a note on his experience as a bat warden.

I must also especially thank David Young for offering to distribute the copies of 'The Naturalist' last year and for continuing the task for the present year.

This year the Recorders have received records from 30 members, all in good time, and they and I must thank them for their promptness. It would be pleasing to say that more than about 20 per cent of the membership send in records. These need not be of rarities, it is equally important to know if species are increasing or decreasing in any given locality. So please let the recorders know if you think there have been changes in places that you visit regularly. They may not be included in The Naturalist each year but when there is a marked trend this can be noted.

It is a good thing to look ahead and it has been suggested that the Society could mark the beginning of the second millennium with a special edition. Any thoughts would be welcome and in the shorter term any articles for the next Naturalist will be gratefully received.

EXCURSIONS

Meryl Beek

For the season October 1994 to September 1995 the Society has been without a Field Excursions Secretary. To cover this deficiency, the committee has put together a programme of winter walks and summer field excursions. These took place as follows:

1994

On December 10 there was a visit by 25 members and friends to Wyld Court for a "rain forest experience". They enjoyed the comfort of the greenhouses and an informative afternoon in another world!

1995

Three people braved the windy elements on January 28 for a bird watching expedition with Martin Sell, starting in Church Norton car park. During the day, a little egret, three Slavonian grebes, three avocets, a drake eider and a glaucous gull were sighted.

Michael Keith-Lucas led a party of seven to the Inkpen crocus field on February 19. Although not the most clement of days, the time was enjoyed and the crocuses were as good as ever.

A small group enjoyed an excursion at Nippers Grove on March 18 to see mosses and liverworts with Dr. Eric Watson and with tea afterwards! Lists of previous finds were circulated, and one or two new mosses were added.

Fifteen members were led by Graham Dennis in Pamber Forest on April 18. The expedition was linked with the talk to the Society on February 9.

On April 30 Michael Keith-Lucas led ten people to South Stoke to view Loddon lilies.

Martin Sell and ten other people got up early on May 6 to go to Theale gravel pits for the Dawn Chorus at 4.30 am. Two people later went on to the South Coast for more bird watching.

Nine members went to Wittenham Clumps on May 20 with Michael Fletcher and enjoyed the contrasting habitats that it provides.

On May 25 Stephen Jury led an enthusiastic party of 15 round the Harris Garden and the greenhouses of Whiteknights Park on a fine and sunny evening.

Only six people made the Warburg Reserve on June 3, a rather wet day, but they greatly appreciated Rod D'Ayala's leadership.

June 17, another wet day! Ten members joined Michael Keith-Lucas on Snelsmore Common to observe bog plants. Sundew and sphagnum moss abounded.

On July 1 a member of the staff of English Nature led 12 people at the Aston Rowant N.N.R. Among other delights a red kite was sighted.

George Osmond welcomed 12 members and friends to the Seven Barrows Reserve on July 22. Among other goodies, a dark green fritillary butterfly was observed.

On July 29, 12 people were present at the Thatcham Nature Reserve, the venue of Brian Baker's mothing night.

The Coach Excursion on August 12 to the New Forest was enjoyed by 40 people. The first stop, near Beaulieu Road Station, produced nine new records of plants, thanks to Humphry Bowen, who led the party. Many members were delighted to view Coral Necklace (*Illecebrum verticillatum*) near Hatchet Pond. Mary and Neville Diserens are thanked for the excellent tea at their Thorney Hill home which rounded off the day so well.

Noar Hill was visited on August 20 by 12 members led by Martin Sell.

Twelve members visited the fairly new Decoy Heath Reserve on September 9 and were led by Graham Saunders.

On September 23 Michael Keith-Lucas led 19 people around Watlington Hill - and a few more red kites (with wing tags) were seen.

Between 40 and 50 people enjoyed the Fungus Foray on October 8 at Heath Lake and California Country Park led by Alan Brickstock. This event had been well advertised by the Wardens!

The committee are pleased to announce that as from the Annual General Meeting on October 12 1995, Graham Saunders will be the Field Excursions Secretary.

WEDNESDAY AFTERNOON WALKS

Alan Brickstock

Six excellent walks, organised as usual by Ken Thomas, were much enjoyed by small parties of up to nine people, as well as by up to four dogs.

As well as varied and attractive scenery, these walks proved to be enjoyable social occasions, much enlivened by Ken's historical and architectural discourses. Some good lists of flowers were obtained, the number of species topping the hundred on three occasions.

The series of walks opened on April 4 with a walk round Hazeley Heath and Bottom, on a warm cloudless day with no wind. There were some superb Blackthorn flowers and Hornbeam catkins. Tea was taken by a very attractive lakeside.

On May 10 round Hurst and the river Loddon, we had another fine, warm day. A varied walk with some road sections, but also some very nice footpaths, some gravel pits, and a stretch of the Loddon, on the bank of which we took tea. This walk was much enjoyed by nine people and three dogs.

On June 14 at Whitchurch Hill we recorded 116 species of plants, a record for our Wednesday walks. Again we had nine people, but four dogs this time!

One of the highlights of the July 10 walk round Beenham and Upper Woolhampton was a field which was orange with Corn Marigold. This does seem to be making a bit of a comeback locally.

We had a very hot, sunny day on August 16 for a walk through fine woodlands at Gallowstree Common and Kingwood Common.

After the cold storms of the previous few days, we were lucky to have another fine, sunny day for the September 13 walk round Upper Basildon and Ashampstead. Highlights were about ten Red Admiral butterflies feeding on some rotting plums - no doubt becoming tipsy in the process - and a superb cluster of the beautiful little 'Birdsnest Fungus', *Cyathus striatus*. In addition to flowers, we recorded 22 species of fungi on this walk.

The lucky few who went on these walks were again grateful to Ken Thomas for organising them. Absent members missed some very enjoyable outings. Why not more of you next year?

MEETINGS

Meryl Beek

Once again the Society has been privileged to enjoy an excellent series of winter lectures.

On October 27, 53 people enjoyed hearing Ian Evans speaking about the "Experimental Reintroduction of the Red Kite to England". Results are very encouraging at the two South of England sites. Now all we want is a sighting in central Reading!

Andrew Cleave's interesting talk on "Whales and Dolphins" was given on November 10 to 51 people. The speaker has travelled widely, sometime on organised whale watching trips. He emphasised the great size of these mammals and demonstrated with the help of a tape measure! Andrew explained that the threat to these intelligent creatures is no longer killings but environmental damage which deprives dolphins and whales of food, while the noise of ships, and other human activity, hampers their communication systems.

On November 24 Nigel Phillips spoke about "Wildlife around Britain's Coast, including underwater". The meeting was attended by 43 people, and they were treated to a coastal tour including sightings of the Lizard Orchid at Sandwich Bay, Kent. Members were taken on to the mud chines of the Isle of Wight where the Glanville fritillary butterfly was seen. Later there were underwater shots on the Scilly Isles of spiny starfish, gooseberry sea squirts and soft corals.

After Christmas, 42 people met Tom Harrison, who gave "An Introduction to British Beetles" on January 12. He pointed out that the UK has 1% of the 400,000 known species of beetle worldwide. The major beetle families were illustrated by slides and a few words about special features of their life histories were given.

There were initial problems on January 26. Alan Brickstock was scheduled to speak on "The World of Fungi". As he was receiving hospital treatment, a substitute was found, but he was too ill on the day! Michael Keith-Lucas stepped into the breach and gave an illustrated talk on Alan's original subject. We thank Michael for giving 40 members an evening of very high standard.

Graham Dennis spoke to 41 members and friends on February 9 on "Current Management in Pamber Forest". A precis of this interesting talk on a local Nature Reserve is given on pages X to x.

On February 23 Dr. Keith Porter gave an illustrated talk on the national perspective of the Oxfordshire fens to 45 members. The focus was Cothill fen, which falls within the "Old Berkshire" vice-county. The chief botanical interest of the Oxfordshire fens lies in the restricted flush communities characterised by black bog-rush, blunt-flowered rush, grass of parnassus, marsh heleborine and bog pimpernel. These flushes contain a distinctive calcareous marshy peat, rich in a calcium mineral called tufa.

An old friend of the Society, Charles Flower, was welcomed on March 9 and 44 members heard his fine lecture on "Pros and Cons of Wild Flower Seed Growing". He spoke of the management needed to recreate the wild flower filled meadows of days gone by. Removal of unwanted perennial weeds, including ryegrass and dock presented problems. Experiments were done on how much seed was needed for reasonable results. In some cases it could be as little as 100 grams per acre.

As usual two members' evenings were held. On December 8, 39 people attended when Hugh Carter spoke on the data base being organised at Reading Museum, where he notes the current status of flora and fauna in the area so that future changes can be monitored. Later in the evening Shirley Townend repeated an old poem "The Owl Critic" by J.T. Fields, which brought back memories for some and good humour to all present. Martin Sell rounded off the evening with an account of a 1994 holiday in Kazakhstan. A members' evening with not a slide in sight!

The second members' evening on March 23 with 48 people was full of slides! Philip Staines delighted members with stunning pictures of New Zealand and Australia. Alan Brickstock gave a miscellany of slides including happy memories of last summer's excursions. After refreshments, Michael Keith-Lucas' slides included magnificent sky formations, frost on holly, snowflakes and sand patterns. Meryl Beek's slides on an autumn-into-winter walk down the Lambourne valley revived memories of Welford Park and the snowdrops seen by some in Spring 1994.

This has been a good season, and grateful thanks are expressed to Brian Baker for arranging the programme for the Society.

MEMBERSHIP

At the Annual General Meeting in October well-deserved Honorary Memberships of the Society were accorded to Mrs Betty Newman and Miss Shirley Townend, both of who have given many years of valuable service to the Society.

Betty is our Honorary Recorder for Botany. Her interesting and valuable reports in The Reading Naturalist have been appearing since 1962, the year in which her husband Jim ended his term as President. She also saw to the smooth running of our meetings by serving as Honorary General Secretary from 1964 to 1966.

Shirley became a member in the 1950's, a period in which she promoted the Society's involvement with the South Eastern Union of Scientific Societies, the Young Naturalists' Evening (held annually in Reading Town Hall) and the formation of our Junior Section in 1961. She served as Honorary Winter Programme Secretary from 1965 to 1974 and as President from 1976 to 1978.

At the Annual General Meeting the treasurer reported that membership of the Society numbered 163.

The Society welcomes the following new members who joined during the year 1995.

Mr. Eric. and Mrs. Alice Ayres
Mrs. Barbara Ansell
Mr. Martin Harvey
Mrs. Mary Knapp
Mr. Vic and Mrs. Marjorie Mason
Mr. Douglas Nethercleft
Mr. Tony Rayner
Dr. Malcolm and Mrs. Christine Storey

A DAY IN THE LIFE OF A BAT WARDEN

Graham Saunders

Last summer I had a call from a nursing home to say that bats were flying inside the house, a large country mansion where extensive building work was being carried out.

When I arrived, an hour before dusk, the bats were continually flying along the top floor corridors and in some of the bedrooms. The reaction of the staff and ancient residents ranged from tolerance to near apoplexy!

Further investigation showed that the bats were roosting behind the coving between the ceiling and the internal wall of one of the bedrooms. The bats were behaving very oddly, flying around the bedroom, backwards and forwards to the roost hole, just landing, then taking flight again, hanging up on the curtains and flying across the floor as if taking a drink from a pond.

Over two nights I caught the bats, mostly from the curtains in the room, and put them out through the window to fly off, then closed the window. Some bats were caught in the corridor and in other bedrooms.

I can only surmise that the bats, which were pipistrelles, had been evicted from their roosting site by the building work and had then flown in through the open windows (remember the long, hot summer) to look for another roosting site.

It is extremely unusual for bats to roost inside a house as this group did.

Funnily enough I had a call a few days later from a village about a mile away to say that a large number of bats had suddenly appeared in a house.

SOME TROPICAL INTERACTIONS
(mainly between plants and insects)

Presidential Address, 12 October 1995

Michael Keith-Lucas

In tropical savannahs, deciduous woodlands and rainforests, complex interactions between animals and plants have developed over millions of years. These are often vital for the survival of the plants, and may be beneficial to the animals involved also, though this is not necessarily the case; sometimes animals are exploited by the plants.

Starting at the seedling stage, many plants attract ants which may benefit them by removing the seeds or seedlings of competitors from their immediate vicinity. The classic case of this relationship is between *Acacia* and the ant, *Pseudomyrmex*, but there are other well-documented examples. As the plants mature, ants are often involved in the defence of the plant against herbivores as well, and this brings me to my first major topic - defence against herbivores.

1. Defence against herbivory

If the law of the jungle is that everything eats everything else, then the second law is that everything does whatever it can to avoid being eaten by everything else. Plants can protect themselves from being eaten by herbivores by a variety of methods:

(a) Physical defences.

These can be spines, hairs, etc. such as the spines on the leaf sheaths of rattan palms. Such adaptations have undoubtedly arisen by natural selection, as have all the examples I will be discussing. I have occasionally fallen into the trap of saying the plant does this in order to prevent itself from being eaten, as if it were a thinking being. This is just to save space, and is not intended to suggest that I do not believe in natural selection as the means of evolution!

(b) Gums, resins and latex.

These, though not necessarily poisonous, are released when the bark, wood, or other parts of plants are injured, and can act as feeding deterrents, and may also help to prevent fungal attack to the wound.

(c) Poisons and feeding deterrents.

Many plants produce alkaloids, such as strychnine, or cyanogenic compounds which release cyanide when eaten. Others may produce unpalatable substances such as volatile oils, anthocyanins or tannin. The young foliage of many tropical trees and climbers is often coloured red with anthocyanins, before the leaves have become tough enough for them to be less attractive to aphids or other herbivores.

(d) Hormones

The production of ecdysone, which causes the insects feeding on the plant to moult, or oestrogens, which render female mammals infertile, is well known, and 'the pill' is made from a tropical yam which produces such oestrogens.

(e) Movements

The sudden collapse of the leaflets and petioles of many *Mimosa* species may deter even the hungriest of grasshoppers from eating them - the fright alone is often enough to make them look for a more stable dinner.

(f) Crypsis

Plants may prevent themselves from being eaten by camouflage (or crypsis - literally, hiding). For instance mistletoes in Australia mimic their host Eucalypts in terms of leaf shape and possibly protect themselves from being eaten by 'possums as a result, though they lack the feeding deterrents (eucalyptus oil, etc.) of their hosts. The mimicry may even extend to similar coloured flowers which can then share the same pollinators as their host.

(g) Deception and imitation

Plants may protect themselves from having eggs of butterflies laid on them by exploiting the behaviour of certain species of butterfly. Many butterfly species will not lay unless the leaf is big enough to support the caterpillar through to the pupal stage, or they will avoid a leaf that already has a butterfly egg on it. By having leaves with a pattern of small leaflets on a pale background, *Calathea* can fool a butterfly with evil intentions into believing that the leaf is not big enough. Similarly by producing pseudo-eggs on the leaf some species of *Passiflora* can likewise deter a female butterfly with maternal inclinations.

(h) Symbiosis with an aggressive animal

The most common example of this is a symbiosis with ants. The plant attracts the ants by offering rewards such as food (e.g. extra-floral nectaries or food bodies, as in some *Acacia* species) or safe lodgings as in the hollow spines of some *Acacias* or the hollow leaf sheaths of the rattan, *Korthalsia*, or the interlocking spines of the rattan, *Daemonorops*. In return, the ants defend the plant against grasshoppers, seed predators, or other marauding insects, birds or mammals.

Not only do the plants need to defend themselves from being eaten, but so, of course, do the animals which feed on them. These animals, which are mainly insects, have adopted a number of similar strategies to the plants themselves. They may deter potential predators by:

2. Defence against carnivory

(a) Physical defence

For example, the hairs on many caterpillars, or the hard wing cases of many beetles, may prevent predation by birds.

(b) The production of secretions

Many beetles produce unpleasant liquids or more violent secretions (e.g. the bombadier beetles).

(c) Poisons

On the whole, plants are better biochemists than animals, which seldom make their own poisons. Caterpillars, for example, have evolved to cope with particular plant toxins and concentrate them in their own bodies, where they remain through to the adult stage. The caterpillars and mature butterflies often have warning coloration, and good examples are the monarch butterflies which feed on poisonous asclepiads in their larval stages.

(d) Crypsis

Many tropical rainforest animals are green, blending in with the foliage of the trees. This is true of many butterflies and grasshoppers which are often potential prey, but is also true of the animals that prey upon them, such as mantids and tree frogs, and of the animals which in their turn prey on the predators, such as many snakes, lizards and birds. On the forest floor, brown leaf butterflies and brown frogs and toads may resemble dead leaves. Other insects may resemble spines, twigs (e.g. stick insects), bird droppings, etc.

(e) Mimicry

Mimicry of a poisonous species by a non-poisonous one (Batesian mimicry) only works if the mimic is in lower numbers than the model. It is particularly common amongst the *Heliconia* butterflies of S. America, and here the 'ploy' has been taken to its ultimate extent where the mimic can achieve a higher population by having its males imitate one poisonous species and its females imitate another.

Many of the poisonous species have come to look very much like each other (Mullerian mimicry), an example of convergent evolution caused by birds learning to recognize particular colourations as indicating the presence of poisons.

(f) Deception

Caterpillars with false eyes on their rear ends or butterflies with false eyes on their wings may

frighten potential bird predators. Often a similarity to a snake's head, and hence a form of mimicry, is found.

3. Nutrient acquisition by plants

Survival not only depends on not being eaten, but also on managing to get an adequate supply of nutrients or food. Many of the complex interactions seen in the tropics are concerned with nutrient acquisition. Plants have often evolved relationships with other organisms, to help them gain nutrients, particularly where soils are poor such as in tropical heath forests and cloud forest. Most tropical rainforest trees employ fungi as mycorrhizal associates to release nutrients from the leaf litter and soil and transmit them straight to the plant without the risk of the nutrients being lost by leaching by the heavy rainfall. Others employ living animals to bring the nutrients to them. Again, ants are particularly important in these relationships.

(a) Ant-plants

Ant-plants such as *Hydnophytum* produce tuberous growths in which there are complex passages and chambers. Ants bring the bodies of other insects to be consumed, and in the lower chambers of the tubers, their droppings, and the remains of the bodies of these insects and of the ants themselves, provide the plant with a useful boost of nitrate and phosphate. The ant-fern, *Lecanopteris*, has a rhizome with chambers in it which serve a similar purpose. It also has spores which in *Lecanopteris mirabilis* have remarkable hair-like outgrowths which get caught on the ants, and so are dispersed along the branches of the trees on which the fern grows. This is the only known example of an insect-dispersed fern.

Another ant-plant, *Dischidia*, has pouch-like leaves which may house ants, and into which it sends its own roots. *D. astephana* appears to grow almost exclusively on *Leptospermum* in the cloud forests of SE Asia. Here the ants bore holes in the wood of the tree itself, and the *Dischidia* catches the sawdust and droppings in its leaves and extracts the nutrients from them.

(b) Insectivorous plants

The tropics are home to many insectivorous plants such as *Heliamphora* in S. America and *Nepenthes* in SE Asia as well as various *Drosera* and *Utricularia* species with a wider distribution. These are often found on very nutrient-poor substrates where catching living insects and digesting them forms a way in which nutrients from outside the immediate habitat can be gained.

4. Pollination

In the tropics most plants are pollinated by insects, birds or bats, and wind-pollination is very rare. An enormous variety of floral adaptions to particular types of insect occur, and this would be a lecture in itself. These include clustered tubular flowers such as *Ixora* which attract butterflies, or others with less showy flowers which flag their presence on the dark forest floor with coloured bracts, such as *Mussaenda*. Many moth-pollinated flowers are white or pale yellow, showing up in the dusk, and often very fragrant. The ginger-lily, *Hedychium* is a good example, and the S. American *Brugmannsias*, which are said to 'hook' their pollinators on drugs. The Madagascan orchid *Angraecum sesquipedale* has a spur up to 45 cm long for which Darwin predicted there must be a pollinating moth with a tongue of a similar length. When found, it was named *Xanthopan morgani predicta*.

Flies are important pollinators in the tropics, and many flowers or inflorescences employ fly-trap mechanisms similar to those of Lords and Ladies (*Arum maculatum*). Thus, the orchid *Paphiopedilum*, and and Dutchman's Pipe, *Aristolochia*, as well as some of the giant aroids such as *Amorphophallus* are fly-trap flowers. The last two and *Rafflesia*, the biggest flower in the world, have mottled crimson and white blooms, and resemble, both in colour and smell, rotting flesh. The flies they attract and trap, while they dust them with pollen, are carrion flies. Others, with appropriate odours, attract dung flies.

Bee pollination is particularly common, and is as varied as are the many different types of bee to be found. One example is the orchid, *Oncidium*, which is pollinated by *Centris* bees in which the males gang together to defend their territories against other gangs of male bees. The orchid dangles

flowers which imitate a swarm of such bees within their territory, and the bees attack the flowers, and in so doing bring about pollination. In other orchid bees, the males use orchid scents to attract the females of their species.

Wasp-pollination is also common, and the best example is probably the fig-wasps. The fig has three sorts of flower inside, male, female and gall flowers. The female lays her eggs in the gall flowers, and the male wasps emerge first, and mate with the as-yet unemerged females. These then emerge at the same time as the male flowers release their pollen, but after the female flowers have ceased to be receptive. The female wasps then fly off to another younger fig in which the female and gall flowers are receptive, and begin a new brood, and bring about pollination at the same time.

Many flowers, particularly in the S. American tropics, are bird-pollinated. Tubular red or orange flowers with abundant nectar are normally associated with bird pollination, though many of the bottle-brush flowers of Australasia, which lack petals, are bird-pollinated. Bats are important pollinators of such plants as *Agaves*, bananas, durians and *Parkia* and the sausage tree, *Kigelia,* of Africa, which attract their pollinators with unpleasant smells, said to be reminiscent of the bat colony itself, and often have mucilaginous nectar, as in bananas.

5. Seed and fruit dispersal

As with pollinators, most tropical plants rely on animals for the dispersal of their seeds or fruits. Many palm fruits are dispersed by parrots and many figs and other fat- and protein-rich fruits by toucans in S. America or hornbills in SE Asia. Birds are undoubtedly amongst the most important dispersers, often moving away from the trees in which they have collected their fruits so as to avoid competition and eat their fruits in peace. This habit also draws less attention from would-be predators, while helping to disperse the seeds widely. One reason for simultaneous fruiting of trees may be that the resultant competition amongst the frugivores results in a wider dispersal. Bird-dispersed fruits are often brightly coloured, usually red. Monkeys also tend to move on from the tree in which they have collected their fruits and spit out the seeds some distance from the parent tree. Figs are said to account for about a quarter of the diet of orang-utans and they have the same laxative effect as syrup of figs on humans. This speeds their passage through the gut so the seeds are not damaged by the digestive juices.

Squirrels and rodents may also be important dispersers, but tend to eat more seeds than they disperse. Larger ground mammals such as elephants may also be important. Elephants are said to be much attracted to fallen durians, which are intoxicating and result in the elephants leaving in a distinctly inebriate state.

Bat-dispersed fruits tend to be dull brown or yellow and odorous, much as the flowers which they pollinate.

6. Detritivores

Finally, having shed their seeds and reached the end of their lives, most plants rely on animals and other organisms such as fungi to break down their tissues and release their nutrients back into the ecosystem.

Wood-boring beetles and trilobite beetles which remain in a larval form, and spit digestive juices onto rotting logs, which they then reabsorb, may be important in the first stages of breaking down wood. Wood-rotting fungi are also an essential part of the ecosystem. Some termites use fungi to provide their food. They collect fragments of plant tissue which they inoculate with a fungal culture, and then eat the fungus when it has developed sufficiently. On moving to a new site they carry a fungal inoculum with them, and keep it pure by carefully removing any fungus of the wrong species. In this way, along with all the other detritivores, the animals have their place in the death of plants as well as in their establishment and reproduction.

Many such interactions can only be witnessed in tropical regions, and leave one thinking, "isn't nature wonderful, even if it is all the product of natural selection".

Freshwater Invertebrates found in the Kennet Valley to the south-west of Reading and their conservation

Robert Briers

Reading Urban Wildlife Group

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For the past two summers (1994 - 1995) I have been employed by Reading Urban Wildlife Group for the purpose of surveying the wetlands in the Kennet Valley to the south-west of Reading. This area, while generally acknowledged to be of considerable ecological importance, is also subject to considerable development pressure for gravel extraction and housing. Data collection such as that carried out in this survey is necessary to ensure that the conservation value of this and similar areas can be properly evaluated.

The survey area extended from the southern edge of urban Reading to the M4 motorway in the south and west. Sixty-one sites were chosen to cover the entire area and attempt to give a representative sample of the invertebrates present. This area has a great diversity of different types of water body; from the fast-flowing waters of the River Kennet and Holybrook to the more placid waters of the canal and the extensive network of drainage ditches. This diversity is reflected in the invertebrate fauna. One hundred and ninety species were recorded in sixty families, a full list is given in Appendix I.

The species found included twelve that were new to the area. Previous surveys (e.g. Crichton and Baker, 1959; Brown 1948), data from the National Rivers Authority and national distributional data contained in various keys were used in an attempt to categorise the species into groups of differing rarity. However this categorisation is subject to the limitations of the data collected; there is a general lack of data concerning the occurrence of many freshwater invertebrate groups in the Greater Reading area or even on a county wide basis. However a number of the species recorded were of particular interest due to their rarity on a national or local scale.

Three species of invertebrate found were classified as Red Data species, being either rare or vulnerable.

These species are detailed below:

Gyraulus (Planorbis) acronitus Ferrusac is a small ramshorn snail that is confined to the Thames and its tributaries (Macan, 1977). It is known from a number of locations between Oxford and Windsor but was first discovered in Fobney Meadows during a NRA survey (Bywater, 1992). Several populations were discovered during this survey but in the second year of sampling some of the populations appeared to have been lost. It may be that the populations have quite sharply defined boundaries and hence were simply missed by the sampling. This has been noted in other rare species of mollusc. However the populations may be threatened by unsympathetic management regimes in the drainage ditches they inhabit. Dredging, although necessary to maintain the function of the ditches, should be carried out in rotation to allow the invertebrate communities and vegetation to recover.

Macronychus quadrituberculatus Müller is a very small riffle beetle which is nationally rare. It is mainly confined to the west and Wales in lowland areas. It was discovered in the Holybrook in the 1992 NRA survey and has also been recorded from the Thames on the Berkshire/Oxfordshire border (G. N. Foster, *personal communication*). This species is associated with tree roots and log jams in flowing water. Loss of this habitat through canalisation and clearance may threaten the species. Conventional management techniques favour the removal of dead wood and overhanging trees to prevent the water flow from being impeded and this may have contributed to its decline. Due to its method of respiration it is also sensitive to reduced oxygen levels associated with organic pollution (G.N. Foster, *personal communication*).

Rhyacophila septentrionis McLachlan is a localised species of caddis-fly generally found in fast-flowing water living on or under stones. A single specimen was obtained from the Holybrook and it is uncertain whether it breeds in the area.

There are numerous other rare or local species, including water-boatmen (Corixidae), pond-skaters (Gerridae), whirligig beetles (Gyrinidae) and caddis-flies (Trichoptera). Listing all these species would take up far too much room and hence a brief description of some of the more interesting species is given.

Stoneflies are generally indicators of very clean water and one species, *Leuctra geniculata*, was found in the Holybrook. Although this species is quite common in the south of England, this is the first record in the Reading area as far as can be determined from searching relevant literature. Another rare and interesting species found was *Corixa dentipes*. This species of water-boatman was cited by Hutchison (1959) as a classic 'fugitive' species. Fugitive species are unable to compete effectively with similar species and only survive by being able to disperse between habitats more efficiently that their competitors. In this case *C. dentipes* was found in low densities in coexistence with the morphologically and ecologically similar species *C. punctata* which is much more common and generally outcompetes *C. dentipes*. A species to look out for near running water in the summer months is the white legged damselfly *Platycnemis pennipes*, which is only found in the south of England. The male of this species has a paler blue body than the common blue damselflies and the pale hairs on its legs that give it its name are easily seen when at rest. The female as in many damselflies is duller with a pale green body. A species that has recently invaded this country is *Corophium curvispinum*, a small amphipod 'shrimp'. This species was first discovered in Britain in 1935 and can be easily distinguished from native freshwater shrimps by its stout antennae. It generally inhabits a small tube of mucus and mud which can be found attached to submerged structures such as the corrugated metal facings of canals and water lily leaves. It is found naturally in the Caspian area and has spread across Europe gradually in the last century. It is predominantly found in the Midlands canal system in this country, but it has become established locally too. During sampling for this survey it was found in the River Kennet and in the Kennet and Avon Canal. This and previous studies indicate that it is present all along the Kennet from Theale to the centre of Reading and it is also found in the Thames.

Although this study produced good baseline data on the species found in the area, I would hope that it would stimulate further investigation. Very little information has been gathered on a wider scale and this information is necessary to be able to assess the rarity of species within the local area. The next step is to attempt a classification of the different communities to determine whether there are characteristic species found in a particular habitat. Conservation of the Red Data and other rare species should be seen as a priority, particularly as the areas they inhabit may be under threat. Rare species may be rare simply because habitat management techniques lead to the loss of the required environment, as is the case for *Macronychus quadrituberculatus*. Habitat management, whether by landowners or conservationists, may have adverse effects on some species unless it is carefully and thoughtfully carried out. However as well as conserving the rare species, maintenance of general diversity is equally important. Invertebrates are often overlooked when assessing the value of a particular habitat, unless they are the more visible groups such as butterflies or damselflies. Anyone interested in habitat management is recommended to consult Kirby's (1992) book (see References).

I would welcome any correspondence concerning freshwater invertebrates in the Reading area. Further records of species known to occur would be particularly appreciated. If specimens are collected that are difficult to identify, Reading Museum may be able to help and there are a number of simple keys and field guides to the major groups likely to be encountered (e.g. Croft, 1986 or Fitter and Manuel, 1994). Anyone with an interest is urged to go out and explore this local area. Many water bodies have never been sampled and without the efforts of local naturalists they probably never will be. Local knowledge gained from these efforts can be of help to conserve our watery areas and it's also great fun!

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Appendix 1: Check list of Freshwater Invertebrates found in the survey area

Turbellaria Flatworms

	Dendrocoelum lacteum	*Dugestia* sp.
	Polycelis nigra	

Hirudinea Leeches

Erpobdellidae	*Erpobdella octoculata*	*Erpobdella testacea*
Glossiphonidae	*Boreobdella verrucaria*	*Glossiphonia complanata*
	Glossiphonia heteroclita	*Helobdella stagnalis*
Piscicolidae	*Piscicola geometra*	
Physidae	*Physa fontinalis*	

Crustacea Crustaceans

Isopoda

Asellidae	*Asellus aquaticus*	

Amphipoda

Corophidae	*Corophium curvispinum*	
Gammaridae	*Crangonyx pseudogracilis*	*Gammarus lacustris*
	Gammarus pulex	

Mollusca Molluscs

Bivalvia Bivalves

Unionidae	*Anodonta cygnea*	*Unio pictorum*
Sphaeriidae	*Sphaerium corneum*	*Sphaerium* sp.
	Pisidium sp.	

Gastropoda	**Snails**	
Ancylidae	*Acroloxus lacustris*	*Ancyclus fluviatilis*
Hydrobiidae	*Bithynia tentaculata* *Potamopyrgus jenkinsi*	*Bithynia leachii*
Lymnaeidae	*Lymnaea auricularia* *Lymnaea peregra*	*Lymnaea palustris* *Lymnaea stagnalis*
Neritidae	*Theodoxus fluviatilis*	
Physidae	*Physa fontinalis*	
Planorbidae	*Gyraulus acronitus* *Planorbis albus* *Planorbis contortus* *Planorbis leucostoma* *Planorbis vortex*	*Planorbarius corneus* *Planorbis carinatus* *Planorbis laevis* *Planorbis planorbis* *Segmentina complanata*
Valvatidae	*Valvata piscinalis*	
Viviparidae	*Viviparus viviparus*	
	Insecta **Insects**	
Plecoptera	**Stone-Flies**	
Leuctridae	*Leuctra geniculata*	
Ephemeroptera	**Mayflies**	
Baetidae	*Baetis buceratus* *Baetis niger* *Baetis scambus* *Centroptilum luteolum* *Cloeon dipterum*	*Baetis fuscatus* *Baetis rhodani* *Baetis vernus* *Centroptilum pennulatum*
Caenidae	*Brachycercus harrisella*	*Caenis rivulorum*
Ephemerellidae	*Ephemerella ignita*	
Ephemeridae	*Ephemera danica*	*Ephemera vulgata*
Heptageniidae	*Ecdyonurus insignis*	
Neuroptera	**Lacewings**	
Sisyridae	*Sisyra* sp.	
Odonata	**Dragonflies**	
Zygoptera		
Agriidae	*Calyopteryx splendens*	
Coenagriidae	*Coenagrion puella* *Ischnura elegans*	*Enallagma cyathigerum* *Pyrrhosoma nymphula*
Lestidae	*Lestes sponsa*	
Platycnemidae	*Platycnemis pennipes*	

Anisoptera		
Aeshnidae	*Aeshna cyanea* *Anax imperator*	*Aeshna grandis*
Libellulidae	*Sympetrum striolatum*	
Megaloptera	**Alder-Flies**	
Sialidae	*Sialis lutaria*	*Sialis nigripes*
Hemiptera/Heteroptera	**Water-bugs**	
Aphelocheiridae	*Aphelocheirus aestivalis*	
Gerridae	*Gerris gibbifer* *Gerris odontogaster*	*Gerris lacustris* *Gerris paludum*
Naucoridae	*Ilyocoris cimicoides*	
Nepidae	*Nepa cinerea*	*Ranatra linearis*
Notonectidae	*Notonecta glauca* *Notonecta marmorea viridis*	*Notonecta maculata*
Hydrometridae	*Hydrometra stagnorum*	
Corixidae	*Callicorixa praeustra* *Corixa panzeri* *Cymatia coleoptrata* *Hesperocorixa sahlbergi* *Sigara distincta* *Sigara falleni* *Sigara lateralis*	*Corixa dentipes* *Corixa punctata* *Hesperocorixa linnaei* *Micronecta poweri* *Sigara dorsalis* *Sigara fossarum* *Sigara nigrolineata*
Veliidae	*Velia caprai*	
Trichoptera	**Caddis-flies**	
Caseless		
Hydropsychidae	*Hydropsyche angustipennis* *Hydropsyche instabilis* *Hydropsyche siltalai*	*Hydropsyche contubernalis* *Hydropsyche pellucidula*
Polycentropodidae	*Cyrnus flavidus*	*Cyrnus trimaculatus*
Polycentropodidae	*Neureclipsis bimaculata*	*Polycentropus flavomaculatus*
Psychomyiidae	*Lype reducta*	*Psychomyia pusilla*
Rhyacophilidae	*Rhyacophila dorsalis*	*Rhyacophila septentrionis*
Cased		
Brachycentridae	*Brachycentrus subnubilis*	
Goeridae	*Goera pilosa*	*Silo nigricornis*
Hydroptilidae	*Agraylea multipunctata* *Ithytrichia* sp.	*Hydroptila* sp.

Leptoceridae	*Adicella reducta*	*Athripsodes cinereus*
	Ceraclea dissimilis	*Mystacides azurea*
	Mystacides longicornis	*Triaenodes bicolor*
Limnephilidae	*Anabolia nervosa*	*Halesus radiatus*
	Limnephilus auricula	*Limnephilus binotatus*
	Limnephilus flavicornis	*Linmephilus lunatus*
	Linmephilus rhombicus	
Molannidae	*Molanna angustata*	
Phryganeidae	*Phryganea bipunctata*	*Phryganea grandis*
Sericostomatidae	*Notidobia ciliaris*	

Coleoptera **Beetles**

Dytiscidae	*Acilius sulcatus*	*Agabus bipustulatus*
	Agabus didymus	*Agabus nebulosus*
	Colymbetes fuscus	*Colymbetes* sp. larva
	Dytiscus marginalis	*Hydroporus angustatus*
	Hydroporus incognitus	*Hydroporus palustris*
	Hydroporus pubescens	*Hyphydrus ovatus*
	Ilybius ater	*Ilybius fenestratus*
	Ilybius fuliginosus	*Ilybius quadriguttatus*
	Ilybius subaeneus	*Laccophilus hyalinus*
	Laccophilus minutus	*Platambus maculatus*
	Potamonectes depressus elegans	
Elmidae	*Elmis aenea*	*Limnius volckmari*
	Macronychus quadrituberculatus	
	Oulimnius tuberculatus	
Gyrinidae	*Gyrinus bicolor*	*Gyrinus substriatus*
	Gyrinus urinator	
Haliplidae	*Brychius elevatus*	*Haliplus confinis*
	Haliplus lineatocollis	*Haliplus obliquus*
Hydrophilidae	*Anacaena globulus*	*Anacaena limbata*
	Enochrus testaceus	*Helochares punctatus*
	Helophorus alternans	*Helophorus brevipalpis*
	Hydrobius fusipes	*Laccobius bipunctatus*
	Laccobius minutus	

Diptera **Two-winged Flies**

Chironomidae	*Chironomus* spp.	
Culicidae	*Culex* sp.	
Chaoboridae	*Chaoborus* sp.	
Tipulidae	*Tipula* sp.	
Muscidae	*Limnophora* sp.	
Simuliidae	*Simulium aureum* spp. group	
	Simulium austeni	*Simulium equinum*
	Simulium ormnatum	*Simulium salopiense*
	Simulium subexcusi	

Oligochaetes and hydracarina were not identified past group level.

Current Management in Pamber Forest

Graham Dennis

Historical Background

From earliest times there was probably extensive tree cover over the area now known as Pamber Forest. It is first recorded as part of the Royal Forest of Windsor set up by William the Conqueror after 1066. When no longer a Royal Forest the land became the property of many owners. Deer were hunted, trees were felled for timber, foliage was cut for fodder and bracken was gathered for the bedding of animals. Where and when appropriate pigs were allowed to forage for acorns, this practice was known as pannage. During these times habitats would have ranged from dense woodland with many tree species, through heath lands with birch, gorse and heather to pasture land.

When the practice of coppicing was introduced it required that an area should be protected from grazing and earth banks were constructed which remain to this day. The numbers of deer were few but there were domesticated animals which needed to be excluded. Stakes were set on the banks when this was required. The banks also delineated ownership of the ground. Of a coppiced area of about 20 to 30 acres, perhaps 2 to 3 acres were cut at a time, 6 to 7 years being the period to complete the copse and 11 to 20 years would then elapse before recutting.

The produce of coppicing, thin hazel and oak stems, was used to make crates. These were sent to the Potteries for packing china, the crates being resilient ensured less breakage than the use of a more rigid structure. Hazel stems were made into hurdles, which were used for sheep pens on the surrounding downlands, and chestnut was used for fencing stakes. After the second World War the practice of coppicing ended.

That the woodland remained much as it had always been is evidenced by the species still found there. There are several hundred wild service trees, an uncommon species, and other survivors are yellow archangel, Solomon's seal and wood spurge.

The situation since 1980

Following the abandonment of coppicing the forest was neglected for a number of years and it became obvious that some form of management was needed. The area of the forest was 478 acres and an arrangement was reached in 1980 between the owners, The Englefield Estate, and the Basingstoke and Deane Borough Council whereby it became a Local Nature Reserve. In 1984 a Resident Warden was appointed and an action plan was agreed upon.

Along the rides 750 oaks were felled selectively to give differing characters, some shaded and others with large open areas. The many paths were also treated in a similar way. Hawthorn trees were left, mostly to provide nectar for invertebrates, and together with crab-apple trees to provide fruit for birds. It will take many years for the varied habitats to develop fully but to ensure the survival and hopeful increase of some species it is essential that there is variation. For example the ringlet butterfly needs warm, humid conditions, the silver-washed fritillary, hot sunshine and brambles, the purple emperor, sallow and tall trees as well as open rides where it can obtain minerals. Leaf feeding beetles and those species whose larvae feed on them, need open sunny sites with easy ways through the forest. Brimstone butterflies favour heathy glades where their larvae feed on the alder buckthorn. On the open sunny banks remaining from the days of coppicing, ants, bees and wasps find a home and adders can bask in the sunshine.

The reintroduction of coppicing

In 1991 it was decided to restore the system of coppicing. Twenty-five areas were designated initially on which grew 80 to 100 timber trees per acre. It was decided to fell to the level of 10 trees per acre. The damage from felling and removal of timber was considerable but it was a "once for all exercise" and the land has been returned nearly to its former state by suitable earth-moving machines. With the removal of dense tree cover and disturbance of the soil many dormant seeds were enabled to grow and foxgloves flowered in vast numbers after the clearance.

Some of the species that appear after clearance are bugle, wood sorrel, wood anemone and violet. The violets provide food for the larvae of small pearl-bordered and silver-washed fritillaries but at different stages in the development of the plants. Later the ground is colonised by grasses, brambles, marsh thistles and primroses. Some dense vegetation is left to give cover for grass snakes with piles of cut wood for their shelter. The old thick woodland favours the white admiral butterfly for its larvae do not survive in sunny positions whilst its food plant, honeysuckle, can tolerate the dense shade of these areas

There is now a large deer population in the forest. mainly roe, but also fallow and some muntjac. All like grazing in the coppices which encourage more vigorous growth in the light open situations and some culling has been undertaken in recent years to reduce their numbers. Exclosures have been constructed to monitor the effects of grazing. In areas where they grow, sallow and willow are eaten in preference to hazel and alder, and it is the sallow and willow which are the species required as food plants for the purple emperor larvae.

The decision was made to leave some of the older, larger, more mature trees which could contain damaged or dead wood to provide homes for woodpeckers and owls, roosts for bats, food for beetles and a substrate for fungi.

When the hazel has grown to a height of about 12 feet, it is cut and the cycle begins again. To have coppice in various stages of maturity it will need to have different areas cut and harvested in rotation, which will take some time to achieve. Standing trees will not be felled as a coppice is cut, they will be left to continue to mature. The chestnut trees which were planted in Victorian times are being felled.

The management of heath land

There is also a plan to promote open heath land development by cutting out birch trees, and it is hoped to control and eventually eradicate bracken, which is rampant, by using chemical sprays. Species such as sundew, wood-sage and devilsbit scabious may then establish themselves. The grayling butterfly, which is uncommon, may increase in numbers and perhaps nightjars will nest. Grazing by beasts is to begin in March of this year, control will be by fencing but grazing in the coppiced areas is too labour-intensive to be practicable.

Wetland habitats

There are some ponds in the Reserve, one is nutrient deficient, the other nutrient rich and together they have a dragonfly fauna of 19 species. The rich pond attracts a large number of frogs at spawning time.

The survey of species in the forest

At present only about one half of the forest area is managed, trees that fall naturally are left to decay and for these areas a policy of "leave well alone" is practised. Flies, bees and wasps are collected in insect traps set up in a few rides and moths are taken at light to determine species present. Bats are detected using special sonar equipment and there are some bat boxes which so far have been found to be occupied by only the commoner species.

In conclusion it must be said that the plans so far carried out are in their early stages, much has been done, much has still to be done. Pamber Forest provides a place of recreation and interest for many people and although there have been complaints at times there has been general approval of the way the forest is being managed.

A Bryophyte Flora of Berkshire

J. W. Bates
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Published in the Journal of Bryology, 1995, Vol. 18, pp. 503-620

Review by Michael V. Fletcher

The bryophytes of Berkshire have been well recorded. A bryophyte flora of Berkshire and Oxfordshire was published by Eustace Jones in three instalments in 1952, 1953 and 1955. He also published comments on the changing flora of the two counties during the 1980's. H. J. M. Bowen's Flora of Berkshire included substantial sections on lichens, fungi and mosses, the last containing many new records. It also had an excellent introductory section on climate, geology, land use, habitats, plant communities and changes in the flora.

Jeff Bates set himself a major task, to make a worthwhile advance on these works. Nobody who has got stuck in the mud with him on a winter recording excursion can doubt the enthusiasm with which he tackled it. However there have been many advances in the knowledge of mosses and hepatics since Eustace Jones' flora, and a great deal of experience has been gained meanwhile from the comprehensive mapping of the British Isles for the bryophyte atlas. Also the long history of local recording, which does not exist in many other counties, gives him a basis for comparison and for analysing trends.

His introductory material has similarities to that of Bowen's Flora, but it is more detailed, especially on topics relevant to bryophytes. The discussion of air pollution is particularly thorough.

It is worth remembering that mapping in 5x5 km. squares represents four times as much work as mapping in 10x10 km. squares. This flora is therefore a very thorough work, and the great mass of records is sifted and presented in many useful ways. I found the set of maps showing numbers of species associated with various habitats in each square very informative. Though written as a formal scientific paper, it uses clear concise language making it a pleasure to read. Most naturalists in our area, even those with no interest in mosses, would find it well worth studying.

Turning to the records themselves. Through his thoroughness he has found or refound many plants which are undoubtedly very rare locally, giving a rather optimistic impression of what one might hope to see. It is always hard to decide whether a species is increasing or declining but his list of over one hundred declining species is alarmingly long. The likely reasons seem convincing. Some are connected with familiar decreasing habitats, especially chalk downland and valley bogs, but he also points out other highly specialised habitats of significance for mosses which are decreasing. They include the mud capping which was traditionally renewed annually on limestone walls near Oxford, changes in farming which have reduced opportunities for autumn ephemerals, reduced diversity in woodland rides and clearings, changes in bank and laneside management, and the loss of elm trees. One factor he does not mention, which Eustace Jones considered, is the change in climate and humidity. The extraordinary warm dry summers of 1967, 1976 and 1995 probably affected some plants of moist ground, or their habitats.

To set against these losses are increasing species and genuine new discoveries, though many of the fifty-seven "increasing" species may have been overlooked previously. Most notable is the reappearance of some epiphytes in east Berkshire, in response to falling sulphur dioxide levels. The end of the Cold War has also brought a bryological bonus, since Greenham Common is now accessible, and several plants, locally rare in or new to Berkshire, have been found there.

There are many unfamiliar names at both generic and specific levels. Several common *Barbulas*, making bright yellow-green tufts on walls and paths in Reading are now placed in the genus *Didymodon* and some have new specific names as well. It is helpful that Jeff gives the familiar previous names in brackets.

The Journal of Bryology is not the most convenient source for many of our members who would undoubtedly be interested in the discussion material but the author has some spare reprints, and is willing to send copies to interested persons.

(Editor's note. Mr. Bates has kindly sent me a reprint of this article which can be loaned to members.)

THE RECORDER'S REPORT FOR BOTANY 1995

Betty M. Newman

The summer of 1995 produced a good show of flowers before the heat burned the countryside brown. Over 450 species were found by members during the year. On one day in June Dr. Jury listed 105 species found on newly disturbed ground around the Kwik-Save car park in Lower Earley. A selection from the records received is printed below.

When rain ended the drought plants greened up amazingly quickly and there were bumper crops of fruit. The holly tree in our garden was loaded with berries and beech nuts from two small beech trees were lying thick on the pavement.

The records on the following list are arranged according to the "List of Vascular Plants of the British Isles" by D.H. Kent 1992. Where a family name has changed the older name is put in brackets after the modern one. An alien taxon is indicated by an asterisk (*) and the English names are from "English Names of Wild Flowers" by Dony, Jury and Perring 1986.

EQUISETACEAE

Equisetum telmateia Ehrh. **Great Horsetail**
Beenham and Upper Woolhampton, 19.7.95 (AB); Bramshill Plantation, 19.9.95 (C&RG).

DRYOPTERIDACEAE

Polystichum setiferum (Forskal) T. Moore ex Woynar **Soft Shield-fern**
Spencers Wood, 10.4.95 (C&RG).

Polystichum aculeatum (L.) Roth **Hard Shield-fern**
Redhill Copse, Bucklebury, 25.3.95 (MWS).

BLECHNACEAE

Blechnum spicant (L.) Roth **Hard Fern**
Decoy Heath Reserve, 9.9.95 (AB); Benyon's Enclosure, Silchester, 15.9.95 (C&RG).

PAPAVERACEAE

Papaver somniferum* L. **Opium Poppy
On new roundabout by ASDA, Lower Earley, 5.6.95 (C&RG)

Papaver dubium L. **Long-headed Poppy**
Kwik-Save car park, Lower Earley, 15.6.95 (C&RG).

Meconopsis cambrica (L.) Viguier **Welsh poppy**
Bottom Wood, Mapledurham, 14.6.95 (C&RG).

CHENOPODIACEAE

Chenopodium rubrum L. **Red Goosefoot**
Old canal, Up Nately, 1.9.95 (C&RG).

Chenopodium polyspermum L. **Many-seeded Goosefoot**
Outside Decoy Heath reserve, 9.9.95 (AB).

Chenopodium ficifolium L. **Fig-leaved Goosefoot**
Beenham and Upper Woolhampton, 19.7.95 (AB).

CARYOPHYLLACEAE

Stellaria nemorum L. **Wood Stitchwort**
Kwik-Save car park, Lower Earley, 15.6.95 (SLJ).

Spergularia marina (L.) Griseb. **Lesser Sea-spurrey**
Spring Plantation, Hermitage, 6.7.95 (MWS).

Spergularia rubra (L.) J.S. Presl & C. Presl **Sand Spurrey**
Earley Gate, Whiteknights, 28.5.95 (C&RG).

POLYGONACEAE

Rumex hydrolapatham Hudson **Water Dock**
A few plants, Thamesside, Reading, at Kennet mouth and near Sonning, summer 1995 (MVF).

CLUSIACEAE (HYPERICACEAE)

Hypericum elodes L. **Marsh St John's-wort**
Three Firs Pond, Burghfield Common, 5.6.95; Welshman's Pond, Burnt Common, 5.7.95 (C&RG)

VIOLACEAE

Viola odorata L. **Sweet Violet**
White form by lake at Ashenbury Park, Woodley, 31.3.95 (C&RG); Moor Copse, 24.4.95 (AB).

Viola palustris L. **Marsh Violet**
Three Firs Pond, Burghfield Common, 5.6.95 (C&RG)

BRASSICACEAE (CRUCIFERAE)

Isatis tinctoria* L. **Woad
Warburg Reserve, 17.6.95 (AB).

Erysimum cheiranthoides* L. **Treacle mustard
Hurst and river Loddon, 10.5.95 (AB).

Hesperis matronalis* L. **Dame's Violet, Sweet Rocket
Fox and Hounds pit, 25.5.95 (AB).

Rorippa sylvestris (L.) Besser **Creeping Yellow-cress**
Old canal, Up Nately,1.9.95; Bramshill Plantation, 19.9.95 (C&RG).

Iberis amara L. **Wild Candytuft**
Occasional on pavement edges, Watlington Street, College Road, Reading, a plant with small white flowers resembling the native one. Possibly a garden escape, but sometimes far from an obvious garden source, as in Craddock Road in July 1995 (MVF).

Coronopus didymus* (L.) Smith **Lesser Swine-cress
Kwik-Save car park, Lower Earley, 15.6.95 (SLJ); Decoy Heath Reserve, 9.9.95 (AB).

RESEDACEAE

Reseda luteola L. **Weld, Dyer's Rocket**
On new roundabout by ASDA, Lower Earley, 24.4.95 (C&RG).

ERICACEAE

Vaccinium myrtilus L. **Bilberry**
Frilsham, 7.4.95, Benyon's Enclosure, Silchester, 15.9.95 (C&RG).

CRASSULACEAE

Crassula helmsii* (Kirk) Cockayne **New Zealand Pigmyweed
Bucklebury Common, 30.6.95 (MWS); acid pond near Three Mile Cross in September 1994 and ponds at St Peter's school, Earley and Westwood Farm school, Tilehurst in autumn 1995 (MVF).

Sedum telephium L. **Orpine**
Bradfield, 28.6.95 (MWS).

Sedum album L. **White Stonecrop**
In thin turf on mortar rubble, waste ground opposite Central Library, Reading. Probably from an old garden wall, long demolished (MVF).

SAXIFRAGACEAE

Chrysosplenium oppositifolium L. **Opposite-leaved Golden-saxifrage**
Alder moors, Woodley, 31.3.95; Bucklebury Lower Common, 3.4.95 (C&RG).

ROSACEAE

Geum rivale L. **Water Avens**
Longmeadow Plantation, Bradfield, 10.6.95 (MWS).

Acaena* Mutis ex L. **Pippi-pirri-bur
A species of Acaena is spreading under rhododendrons in Whiteknights Wilderness, 4.6.95 (C&RG). According to Stace the burs may be accidentally imported in shoddy. It is also cultivated in gardens and may escape (BMN).

Rosa rubiginosa L. **Sweet-briar**
Bucklebury Common, 28.6.95 (MWS); Beenham and Upper Woolhampton, 19.7.95 (AB).

FABACEAE (LEGUMINOSAE)

Vicia tetrasperma (L.) Schreber **Smooth Tare**
Kwik-Save car park, Lower Earley, 15.6.95 (SLJ).

Lathyrus latifolius* L. **Broad-leaved Everlasting-pea
Earley Station, 29.6.95; ASDA car park, Lower Earley, 15.7.95 (C&RG).

Lathyrus nissolia L. **Grass Vetchling**
Fox and Hounds pit, 25.5.95 (AB); waste ground by Bader Way, Woodley, 8.6.95 (C&RG).

Melilotus officinalis* (L.) Lam. **Ribbed Melilot
Decoy Heath Reserve, 9.9.95 (AB).

Medicago arabica (L.) Hudson **Spotted Medick**
Kwik-Save car park, Lower Earley, 15.6.95 (SLJ).

Trifolium micranthum Viv. **Slender Trefoil**
Bucklebury Cemetery, 13.5.95 (MWS).

LYTHRACEAE

Lythrum portula (L.) D. Webb **Water-purslane**
Welshman's Pond, Burnt Common, 5.7.95 (C&RG).

THYMELAEACEAE

Daphne laureola L. **Spurge-laurel**
Bottom Wood, Mapledurham, 26.4.95; Quarry Wood, Cookham, 1.6.95 (C&RG); Whittles Farm and Collins End, 5.9.95 (AB).

ONAGRACEAE

Epilobium ciliatum* Raf. **American Willowherb
Kwik-Save car park, Lower Earley, 15.6.95 (SLJ).

VISCACEAE

Viscum album L. **Mistletoe**
On Populus, Thamesside Promenade, Reading, 26.4.95 (C&RG); on lime trees, Bluecoat School, Sonning, long established; on lime trees, Richings Park near Slough, about 40 plants visible from M4 (MVF).

EUPHORBIACEAE

Mercurialis annua* L. **Annual mercury
Sainsbury's Homebase car park, in flower December 1994 (C&RG); outside Decoy Heath Reserve, 9.9.95 (AB).

Euphorbia lathyrus L. **Caper Spurge**
Waltham St Lawrence, 12.7.95 (C&RG).

RHAMNACEAE

Frangula alnus Miller **Alder Buckthorn**
Holly Wood, Bucklebury, 30.7.95 (MWS).

GERANIACEAE

Geranium rotundifolium L. **Round-leaved Crane's-bill**
Sandford Copse car park, 31.5.95 (C&RG).

Geranium pyrenaicum Burm. f. **Hedgerow Crane's-bill**
Sandford Copse car park and Ashenbury Park, Woodley, 31.5.95 (C&RG); Whitchurch Hill, 4.6.95, Sulham, 1.6.95 (AB).

Geranium pusillum L. **Small-flowered Crane's-bill**
Sulham, 1.6.95, Whitchurch Hill, 4.6.95 (AB); waste ground by Tesco, Reading, 14.7.95 (C&RG); Kwik-Save car park, Lower Earley, 15.6.95 (SLJ).

Geranium lucidum L. **Shining Crane's-bill**
Near Sandford Mill, 20.4.95; Greys Court, 26.5.95; Tippings Lane, Woodley, 29.5.95; Quarry Wood, Cookham, 1.6.95 (C&RG).

APIACEAE (UMBELLIFERAE)

Hydrocotyle vulgaris L. **Marsh pennywort**
Three Firs Pond, Burghfield Common, 5.9.95; Welshman's Pond, Burnt Common, 5.7.95; Heath Pond, Finchampstead, 13.6.95 (C&RG); Decoy Heath Reserve, 9.9.95 (AB).

Berula erecta (Hudson) Cov. **Lesser Water-parsnip**
Moor Copse, 8.6.95 (AB).

Oenanthe aquatica (L.) Poiret **Fine-leaved Water-dropwort**
Sulham, 1.6.95 (AB).

Silaum silaus (L.) Schinz & Thell. **Pepper Saxifrage**
Waltham St Lawrence, 12.7.95 (C&RG).

Apium inundatum (L.) Reichb. f. **Lesser Marchwort**
Three Firs Pond, Burghfield Common, 5.6.95; Welshman's Pond, Burnt Common, 5.7.95 (C&RG).

Sison amomum L. **Stone Parsley**
Kwik-Save car park, Lower Earley, 15.6.95 (SLJ); Waltham St Lawrence, 12.7.95 (C&RG).

MENYANTHACEAE

Menyanthes trifoliata L. **Bogbean**
Three Firs Pond, Burghfield Common, 5.9.95 (C&RG).

Nymphoides peltata Kuntze **Fringed Water-lily**
Fox and Hounds pit, 25.5.95 (AB).

BORAGINACEAE

Echium vulgare L. **Viper's Bugloss**
Warburg Reserve, 17.6.95; Hartslock, 21.6.95 (AB)

Anchusa arvensis (L.) M. Bieb. **Bugloss**
Great Hollands, Bracknell, 3.5.95; Finchampstead, 2.6.95 (C&RG).

Cynoglossum officinale L. **Hound's Tongue**
Moor Copse, 8.6.95 (AB).

VERBENACEAE

Verbena officinalis L. **Vervain**
Waste ground by Tesco, Reading, 14.7.95 (C&RG); Whittles Farm and Collins End, 5.9.95; outside Decoy Heath Reserve, 9.9.95; Watlington Hill, 23.9.95; the Holies, 22.6.95 (AB); Four Elms, Hermitage, 1.8.95 (MWS).

LAMIACEAE (LABIATAE)

Lamium hybridum Villars **Cut-leaved Dead-nettle**
Cole's Farm, Bucklebury, 25.6.95 (MWS); Beenham and Upper Woolhampton, 19.7.95 (AB).

Nepeta cataria L. **Cat-mint**
Whittles Farm and Collins End, 5.9.95 (AB).

Melissa officinalis* L. **Balm
Alder Woods, Woodley, 29.5.95 (C&RG).

PLANTAGINACEAE

Plantago coronopus L. **Buck's-horn Plantain**
Now arrived in Reading town centre, but rare. Single plants by bus depot and at edge of turf by roundabout near Reading prison seen this summer (MVF).

Plantago media L. **Hoary Plantain**
Over 100 plants in turf by St Giles church in Southampton Street, Reading, especially shaded turf on north side (MVF); the Holies, 22.6.95 (AB).

SCROPHULARIACEAE

Verbascum nigrum l. **Dark Mullein**
The Holies, 22.6.95 (AB); Forbury Gardens, by archway to Abbey ruins, 1.7.95 (C&RG).

Scrophularia vernalis* L. **Yellow Figwort
New Barn Farm, Bucklebury, 23.4.95 (MWS).

Mimulus guttatus* DC. **Monkeyflower
New roundabout by ASDA, Lower Earley, 5.6.95 (C&RG).

Chaenorhinum minus (L.) Lange **Small Toadflax**
Turville, 13.7.95 (C&RG).

Linaria purpurea* (L.) Miller **Purple Toadflax
Whittles Farm and Collins End, 5.9.95 (AB).

Veronica scutellata L. **Marsh Speedwell**
Welshman's Pond, Burnt Common, 5.7.95 (C&RG).

Veronica catenata Pennell **Pink Water-speedwell**
Fox and Hounds pit, 25.5.95 (AB).

Veronica agrestis L. **Green Field-speedwell**
Kwik-Save car park, Lower Earley, 15.6.95 (SLJ).

OROBANCHACEAE

Orobanche minor Smith **Common broomrape**
The Holies, 2.6.95 (AB); roadside, Frilsham, 2.6.95 (MWS); on Cirsium vulgare in Kwik-Save car park, Lower Earley, 15.6.95 (SLJ).

CAMPANULACEAE

Legousia hybrida (L.) Delarbre **Venus's-looking-glass**
Kwik-Save car park, Lower Earley, 15.6.95 (SLJ); Cole's Farm, Bucklebury, 26.6.95 (MWS).

VALERIANACEAE

Centranthus rubra* (L.) DC. **Red Valerian
Shottesbrooke Park, 12.7.95 (C&RG).

ASTERACEAE (COMPOSITAE)

Cichorium intybus L. **Chicory**
Whittles Farm and Collins End, 5.9.95 (AB); Waltham St Lawrence, 12.7.95; Assendon, 13.7.95; outside JDB Garden Centre, Eversley, 18.7.95; Ipsden, 3.8.95 (C&RG).

Lactuca serriola L. **Prickly Lettuce**
Kwik-Save car park, Lower Earley, 15.6.95 (SLJ); Gallowstree Common, 16.8.95; Fox and Hounds pit 25.5.95, Sulham, 1.6.95 (AB).

Cicerbita macrophylla (Willd.) Wallr. **Common Blue-sow-thistle**
Bucklebury, 23.7.95 (MWS).

Erigeron acer L. **Blue Fleabane**
Four Elms, Hermitage, 1.8.95 (MWS); Decoy Heath Reserve, 9.9.95 (AB).

Conyza canadensis* (L.) Cronq. **Canadian Fleabane
Kwik-Save car park, Lower Earley, 15.6.95 (SLJ).

Tanacetum vulgare L. **Tansy**
In field south of Cookham village, 1.6.95 (C&RG); Gallowstree Common, 16.8.95 (AB).

Achillea ptarmica L. **Sneezewort**
Between Sindlesham Mill and Loddon Bridge, 27.7.95 (C&RG).

Matricaria recutita L. **Scented Mayweed**
Kwik-Save car park, Lower Earley, 15.6.95 (SLJ).

Bidens cernua L. **Nodding Bur-marigold**
Three Firs Pond, Burghfield Common, 5.9.95 (C&RG).

BUTOMACEAE

Butomus umbellatus L. **Flowering Rush**
Hurst and river Loddon, 10.5.95 (AB); Little Wittenham, 14.9.95 (C&RG).

POTAMOGETONACEAE

Potamogeton polygonifolius Pourret **Bog Pondweed**
Decoy Heath Reserve, 9.9.95 (AB).

JUNCACEAE

Luzula sylvatica (Hudson) Gaudin **Great wood-rush**
Park Wood, Hampstead Norreys, 21.4.95 (C&RG).

Luzula multiflora (Ehrh.) Lej. **Heath Wood-rush**
Finchampstead, 2.6.95 (C&RG).

CYPERACEAE

Isolepis setacea (L.) R.Br. **Bristle Club-rush**
Bradfield Plantation, 30.6.95 (MWS).

Eleogiton fluitans (L.) Link **Floating Club-rush**
Three Firs Pond, Burghfield Common, 5.6.95 (C&RG).

Carex pallescens L. **Pale Sedge**
Whitchurch Hill, 4.6.95 (AB).

LILIACEAE

Polygonatum multiflorum (L.) All. **Solomon's-seal**
Street End Copse, Rotherwick, 25.4.95 (C&RG).

Ornithogalum pyrenaicum L. **Spiked Star-of-Bethlehem**
Spring Plantation, Hermitage, 2.6.95 (MWS).

Ruscus aculeatus L. **Butcher's-broom**
Little Wittenham, 14.9.95 (C&RG).

IRIDACEAE

Iris foetidissima L. **Stinking Iris, Gladdon**
Park Wood, Hampstead Norreys, 21.4.95 (C&RG).

ORCHIDACEAE

Anacamptis pyramidalis (L.) **Pyramidal Orchid**
White form at Warburg Reserve, 26.6.95 (C&RG).

Dactylorhiza maculata (L.) Soó ssp. *ericetorum* (E.F.Linton) P. Hunt & Summerh.
Heath Spotted-orchid
Hazeley Heath, 14.7.95 (C&RG).

Dactylorhiza praetermissa (Druce) Soó **Southern Marsh-orchid**
Bramshill plantation, 27.6.95 (C&RG).

CONTRIBUTORS

Thanks are due to the following contributors:

Alan Brickstock (AB) Michael Fletcher (MVF) Colin & Renée Grayer (C&RG) Stephen Jury (SLJ) Betty Newman (BMN) Malcolm Storey (MWS)

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THE RECORDER'S REPORT FOR FUNGI 1995

Alan Brickstock

'1989 was yet another 'odd' year - is any year 'normal'? After a prolonged hot dry season, many species were very few and far between, and diligent searching was required on all our forays. Families such as Russula, Lactarius and Tricholoma were often almost absent'.

No, I haven't got the date wrong! The above is the beginning of my fungus report for 1989: if you change the date, this applies exactly to this year, which has again been a very strange season! After the long hot, dry spell, many species that are normally common or abundant were sparse or totally absent from most of our local woodlands.

Conifer woods in particular seem to have been the most affected. The False Chanterelle, *Hygrophoropsis aurantiaca*, normally seen in hundreds or even thousands, has hardly been seen at all, a few specimens appearing in mid to late November. There have been very few specimens of *Gymnopilus penetrans*, and with only one or two slight exceptions, Russulas of all kinds have been almost non existent. The exception was at Pamber Forest, where one small area had quite a few specimens of a number of species. Even things like Earth balls have proved to be uncommon.

In contrast, some species that are normally uncommon have been found in great numbers. The Death Cap, *Amanita phalloides,* has been numerous in many places, most notably at the Warburg Reserve at Bix, where one complete ring of them had at least a hundred fine caps - enough to kill off a large percentage of the population of Reading! The Panther Cap, *Amanita pantherina*, has been quite numerous in many local woods, although we normally find very few, if any at all. Quite a lot of *Amanita excelsa* have been found, and *Amanita fulva* has been abundant. *Amanita muscaria* appeared in some numbers early in September, disappeared during October, and has been appearing again in mid November. The 'Yellow Stainer', *Agaricus xanthoderma*, has been another species found in great numbers. An unusual find for Sulham Woods was a hundred or so specimens of *Clavariadelphus fistulosus*, not usually found at this site. Interestingly, they were all under Birch. Has anyone else found this association? Other finds at Sulham included some excellent Giant Puffballs, and a nice array of the beautiful, green *Panellus serotinus*. The latter used to appear annually at this site, but I have not found it there for the last few years. Another interesting find at Sulham was *Pterula multifida*, fine white, branched hair-like strands growing clustered on fallen wood.

Out of the total of 503 species found, which easily beats our previous record of 453, an amazing 230, 46 per cent, were found only once during the season. Most surprisingly, these 230 species included things like *Russula emetica*, usually one of the most abundant in pine woods!

Many thanks to all the people who have identified species and sent me foray lists.

A selection of the less common species is given below:

GILL FUNGI

Agaricus semotus Fr.
Cucumber Wood 2.10.95 (GC)

Amanita inaurata Secr.
Warburg Reserve, Bix 15.10.95 (RD)

Amanita solitaria (Fr.)Quél.
Pamber Forest 14.10.95 (HFG)

Collybia racemosa (Pers.ex.Fr.)Quél
Baynes Bomb Dump 7.10.95 (MWS) A strange little fungus with black sclerotia, and branched outgrowths from the side of the stem.

Cortinarius croceo-caeruleus (Pers.ex Fr.)Fr.
Davenport Wood 5.11.95 (RFG)

Cortinarius decipiens (Fr.)
Pamber Forest 14.10.95 (HFG)

Cortinarius phoeniceus (Bull.)Maire
Pamber Forest 14.10.95 (HFG)

Chroogomphus rutilus (Fr.)Muller
Sulham 12.10.95 (AB)

Entoloma nidorosum (Fr.)Quél.
Warburg Reserve, Bix 15.10.95 (RD)

Flammulaster carpophila (Fr.) Earle
Harpsden 28.10.95 (RF)

Gomphideus roseus (Fr.)Karst.
Ufton Nervet 4.11.95 (IMB)

Hohenbuehelia geogenia (DC. ex Fr.)Sing
Sulham 11.11.95 (AB)

Inocybe godeyi Gill.
Harpsden 28.10.95 (RF)

Gyroporus castaneus (Bull.)Quél.
Warburg Reserve, Bix 15.10.95 (RD)

Hypholoma sublateritium (Fr.) Quél.
Pamber Forest 14.10.95 (HFG)

Inocybe cookei Bres.
Warburg Reserve, Bix 15.10.95 (RD)

Laccaria tortilis (Bolt.ex.S.F.Gray)Cke.
Bearwood College 19.11.95 (RFG)

Lactarius brittanicus Reid
Benyon's Enclosure 20.8.95 (RFG)

Lactarius cimicarius (Batsch.)Gill.
Pamber Forest 14.10.95 (HFG)

Lactarius obscuratus (Lasch)Fr.
Benyon's Enclosure 20.8.95 (RFG)

Lepiota brunneo-incarnata Chodat & Martin
Warburg Reserve, Bix 15.10.95 (RD)

Lepiota fulvella Rea
Warburg Reserve, Bix 15.10.95 (RD)

Lepiota mastoidea (Fr.)Kumm.
Cucumber Wood 7.6.95 (GC); 03.9.95 (GC)

Leptonia euchroa (Pers.ex.Fr.)Kumm.
Warburg Reserve, Bix 15.10.95 (RD)

Melanoleuca arcuata (Fr.)Sing.
Lambridge Wood 1.10.95 (RF)

Mycena amicta (Fr.)Quél
Benyon's Enclosure 20.8.95 (RFG)

Mycena sepia J.Lange
Lackmore Wood 20.10.95 (GC)

Nolanea infula (Fr.)Gillet
Benyon's Enclosure 20.8.95 (RFG)

Nolanea staurospora Bres.
Benyon's Enclosure 20.8.95 (RFG)

Panaeolus sphinctrinus (Fr.)Quél.
Davenport Wood 5.11.95 (RFG)

Phaeomarasmius erinaceus (Fr.)Kühn.
Holly Wood, Bucklebury 17.9.95 (RFG)

Pluteus galeroides Orton
Pamber Forest 20.5.95 (JW) A delicate, pink-spored agaric.

Psathyrella bipellis Quél.
Harpsden 28.10.95 (RF)

Resupinatus trichotis (Pers.)Sing.
Warburg Reserve, Bix 30.4.95 (PC) Small 'hanging saucer like' agaric, on Hornbeam.

Russula pectinatoides Peck.
Benyon's Enclosure 20.8.95 (HB)

Tricholoma lascivum (Fr.)Gillet
Warburg Reserve, Bix 15.10.95 (RD)

Tubaria conspersa (Pers.ex.Fr.)Fayod
Warburg Reserve, Bix 15.10.95 (RD) Cinnamon brown, cap with greyish velar fragments.

Volvariella bombycina (Schaeff.ex.Fr.)Sing.
Pamber Forest 20.5.95 (RFG)

BOLETI

Boletus lanatus Rostk.
Snelsmore Common 21.11.95 (RFG/NHS)

Boletus leonis Pers.
Pamber Forest 14.10.95 (HFG)

Leccinum carpini Schulz.ex.Pers.
Heath Lake 8.10.95 (RFG/NHS)

Leccinum holopus (Rostk.)Watl.
California Country Park 8.10.95 (RFG/NHS)

Uloporus lividus (Bull.)Quél.
Moor Copse 12.10.95 (MWS) Rare in Britain.

APHYLLOPHORALES

Amphinema byssoides (Pers.ex.Fr.)Erikss.
The Lookout 18.2.95 (PC)

Calyptella capula (Holmsk.ex.Pers.)Quél
Highstanding Hill 3.12.95 (TG)

Ceriporia purpurea (Fr.)Donk
Warburg Reserve, Bix 30.4.95 (RFG)

Clavariadelphus fistulosus v. contorta Corner
Highstanding Hill 3.12.95 (TG)

Coniophora arida (Fr.)Karst.
The Lookout 2.12.95 (RFG)

Dacryobolus karstenii (Bres.)Oberw.ex.Parm.
The Lookout 2.12.95 (RFG)

Hapalopilus rutilans (Pers.ex Fr.)Karst.
Highstanding Hill 3.12.95 (EG); Sulham (AB) 'Gingerbread fungus'

Hydnellum spongiosipes Peck)Pouz.
Brick Pits Conservation site 3.12.95 (TG)

Hymenochaete corrugata (Fr.)Fr.
Warburg Reserve, Bix 30.4.95 (RFG)

Merismodes anomalous (Pers.ex.Fr.)Sing.
Bearwood College 19.11.95 (RFG) Clusters of tiny cup or saucer shaped fruit bodies. Light brown with a cream margin.

Mucronella calva v. aggregatum (Fr.)Pil.
The Lookout 2.12.95 (RFG) Tiny, densely clustered, pointed white spines, on rotten Spruce.

Oxyporus populinus (Schum.ex Fr.)Donk.
Warburg Reserve, Bix 30.4.95 (RFG) A parasite of various hardwood species.

Phellodon confluens (Pers.)Pouz.
Brick Pits Conservation site 3.12.95 (TG)

Phellodon melaleucus (Sw.apud Fr.ex.Fr.)Karst.
Brick Pits Conservation site 3.12.95 (TG)

Radulomyces confluens (Fr.)Christ.
Warburg Reserve, Bix 30.4.95 (RFG)

Pterula multifida Fr.ex.Fr
Sulham 11.12.95 (AB) Fine, white, branched hair-like strands, clustered on fallen wood.

Resinicium bicolor (A&S.ex.Fr.)Parm
The Lookout 18.2.95 (PC)

Scopuloides rimosa (Cke.)Jül
Warburg Reserve, Bix 30.4.95 (RFG)

GASTEROMYCETES

Cyathus striatus (Huds.)Wied.
Warburg Reserve, Bix 15.10.95 (RD); Ashampstead 13.9.95 (NHS)

Scleroderma cepa (Vaill.)Pers.
Benyon's Enclosure 20.8.95 (HB)

HETEROBASIDIOMYCETES

Exidia truncata Fr.
Warburg Reserve, Bix 30.4.95 (RFG)

ASCOMYCETES

Anthrocobia maurilabra (Cke.)Boud.
Pamber Forest 20.5.95 (JW) On burned ground.

Anthrocobia melaloma (A&S.exFr.)Boud.
Pamber Forest 20.5.95 (HB) On burned ground.

Peckiella lateritia (Fr.)Maire
Four Elms (SU 513747) 5.11.95 (MWS) Parasitic on gill fungi. Hinders formation of gills in the host.

Pezizella alniella (Nyl.)Dennis
Pamber Forest 20.5.95 (JW) Grows on scales of fallen Alder cones.

Phacidium multivalve (DC.)Schum.
Warburg Reserve 30.4.95 (PC) On Holly.

Pyrenochaeta ilicis M.Wilson
Warburg Reserve 30.4.95 (PC) On Holly; Pamber Forest 20.5.95 (RFG) On Holly

Spathularia flavida Pers.ex.Fr
The Coombes 19.11.95 (RFG) Small yellow fungus, with distinct stalk and fan-shaped head, among conifer needles.

Taphrina pruni Tulasne
Briff Lane (SU 546698) 6.11.95 (MWS). On Blackthorn. Covers young fruits, which become yellow and distorted.

MYXOMYCETES

Trichia persimilis Karst.
Warburg Reserve, Bix 30.4.95 (RFG)

FUNGI IMPERFECTI

Pycnostysanus azaleae (Peck)Mason
The Lookout 2.12.95 (RFG) Azalea bud blast.

Paecilomyces farinosus (Dicks.ex.Fr.)Brown & Smith
Holly Wood 17.9.95 (MWS) Grows on dead larvae and pupae.

ZYGOMYCETES

Pilobolus crystalinus (Wiggers)Tode
Warburg Reserve 30.4.95 (PC); Pamber Forest 20.5.95 (PC). On Rabbit dung.

HYPHOMYCETES

Oedocephalum pallidum (Berk.& Broome)Cost.
Pamber Forest 20.5.95 (PC) On dung.

Stilbella erythrocephala (Ditmar)Lindau
Warburg Reserve 30.4.95 (PC) On Rabbit dung

In addition the following Hyphomycetes were found and identified by Paul Cook on leaves taken from a stream in Pamber Forest on 20.5.95:

Alatospora accuminata Ingold
Anguillospora longissima (de Wild)Ingold
Articulospora tetracladia Ingold
Clavariopsis aquatica de Wild
Clavatospora longibrachiata (Ingold)Nilsson
Flagellospora curvula Ingold
Lemoniera aquatica de Wild
Periconia cookei Mason & M.B.Ellis
Tetrachaetum elegans Ingold
Tetracladium marchalianum de Wild
Tricladium chaetocladium Ingold
Tricladium splendens Ingold
Varicosporium elodae Kegel

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Henry Becker (HB), Alan Brickstock (AB), Ivy Brickstock (IMB) , Paul Cook (PC), Gordon Crutchfield (GC), Rod D'Ayala (RD), Richard Fortey (RF), Ted Green (TG), Hants Fungus Group foray (HFG), R&DNHS (NHS), Reading Fungus Group foray (RFG), Malcolm Storey (MWS), John Wheeley (JW).

THE RECORDER'S REPORT FOR ENTOMOLOGY 1995

Brian R. Baker

The order and nomenclature used in this report are those given in Kloet and Hincks (1964-1978), supplemented by Bradley and Fletcher (1979,1986).

EPHEMEROPTERA : MAYFLIES

Ephemeroptera lineata Eaton
This large mayfly, until recently considered as very rare nationally, has been recorded at several sites within our recording area.
Hartslock N.R., 10.7.95, one hundred plus (CMR); Hargrave Road, Maidenhead, 5.7.95, about 12, 5.8.95, one (MVA); Matlock Road, Caversham, 17.7.95 (BRB); Kiln Ride, Upper Basildon, 3.8.95, seven (MH); Snelsmore Common C.P., 5.8.95, one at mercury vapour light (MVA, MH).

ODONATA : DRAGONFLIES

Gomphus vulgatissimus (L.) **Club-tailed Dragonfly**
Hartslock N.R., 10.6.95, observed again this year flying over the Reserve and cast nymphal skins found on the foliage near the Thames towpath (CMR).

Sympetrum flaveolum (L.) **Yellow-winged Darter**
Swinley near Ascot, 7.8.95 (DJS); Decoy Heath N.R., 19.8.95 (MH). This is a migrant species which, on few occasions, is thought to have bred in this country.

Sympetrum sanguineum (Müller) **Ruddy Darter**
Decoy Heath N.R., 9.9.95 (BRB).

ORTHOPTERA : CRICKETS, BUSH-CRICKETS, GRASSHOPPERS, GROUND-HOPPERS

Meconema thalassinum (Degeer) **Oak Bush-cricket**
Hargrave Road, Maidenhead, 23.7.95 (MVA); New Lane Hill, Tilehurst, 28.11.95, resting on a fence, a very late record (BRB).

Tettigonia viridissima L. **Great Green Bush-cricket**
The Holies, 28.8.95 "An estimated one hundred of these spectacular insects were singing in an area of long grass. They were very elusive, for despite their large size, they seemed able to hide behind the thinnest of grass stems" (MH).

Metrioptera brachyptera (L.) **Bog Bush-cricket**
Snelsmore Common C.P., 5.8.95 (MH), Decoy Heath N.R., 9.9.95 (MH).

Conocephalus discolor (Thunb.) **Long-winged Cone-head**
Decoy Heath N.R., 19.8.95 (MH), 9.9.95 (BRB). This striking insect was until quite recently restricted to the south coast.

Conocephalus dorsalis (Latr.) **Short-winged Cone-head**
Decoy Heath N.R., 19.8.95 (MH).

Tetrix undulata (Sowerby) **Common Ground-hopper**
Snelsmore Common C.P., 5.8.95 (MWS).

Omocestus rufipes (Zett.) **Woodland Grasshopper**
Snelsmore Common C.P., 5.8.95 (MH); Upper Basildon, 6.8.985 (MH); Ashampstead Common, 13.8.95 (MH); Kiln Ride, Upper Basildon, 3.9.95 (MH).

Gomphocerippus rufus (L.) **Rufous Grasshopper**
Hartslock N.R., 10.7.95 (CMR).

DERMAPTERA : EARWIGS

Labia minor (L.) **Lesser Earwig**
Decoy Heath N.R., 19.8.95 (MWS).

HEMIPTERA : PLANT BUGS, WATER BUGS, LEAF HOPPERS, APHIDS

Palomina prasina (L.) **Common Green Shield Bug**
Hargrave Road, Maidenhead, 2.4.95 (MVA)

Derephysia foliacea (Fallén)
Hargrave Road, Maidenhead, 23.7.95 (MVA)

NEUROPTERA : ALDERFLIES, SNAKEFLIES, LACEWINGS

Sisyra fuscata (Fabr.)
Hargrave Road, Maidenhead, 30.7.94 (MVA) late record.

Hemerobius humulinus L.
Hargrave Road, Maidenhead, 5.7.95 (MVA).

Hemerobius lutescens Fabr.
Hargrave Road, Maidenhead, 7.8.94 (MVA) late record.

Hemerobius micans Olivier
Hargrave Road, Maidenhead, 9 7.95 (MVA).

Wesmaelius subnebulosus (Steph.)
Hargrave Road, Maidenhead, 30.4.95 (MVA).

Chrysopa flavifrons Braür
Hargrave Road, Maidenhead, 23.7.95 (MVA).

LEPIDOPTERA : BUTTERFLIES AND MOTHS

Zeuzera pyrina (L.) **Leopard Moth**
Hartslock N.R., 10.7.95 (CMR); Edgcumbe Park Drive, Crowthorne, 10.7.95 (DJS); Wellington C.P., 10.7.95 (DAY).

Adscita statices (L.) **The Forester**
Hazelwood Meadow near Bracknell, 10.7.95 (DJS); near Prince Albert Drive, Ascot, 29.6.95 (DJS).

Synanthedon vespiformis (L.) **Yellow-legged Clearwing**
Edgcumbe Park Drive, Crowthorne, 23.7.95, on a windowpane (DJS).

Bembecia scopigera (Scop.) **Six-belted Clearwing**
Four Elms, 1.8.95 (MWS).

Epiphyas postvittana (Walk.) **Light Brown Apple Moth**
Harcourt Drive, Earley, 1.12.95 (NMH). New v.c.22 Berkshire record.

Chilo phragmitella (Hübn.)
Thatcham Reedbeds, 28.7.95 (MH).

Margaritia sticticalis (L.)
Kiln Ride, Upper Basildon, 3.8.95, two at mercury vapour light (MH); Woolhampton, 3.8.95, one at mercury vapour light (BRB). This migrant Pyralid micro-moth has only once before been recorded in Berkshire, in 1931, but in 1995 it was widely recorded in southern England, presumably as a result of a large immigration (MH).

Mecyna flavalis ssp. flaviculalis Caradja
Hartslock N.R., 10.7.95 (MH. CMR). This chalk down Pyralid micro-moth is a scarce species (provisionally Red Data Book 2). The first v.c.23 Oxfordshire record was 23.7.93 (BRB).

Strymonidea w-album (Knoch) **White-letter Hairstreak**
Burghfield Bridge, 21.4.95, a larva beaten from flowering wych elm (DAY).

Aricia agestis (D. & S.) **Brown Argus**
Pamber Forest, 15, 30.8.95, recorded on the Butterfly Transect, new to the Pamber Forest list (BRB).

Celastrina argiolus (L.) **Holly Blue**
Beech Lane, Earley, much scarcer than usual in the early part of the year, but quite plentiful, and much earlier than usual, in the second half, 2 and 7.5.95, 4.7.95 to 20.8.95 (BMN); Matlock Road, Caversham, ovipositing in the garden, 26.7.95 (BRB).

Apatura iris (L.) **Purple Emperor**
Pamber Forest, 12.7.95, one specimen flying round an oak (PGS); Kiln Ride, Upper Basildon, 12.7.95, "at first glance I took this butterfly to be a small bird, but it settled briefly on the wall of the house, allowing me to confirm a very pleasing garden butterfly record" (MH).

Cynthia cardui (L.) **Painted Lady**
Beech Lane, Earley, 2.8.95, one on buddleia (BMN); Tesco's, Reading, 10.8.95, five on buddleias (BRB); Wash Common, Newbury, 4.10.95 (NC).

Polygonia c-album (L.) **The Comma**
Whitchurch Hill, 14.6.95, seen during Ken Thomas' Wednesday afternoon walk, a full grown larva resting on a fence (BRB); Ramsbury Drive, Earley, 1.8.95, six larvae in the garden (BTP).

Scopula immutata (L.) **Lesser Cream Wave**
Hartslock N.R., 10.7.95 (MH, CMR).

Semiothisa notata (L.) **Peacock Moth**
Edgcumbe Park Drive, Crowthorne, 31.5.95 (DJS); Hartslock N.R., 10.7.95 (MH, CMR).

Chloroclysta siterata (Hüfn.) **Red-green Carpet**
Wellington C.P., 23.10.95, two (DAY); Harcourt Drive, Earley, 11.10.95 (NMH).

Rheumaptera cervinalis (Scop.) **Scarce Tissue**
Tilehurst, 1 and 3.5 95 (DAY); Harcourt Drive, Earley, 2.5.95 (NMH).

Eupithecia expallidata Doubl. **Bleached Pug**
Hartslock N.R., 10.7.95 (MH).

Plagodis pulveraria (L.) **Barred Umber**
Wellington C.P., 10.7.95 (DAY).

Macroglossum stellatarum (L.) **Humming-bird Hawkmoth**
Wash Common, Newbury, 17and 18.9 95 (NC).

Hyles gallii (Rott.) **Bedstraw Hawkmoth**
Leighton Park School, Reading, 29.8.95, a specimen of this scarce immigrant was found resting on a wall of a school building (TDH).

Cerura vinula (L.) **Puss Moth**
Tilehurst, 3.5.95 (DAY); Edgcumbe Park Drive, Crowthorne, 2.5.95, bred from a 1994 larva found in the garden (DJS).

Stauropus fagi (L.) **Lobster Moth**
Snelsmore Common C.P., 5.8.95, a full-grown, well camouflaged larva (MWS).

Callimorpha dominula (L.) **Scarlet Tiger**
Harcourt Drive, Earley, 30.6.95 (NMH); Hartslock N.R., 10.7.95 at mercury vapour light (MH), also seen flying on slope 4 of the Reserve and along the tow-path during the daytime (CMR); near Stanford Dingley, 30.6.95 (MH); Thatcham Reedbeds, 25.4.95, larvae on comfrey (MH), 18.7.95 adults flying in sunshine (BRB).

Agrotis cinerea (D. & S.) **Light Feathered Rustic**
Aston Upthorpe, 28.5.95 (MH); Hartslock N.R., on several occasions at mercury vapour light during the season, first seen on the very early date of 30.4.95 (CMR).

Polia bombycina (Hüfn.) **Pale Shining Brown**
Hartslock N.R., 30.6.95 (CMR).

Cucullia lychnitis Ramb. **Striped Lychnis**
Lane leading to Chambers Copse, Emmer Green, 6.8.95, four larvae on dark mullein (JWM).

Lithophane hepatica (Cl.) **Pale Pinion**
Harcourt Drive, Earley, 11.3.95 (NMH)

Conistra rubiginea (D. & S.) **Dotted Chestnut**
Harcourt Drive, Earley, 2.5.95 (NMH)

COLEOPTERA : BEETLES

My thanks go to HHC for the usual preselection of records from the comprehensive list submitted by TDH.

TDH writes " please note that all my previous records for *Longitarsus jacobaeae* Waterhouse should be deleted ".

Perigona nigriceps (Dejean)
Leighton Park School, Reading, 11.2.95, in compost heap in a garden within parkland (TDH). New record (immigrant) (HHC).

Badister sodalis Duftschmid
Pamber Forest, 12.2.95, extracted by Tullgren funnel from moss covering rotting stump in damp part of oak-wood (TDH). Three old records (1918 - 1924) (HHC).

Lebia chlorocephala Hoffmansegg
Near Hall Farm, near Shinfield, 4.2.95, in flood refuse in clump of deciduous trees on bank of river in area of farmland (TDH). Two old local records (HHC).

Haliplus flavicollis Sturm
Bramshill Plantation, 13.8.94, in shallow inlet of flooded gravel-pit within area of conifer plantation (TDH). Two records (HHC).

Laccophilus hyalinus Degeer
Bramshill Plantation, 13.8.94, in flooded gravel-pit within area of conifer plantation (TDH). Three old records (Price) (HHC).

Guignotus pusillus Fabricius
Bramshill Plantation, 13.8.94, amongst submerged vegetation in shallow arm of flooded gravel-pit (TDH). Three local records (HHC).

Coelambus confluens Fabricius
Bramshill Plantation,13.8.94, amongst submerged vegetation in shallow arm of flooded gravel-pit (TDH). Two local records (HHC).

Cercyon lugubris Olivier
Near Shinfield, near Reading, 8.3.95, under bark of fallen deciduous tree beside a stream at edge of woodland (TDH). One local record (HHC).

Cercyon pygmaeus, Illiger
Whiteknights, Reading, 14.9.94, extracted from fallen bodies of *Polyporus squamosus*, which were growing on fallen section of deciduous tree, in deciduous woodland (TDH). One old record (HHC).

Cercyon sternalis Sharp
Near Shinfield Grange, near Reading, 24.2.95, under bark of dead but still standing deciduous tree in plantation of coniferous and deciduous trees close to pool (TDH). New record (HHC).

Cryptopleurum subtile Sharp
Leighton Park School, Reading, 11.9.94, in compost heap in a garden (TDH). New record (HHC).

Anacaena bipustulata Marsham
Near Shinfield Grange, near Reading, 12.10.94, in water filled ditch choked with vegetation in area of meadows (TDH). New record (HHC).

Laccobius atrocephalus Reitter
Decoy Heath Nature Reserve, near Padworth Common, 28.9.94, in shallow silty running water in a ditch on landfill site now reverting to heath land (TDH). New record (HHC).

Laccobius striatulus Fabricius
Decoy Heath Nature Reserve, near Padworth Common, 28.9.94, in shallow silty running water in a ditch on landfill site now reverting to heath land (TDH). Three old records (HHC).

Helochares lividus Forster
Bramshill Plantation,13.8.94, amongst submerged aquatic vegetation in shallow arm of flooded gravel-pit within conifer plantation (TDH). New record (HHC).

Berosus signaticollis Charpontier
Decoy Heath Nature Reserve, near Padworth Common, 28.9.94, in shallow silty running water in a ditch on landfill site now reverting to heath land (TDH). Two old records (HHC).

Plegaderus dissectus Erichson
Whiteknights, Reading, 23.11.94, under bark of rotting birch log, in ornamental deciduous wood (TDH). New record (HHC).

Plegaderus vulneratus Panzer
Benyon's Inclosure, near Mortimer West End, 1.10.94, under a flake of bark on a conifer log in conifer plantation (TDH). One old record (HHC).

Acritus nigricornis Hoffman J.
Leighton Park School, Reading, 11.9.94, in a heap of compost in a garden within parkland (TDH). New record (HHC).

Gnathoncus buyssoni Auzat
Leighton Park School, Reading. 15.9.95, one male and one female in an old tit nest (which contained a dead chick) inside a nest box attached to a solitary Turkey oak within parkland (TDH). New record (HHC).

Gnathoncus nannetensis Marseul
Leighton Park School, Reading, 19.5.95, in moss trap (baited with fish head) in a sycamore tree (at a height of six metres), which was set up on 29.4.95. The tree situated in a tree-lined hedgerow at edge of parkland (TDH). New record (one non-local) (HHC).

Onthophilus striatus Forster
Near Gatehampton Manor, near Goring, 18.3.95, obtained by shaking a sheep skull over a sheet, at edge of woodland on calcareous slope. One old record (HHC).

Ochthebius minimus Fabricius
Near Shinfield Grange, near Reading, 22.9.94, amongst duckweed in water filled ditch at edge of deciduous copse in area of river meadows (TDH). One old record (HHC).

Hydraena riparia Kugelann
Near Shinfield Grange, near Reading, 22.9.94, amongst duckweed in water filled ditch, at edge of deciduous copse in area of river meadows (TDH). One Devon record (HHC).

Ptenidium intermedium Wankowicz
Near Bowdown House, near Thatcham, 26.3.95, extracted by Tullgren funnel from feathery moss growing on old decomposing logs in marshy area in mixed deciduous wood (TDH). New record (HHC).

Acrotrichis fascicularis Herbst
Leighton Park School, Reading, 1.9.94, in compost heap in a garden within parkland (TDH). New record (HHC).

Hydnobius punctatus Sturm
Near Gatehampton Manor, near Goring, 5.10.94, general sweeping of grass and herbs on cretaceous slope (TDH). Old records, Tubney, Wytham (HHC).

Ptomaphagus subvillosus Goeze
Leighton Park School, Reading, 31.7.94, in flight interception trap set up beside a ditch bordering tree-lined hedgerow at edge of parkland (TDH). Three recent records (HHC).

Nargus wilkini Spence
Pamber Forest, 12.2.95, under a small deciduous tree log in clearing within oak woodland (TDH). Two old, one recent record (HHC).

Neuraphes elongatulus Müller P.W.J. & Kunze
Pamber Forest, 12.2.95, extracted by Tullgren funnel from moss found covering rotting tree-stump in damp part of oak-wood (TDH). Two recent records (HHC).

Scydmaenus rufus Müller P.W.J. & Kunze
Whiteknights, Reading, 29.8.94, under bark of horse chestnut log in ornamental deciduous wood (TDH). New record (HHC).

Scaphisoma agaricinum Linnaeus
Leighton Park School, Reading, 12.4.95, on underside of fungus infected deciduous log section in deciduous wood (TDH). One old record (HHC).

Megarthrus depressus Paykull
Leighton Park School, Reading, 12.4.95, on underside of fungus infected deciduous log section in deciduous wood (TDH). One old, one recent record (HHC).

Hapalaraea pygmaea Paykull
Whiteknights, Reading, 20.9.94, on fruit bodies of *Polyporus squamosus*, which had fallen from top of a diseased beech tree in ornamental deciduous wood (TDH). New record (HHC).

Phloeonomus punctipennis Thomson C.G.
Whiteknights, Reading, 26.7.94, on fruit body of *Pleurotus sp.*, which was growing on oak log in ornamental deciduous wood (TDH). One recent record, Pamber (HHC).

Carpelimus pusillus Gravenhorst
Leighton Park School, Reading, 3.8.94, attracted to mercury vapour light set up on flat roof of a building in parkland (TDH). One old record, Tubney (HHC).

Anotylus mutator Lohse
Leighton Park School, Reading, 26.10.94, in compost heap within a garden in parkland (TDH). New record (HHC).

Stenus carbonarius Syllenhal
Near Shinfield Grange, near Reading, 24.2.95, hibernating under bark of dead but slill standing deciduous tree in plantation of coniferous and deciduous trees (TDH). Three old records (HHC).

Rugilus similis Erichson
Hartslock Nature Reserve, near Goring, 25.2.95, extracted by Tullgren funnel from moss growing on top of calcareous slope with grass and herbs (TDH). New record (HHC).

Tachyporus atriceps Stephens
Pamber Forest, 13.1.95, extracted from feathery moss which was collected from base of oak-tree in oak woodland. Near Shinfield, near Reading, 8.3.95, extracted by Tullgren funnel from moss covered log at edge of pond in copse of deciduous trees (TDH). One old, one recent record (HHC).

Gyrophaena bihamata Thomson C. G.
Whiteknights, Reading, 26.7.94, on partly decayed fruit body of *Pleurotus sp.*, on oak log in deciduous wood (TDH). New record (HHC).

Gyrophaena fasciata Marsham
Whiteknights, Reading, 26.7.94, on partly decayed fruit body of *Pleurotus sp.*, on oak log in deciduous wood (TDH). New record (HHC).

Gyrophaena joyi Wendeler
Near Shinfield Grange, near Reading, 14.9.94, on gills of fruit body of *Pleurotus cervinus*, on log in tree-lined hedgerow (TDH). New record (HHC).

Bolitochara bella Märkel
Whiteknights, Reading, 28.8.94, on *Pseudotrametes gibbosa* fruit bodies growing on a log in deciduous woodland (TDH). Two old records (HHC).

Bolitochara lucida Gravenhorst
Whiteknights, Reading, 28.8.94, on bracket fungus which was growing on a log in a log pile in deciduous woodland (TDH). Three old records (HHC).

Atheta fungivora Thomson C.G.
Leighton Park School, Reading, 25.10.94, in pitfall trap set up beside compost heap in garden within parkland (TDH). New record (HHC).

Atheta nigricornis Thomson C.G.
Whiteknights, Reading, 29.7.94, on fruit body of *Collybia fusipes*, growing on soil embedded around roots of upturned oak-tree in deciduous woodland (TDH). New record (HHC).

Atheta pallidicornis Thomson C.G.
Whiteknights, Reading, 29.7.94, on fruit body of *Collybia fusipes*, growing on soil embedded around roots of upturned oak-tree in deciduous woodland (TDH). New record (HHC).

Atheta amplicollis Mulsant & Rey
Hartslock Nature Reserve, near Goring, 25.2.95, extracted by Tullgren funnel from moss growing on calcareous slope. Near Shinfield, near Reading, 8.3.95, extracted by Tullgren funnel from moss covered log near a pond in copse of deciduous trees (TDH). New records (HHC).

Atheta aterrima Gravenhorst
Leighton Park School, Reading, 17.4.95, in compost heap in garden within parkland (TDH). New record (HHC).

Atheta nigra Kraatz
Leighton Park School, Reading, 6.1.95, in compost heap in garden within parkland (TDH). New record (HHC).

Atheta graminicola Gravenhorst
Leighton Park School, Reading, 3.8.94, attracted to mercury vapour light set up on flat roof of a building in parkland (TDH). New record (HHC).

Atheta laticollis Stephens
Leighton Park School, Reading, 30.8.94, in compost heap in garden within parkland (TDH). One recent record (HHC).

Atheta coriaria Kraatz
Leighton Park School, Reading, 18.9.94, under the fungoid bark of a part burnt oak log at edge of mixed deciduous woodland (TDH). New record (HHC).

Atheta faevana Mulsant & Rey
Near Bowdown House, near Thatcham, 26.3.95, under pieces of dog dung in a mixed deciduous wood (TDH). New record (HHC).

Atheta longicornis Gravenhorst
Near Shinfield, near Reading, 8.3.95, extracted by Tullgren funnel from moss covering a log at edge of a pond in copse of deciduous trees (TDH). New record (HHC).

Trichiusa immigrata Lohse
Leighton Park School, Reading, 17.4.95, in compost heap in garden within parkland. A recent immigrant to Britain from America via Europe. First Berkshire record (TDH). New record (HHC).

Oxypoda induta Mulsant & Rey
Leighton Park School, Reading, 11.11.94, in pitfall trap set up beside compost heap in garden within parkland (TDH). New record (HHC).

Aleochara brevipennis Gravenhorst
Near Shinfield, near Reading, 8.3.95, under bark of felled deciduous tree at edge of pond in copse of deciduous trees (TDH). New record (HHC).

Bryaxis bulbifer Reichenbach
Pamber Forest, 12.2.95, extracted by Tullgren funnel from moss covering a rotting tree-stump in damp part of oak-wood (TDH). One old, one recent record (HHC).

Bryaxis puncticollis Denny
Pamber Forest, 12.2.95, extracted by Tullgren funnel from moss covering a rotting tree-stump in damp part of oak-wood (TDH). New record (HHC).

Rybaxis longicornis Leach
Near Shinfield, near Reading, 8.3.95, A male extracted by Tullgren funnel from moss covering a log at edge of a pond in copse of deciduous trees (TDH). One old, but several non-local records (HHC).

Trox scaber Linnaeus
Leighton Park School, 6.5.95, inside a house while mercury vapour light was running in back garden within parkland (TDH). One recent record (HHC).

Clambus pubescens Redtenbacher
Leighton Park School, Reading, 11.8.95, attracted to mercury vapour light set up in front of house in parkland (TDH). New record (HHC).

Clambus punctulus Beck
Whiteknights, Reading, 4.6.95, found in a moss trap. The trap baited with a fish head had been placed down a rabbit hole, part of a burrow, located at edge of a mixed deciduous wood on 30.4.95. New record (HHC).

Aphanisticus pusillus Olivier
Hartslock Nature Reserve, near Goring, 25.2.95, extracted by Tullgren funnel from moss growing on calcareous grassland (TDH). Old records, Tubney and Wytham (HHC).

Trixagus carinifrons de Bonvouloir
Leighton Park School, Reading, 23.6.94, on windowpane inside house within parkland (TDH). One old, two recent records (HHC0.

Trixagus dermestoides Linnaeus
Pamber Forest, 13.1.95, extracted from feathery moss which was collected from base of oak-tree in oak woodland (TDH). Two old records (HHC).

Lampyris noctiluca (L.) **Glow Worm**
Reading Golf Course, 22.6.95, first sighting, 28.7.95, maximum count of 52 females, 9.9.95, last sighting (JWM); Bucklebury Common, 1.7.95 (MWS); Hartslock N.R., males caught throughout the flight period in the mercury vapour trap, though never more than one at a time. In one sweep of the field ten to twelve females were seen in the grass and at least one of these was paired (CMR).

Reesa vespulae Milliron
Leighton Park School, Reading, 26.6.94, on windowsill of room on first floor of house within parkland (TDH). One recent record at same location (HHC).

Carpophilus mutilatus Erichson
Leighton Park School, Reading, 28.10.94, in compost heap containing rotten fruit in garden within parkland (TDH). One recent record (HHC).

Meligethes erythropus Marsham
Leighton Park School, Reading, 29.7.94, collected from flowers of *Lotus corniculatus* in meadow (TDH). Two old records (HHC).

Atomaria apicalis Erichson
Whiteknights, Reading, 14.9.94, on fruit bodies of *Polyporus squamosus*, growing on log in deciduous woodland (TDH). New record (HHC).

Atomaria nigrirostris Stephens (= *A. fuscicollis* Mannerheim)
Pamber Forest, 12.2.95, extracted by Tullgren funnel from moss covering a rotting tree-stump in damp part of oak-wood (TDH). New record (HHC).

Atomaria linearis Stephens
Near Gatehampton Manor, near Goring, 25.6.94, general sweeping on calcareous slope supporting rich flora. Leighton Park School, Reading, 6.5.95, attracted to mercury vapour light set up on back porch of house in parkland (TDH). New record (HHC).

Ephistemus globulus Paykull
Leighton Park School, Reading, 31.7.94, in flight interception trap set up beside a ditch bordering tree-lined hedgerow within parkland (TDH). One recent record (HHC).

Olibrus corticalis Panzer
Near Gatehampton Manor, near Goring, 25.2.95 under bark of diseased but still standing beech tree in woodland on calcareous slope (TDH). One recent, three old records (HHC).

Cerylon fagi Brisout
Near Gatehampton Manor, near Goring, 18.3.95, hibernating under bark of a rotting deciduous tree log in area of marshy ground on river bank (TDH). New record (HHC).

Sericoderus lateralis Gyllenhal
Leighton Park School, Reading, 31.8.94, in compost heap in garden within parkland (TDH). New record (HHC).

Scymnus frontalis Fabricius
Hartslock Nature Reserve, near Goring, 25.2.95, extracted by Tullgren funnel from moss growing on calcareous grassland (TDH). One old non-local record (HHC).

Aridius bifasciatus Reitter
Near Gatehampton Manor, near Goring, 18.3.95, extracted by Tullgren funnel from moss growing on calcareous grassland (TDH). One recent record (HHC).

Enicmus testaceus Stephens
Whiteknights, Reading, 29.8.94, obtained by shaking pieces of bracket fungus over a sheet. Fungus growing on (hornbeam?) log in log pile in ornamental deciduous wood (TDH). One old non-local record (HHC).

Enicmus transversus Olivier
Leighton Park School, Reading, 31.7.94, in flight interception trap set up beside a ditch bordering tree-lined hedgerow within parkland (TDH). One old, one recent record (HHC).

Dienerella separanda Reitter
Leighton Park School, Reading, 31.8.94, in compost heap in garden within parkland (TDH). New record (HHC).

Cortinicara gibbosa Herbst
Whiteknights, Reading, 20.9.94, on fruit bodies of *Polyporus squamosus*, which had fallen from top of a diseased beech tree in ornamental deciduous wood (TDH). New record (HHC).

Cis fagi Waltl
Near Shinfield Grange, near Reading, 24.2.95, under bark of dead larch in a plantation of coniferous and deciduous trees (TDH). New record (HHC).

Corticaria serrata Paykull
Near Shinfield Grange, near Reading, 12.10.94, under bark of dead but still standing coniferous tree in plantation of coniferous and deciduous trees (TDH). New record (HHC).

Mycetophagus populi Fabricius
Pamber Forest, 1994, one specimen collected from the forest by the Warden, Graham Dennis. Given to (TDH). New record (HHC).

Atritomus filicornis Reitter
Whiteknights, Reading, 18.6.93, six specimens collected from amongst fruit bodies of *Stereum hirsutum* which were growing on (hornbeam?) logs in a log pile in ornamental deciduous wood. Numerous specimens observed. New to Britain, identified by Dr. Michael Cox. None were found at this site in 1994 or 1995. Leighton Park School, Reading, 10.8.95, One specimen obtained by beating dead branch of oak-tree which stood at edge of deciduous woodland within parkland. Leighton Park School, Reading, 20.8.95, three specimens beaten from dead branches of hornbeam tree growing at edge of deciduous woodland within parkland. Near Hall Farm, near Shinfield, near Reading, 21.8.95, one specimen obtained by beating branch of dead alder tree in tree-lined hedgerow in area of farmland. Species clearly spreading and well established. (TDH). New records (HHC).

Cicones variegata Hellwig
Near Gatehampton Manor, near Goring, 25.2.95, under bark of diseased but standing beech trees in beech and yew wood on calcareous slope. (TDH). One recent record (HHC).

Corticeus bicolor Olivier
Near Hall Farm, near Shinfield, near Reading, 4.2.95, under bark of dead but standing elm in hedge of elm and other deciduous trees in area of river meadows (TDH). A common species but all records are old, the most recent 1963 (A. Price) (HHC).

Orchesia micans Panzer
Leighton Park School, Reading, 4.6.95, beetles emerged from fruit bodies of *Inonotus dryadeus* which had been kept in a tin since 11.3.95. The fungus had been attached to bole of diseased oak-tree growing in hedge at edge of parkland (TDH). Two old records (HHC).

Conopalpus testaceus Olivier
Pamber Forest, 1994, one specimen collected from the forest by the Warden, Graham Dennis. Given to (TDH). Two old records (HHC).

Mordellistena neuwaldeggiana Panzer
Leighton Park School, Reading, 27.7.94, on hogweed blossom in garden within parkland (TDH). One old record (HHC).

Metoecus paradoxus (L.)
Upper Bucklebury, 16.8.95 (MWS).

Arhopalus rusticus Linnaeus
Pamber Forest, 1994, one specimen collected from the forest by the Warden, Graham Dennis. Given to (TDH). Hartslock N.R., 10.7.95 one at mercury vapour light (MH); Snelsmore Common C.P., 5.8.95, one at mercury vapour light (MH). One recent record (HHC).

Strangalia quadrifasciata Linnaeus
Pamber Forest, 1994, one specimen collected from the forest by the Warden, Graham Dennis. Given to (TDH). New record (HHC).

Longitarsus flavicornis Stephens
Leighton Park School, Reading, 3.8.94, attracted to mercury vapour light set up on flat roof of a building in parkland (TDH). New record (HHC).

Apion cineraceum Wencher
Near Gatehampton Manor, near Goring, 5.10.94, obtained by general sweeping of calcareous grassland (TDH). New record (HHC).

Apion onmopordi Kirby W.
Near Gatehampton Manor, near Goring, 5.10.94, obtained by general sweeping of calcareous grassland (TDH). Two old records (HHC).

Hypera meles Fabricius
Hartslock Nature Reserve, near Goring, 25.2.95, extracted by Tullgren funnel from moss growing on calcareous grassland (TDH). New record (HHC).

Hypera plantaginis Degeer
Near Gatehampton Manor, near Goring, 18.3.95, obtained, by shaking over a sheet, from moss growing in calcareous meadow (TDH). One old record, Tubney (HHC).

Acalles misellus Boheman
Near Gatehampton Manor, near Goring, 25.2.95, under bark of diseased but standing beech trees in beech and yew wood on calcareous slope. (TDH). New record (HHC).

Orthochaetes setiger Beck
Near Gatehampton Manor, near Goring, 18.3.95, extracted by Tullgren funnel from moss growing on calcareous grassland (TDH). One old, one recent record (HHC).

Smicronyx jungermanniae Reich
Hartslock Nature Reserve, near Goring, 25.6.94, by sweeping *Cuscuta epithymum* in calcareous grassland (TDH). Four old local records (HHC).

Tychius flavicollis Stephens
Near Gatehampton Manor, near Goring, 25.6.94, obtained by general sweeping of calcareous grassland (TDH). New record (HHC).

Tychius junceus Reich
Near Gatehampton Manor, near Goring, 25.6.94, obtained by general sweeping of calcareous grassland (TDH). Many old records (HHC).

Rhynchaenus alni Linnaeus
Near Shinfield Grange, near Reading, 8.3.95, hibernating under bark of dead but slill standing elm tree in hedgerow (TDH). A common species but all records are old, the most recent 1963 (A. Price) (HHC).

Scolytus multistriatus Marsham
Near Shinfield Grange, near Reading, 14.9.94, resting on trunk of young but diseased elm in hedgerow (TDH). Many old records (HHC).

Acrantus vittatus Fabricius
Near Hall Farm, near Shinfield, near Reading, 4.2.95, resting on debarked wood of dead but standing elm in hedgerow (TDH). Two old records (HHC).

Hylastes ater Fabricius
Benyon's Inclosure, near Mortimer West End, 29.10.94, under bark of coniferous log on ground in coniferous plantation (TDH). Many old records (HHC).

Hylastes attenuatus Erichson
Benyon's Inclosure, near Mortimer West End, 1.10.94, under flakes of bark of coniferous log on ground in coniferous plantation (TDH). One recent record (HHC).

Hylastes opacus Erichson
Benyon's Inclosure, near Mortimer West End, 1.10.94, under flakes of bark of coniferous log on ground in coniferous plantation (TDH). Two old records (HHC).

HYMENOPTERA : SAWFLIES, ICHNEUMONS, ANTS, BEES AND WASPS

Identifications for the late records of *Hymenoptera* were checked by George Else.

Lasioglossum calceatum (Scop.)
Hargrave Road, Maidenhead, 2.7.94 (MVA).

Melitta leporina (Panzer)
Hargrave Road, Maidenhead, 2.7.94 (MVA).

Osmia caerulescens (L.)
Hargrave Road, Maidenhead, 2.7.94 (MVA).

Nomada fabriciana (L.)
Hargrave Road, Maidenhead, 2.7.94 (MVA).

DIPTERA : TRUE FLIES

Asilus crabroniformis L.
Hartslock N.R., 26.8.95, not seen here for over five years until 1995 (CMR); The Holies, 28.8.95, four seen basking on a track through a grassland area (MH). This predatory black and yellow robberfly is Britain's largest fly.

Xanthogramma pedissequum (Harris)
Hargrave Road, Maidenhead, 20.5.95 (MVA).; Frilsham, 2.6.95 (MWS).

Conops ceriaeformis Meigen
Ashampstead Common, 13.8.95 (MWS).

Conops flavipes L.
Bucklebury Common, 29.7.95 (MWS); Four Elms, 26.8.95 (MWS).

Conops quadrifasciata Degeer
Bucklebury Common, 29.7.95 (MWS); Decoy Heath N.R., 19.8.95 (MWS).

Physocephala rufipes (Fabr.)
Decoy Heath N.R., 19.8.95 (MWS).

Myopa testacea (L.)
Frilsham Church, 2.5.95 (MWS).

Thecophora atra (Fabr.)
Frilsham, 2.6.95 (MWS).

Sicus ferrugineus (L.)
Bucklebury Common, 29.7.95 (MWS); Ashampstead Common, 13.8.95 (MWS).

Fannia nidica Collin
Hartslock N.R., taken in 1995 by Adrian Pont in the lane that runs to the Reserve (CMR).

Drosophila funebris (Fabr.)
One on rotting apples in compost heap, 10 Northbrook Road, Caversham Park Village, 1.11.95 (HHC).

Drosophila hydei Sturtevant
Male and female on rotting apples in compost heap, 10 Northbrook Road, Caversham Park Village, 1.11.95 and 7.11.95 (HHC).

Drosophila immigrans Sturtevant
Female on rotting apples in compost heap, 10 Northbrook Road, Caversham Park Village, 1.11.95 (HHC).

Drosophila melanogaster Meigen
Twelve males and ten females on rotting apples in compost heap, 10 Northbrook Road, Caversham Park Village, 7.11.95 (HHC).

Drosophila species continued to appear until a hard frost on 8.12.95.

(Records of *D. hydei* 1970 - 73 should be referred to *D. repleta*)

CONTRIBUTORS

The Recorder expresses his appreciation to the following for their contributions:-

Martin Albertini (MVA), Hugh Carter (HHC), Nigel Cleere (NC), Norman Hall (NMH), Thomas Harrison (TDH), Martin Harvey (MH), John Marshall (JWM), Mrs Betty Newman (BMN), Basil Parsons (BTP), Christopher Raper (CMR), Peter Silver (PGS), Malcolm Storey (MWS), Des Sussex (DJS), David Young (DAY).

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RECORDER'S REPORT FOR INVERTEBRATES OTHER THAN INSECTS 1995

Hugh H. Carter

ARACHNIDA : SPIDERS

Araneus diadematus **Garden Spider**
Common as ever at 10 Northbrook Road; a large female in a web of which one side was attached to a cypress tree caught and ate *Cyphostethus tristriatus*, of which Cypress is a host plant alternative to the textbook Juniper.

HIRUDINEA : LEECHES

Theromyzon tessulatum
One at Pangfield Farm (SU 568 714), 16.7.95 (MWS).

CRUSTACEA

Chydorus sphaericus
One Bucklebury Common (SU 558 691), 28.1.95 (MWS).

Daphne obtusa
One at same place and date as the foregoing (MWS)

The Recorder expresses his appreciation to Malcolm Storey (MWS) for his contribution.

THE RECORDER'S REPORT FOR VERTEBRATES 1995

Hugh H. Carter

FISH

Leuciscus leuciscus (Linnaeus) **Dace**
Several reported by angler in Kennet and Avon Canal west of Woolhampton, 12.3.95.

Abramis brama (Linnaeus) **Bream**
One reported by angler in Kennet and Avon Canal west of Woolhampton, 12.3.95.

Leuciscus cephalus (Linnaeus) **Chub**
One 320 mm (13 inches) long in Kennet and Avon Canal west of Woolhampton, 12.3.95; one about 180 mm (7 inches) long in Holy Brook at Central Library, 11.7.95; three 180 to 280 mm (7 to 11 inches) long there, 27.7.95; seven in Emm Brook at Dinton Pastures, 7.7.95 (EMC).

Perca fluviatilis Linnaeus **Perch**
One in Emm Brook at Dinton Pastures, 7.7.95 (EMC); hundreds of small fry of this and other species in Dreadnought Reach, 4.9.95.

AMPHIBIANS

Rana temporaria Linnaeus **Frog**
Four litres of spawn in the Horse Pond, Gallowstree Common, 20.3.95; six litres of spawn in the upper pond, none in the lower pond at Greenmore Hill, Woodcote, 20.3.95; two litres of spawn in Rose Hill pond, Emmer Green, 20.3.95; one hundred and eighty frogs found hibernating when a garden pond in Rotherfield Road was cleaned out, reported, 24.3.95; many frogs and much spawn at 2a Hawthorne Road, Caversham, 3.4.95 (PG); tadpoles in garden pond, Gayhurst Road, Caversham Park, 8.4.95; juvenile 30mm (1¼ inches) long on footpath at Warren Row west of Maidenhead, 19.8.95; juvenile in Balmore Park, 5.10.95 (MJC).

Bufo bufo (Linnaeus) **Toad**
Migrating 11.3.95, five dead on roads in Caversham Park; two in pond opposite Coach and Horses, Binfield Heath, 20.3.95, one male and three to four litres of spawn there, 5.4.95; none seen at Greenmore Hill, 20.3.95; one in Rose Hill pond, 20.3.95; return migration 7.10.95 - eight dead on roads around Caversham Park; one dead on Queensway, Caversham Park, 26.11.95.

REPTILES

Natrix natrix (Linnaeus) **Grass Snake**
One in pond at Coach and Horses 20.3.95, two there, 5.4.95; one cast skin Bucklebury Common (SU 559689) and one alive there (SU 559 688), 11.9.95 (MWS).

Vipera berus Linnaeus **Adder**
One juvenile Bucklebury Common (SU 556 691), 4.7.95 (MWS).

MAMMALS

Talpa europaea Linnaeus **Mole**
Active between Jouldern's Farm and Thatcher's Ford, Farley Hill, 9.4.95.

Erinaceus europaeus Linnaeus **Hedgehog**
One dead on Lowfield Road, Caversham Park, 21.6.95, 16.9.95; three dead on Caversham Park road, Lowfield Road (Caversham Park) and near Twyford station, 12.8.95; one three quarters grown dead on Northbrook Road, Caversham Park, 8.10.95.

Pipistrellus pipistrellus (Schreber) **Pipistrelle**
Two small bats probably of this species by Clayfield Copse, Emmer Green, 12.8.95 and 16.8.95.

Vulpes vulpes (Linnaeus) **Fox**
One dead on road at Satwell, 30.1.95 (EMC); one reported in March (MRWS); one on Emmer Green reservoir, 28.6.95; one dead on A417 between Streatley and Wantage, 17.8.95.

Mustela vison Schreber **Mink**
One reported at Piper's Island, 26.8.95 (MJC)

Mustela nivalis Linnaeus **Weasel**
Male at Cray's Pond, 28.4.95; one dead on road, Goring Heath, 3.7.95.

Dama dama (Linnaeus) **Fallow Deer**
Reported from Pamber in January (GJD); doe in Midgham Park, 12.3.95; doe (or juvenile) on verge of A4 by Maidenhead Thicket, 30.10.95.

Capreolus capreolus (Linnaeus) **Roe Deer**
Reported from Pamber (GJD) and Bucklebury (MWS) in January.

Muntiacus reevesi Ogilby **Muntjac**
Reported from Pamber (GJD), Bucklebury (MWS), and Netherleigh (Pangbourne), (CF) in January; slot in Blackhouse Wood near Caversham Park, 3.4.95.

Lepus capensis Pallas **Hare**
One in Reade's Lane, Sonning Common, 8.7.95 (MJC); two in field west of Nettlebed, 29.11.95 (EMC).

Oryctolagus cuniculus (Linnaeus) **Rabbit**
Thirteen at Land's End gravel pit, 11.1.95; one at Twyford gravel pit, 11.1.95; one dead at Cross Lanes, 12.2.95; one dead on Maidenhead Road, 3.3.95,13.9.95 and 29.12.95, ten at Hardwick, one on Path Hill, 6.3.95, two at Hardwick, 3.7.95 and 29.10.95; one at College Farm, south of Cray's Pond, 20.3.95; one to four on Caversham Park Primary School playing field, 22.3.95 to 12.8.95; one or two by Milestone Wood, Caversham Park, 24.3.95 to 7.8.95; three dead on Maidenhead Road at Surrells Wood and Straight Mile, 25.8.95; one dead on Peppard Road, 26.3.95; one dead on road, Swallowfield, 9.4.95 and 9.9.95; one dead on road near Jouldern's Farm, Farley Hill, and signs north of this, 9.4.95; two at Tesco's and two by Dreadnought Reach, both near Kennet mouth, 19.4.95 (EMC); one dead on road, AWE, 30.4.95; eight to seventeen by Peppard Road south of Sonning Common, 1.5.95 to 26.6.95; one dead on road near Dolphin School, Hurst, 7.5.95 and 13.10.95; two at Twyford, two at Stanlake, 14.5.95; five to eight between Clayfield Copse and reservoir, Caversham, 14.5.95 to 15.7.95, after which the growth of crops prevented further observations; one juvenile Blackhouse Wood, 16.6.95; two in hedge nearby, 16.8.95 (EMC); signs at Wellington Country Park, 2.6.95; three Ufton Nervet, 11.6.95; one to three Eight Oaks Farm, Dunsden, 28.6.95 to 15.7.95 (HHC and EMC); five east of Nuney Green, 3.7.95; five along lane 600-1000m north of Mill Road, Goring, 15.7.95; two dead on A417 between Streatley and Wantage and two dead on road south of College Wood, 17.8.95; one dead on road at Maidenhead Thicket roundabout, 31.8.95; one at Coppid Farm, Binfield Heath, 4.10.95; three Dinton Pastures, 17.11.95; two seen at night by the Pack Saddle inn, Chazey Heath, 23.12.95.

Rattus norvegicus (Linnaeus) **Brown Rat**
Dead juvenile at 301 Northumberland Avenue, 6.9.95.

Apodemus flavicollis (Melchior) **Yellow-necked Mouse**
One (cat prey) Upper Bucklebury (SU 542 683), 4.8.95 and one dead earlier in the summer Stanford Dingley, (MWS).

Clethrionomys glareolus (Schreber) **Bank Vole**
One crossing the Straight Mile, Hurst, 14.7.95.

Sciurus carolinensis Gmelin **Grey Squirrel**
One at Crosslanes, 12.2.95; two in Blackhouse Wood, 18.6.95; one dead on Maidenhead Road north of Surrell's Wood, 30.6.95; one near old tennis court 300m north of Mill Road, Goring, 15.7.95; one in car park of Fox Inn, Cane End, 8.9.95; one in Harpsden Bottom, 20.9.95; one in Kidmore Road, Caversham, 18.11.95 and 13.12.95; several Peppard Hill, 25.12.95 (EMC).

My thanks are due to the following contributors:

Elizabeth Carter (EMC); Mary Carter (MJC); Graham Dennis (GD); Claire Frank (CF); Pam Gordon (PG); Tony Hall (TH); Martin Sell (MRWS); Malcolm Storey (MWS).

THE WEATHER AT READING DURING 1995

by

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The year 1995 was very interesting weatherwise and confirmed the vagaries of the British weather regime, with contrasting spells of weather occurring at different times throughout the year. Temperatures were above normal for every month apart from March and December, with readings more than 2.5°C above average in February, July, August and October. Overall, annual temperatures averaged 11.2°C, some 1.2°C above normal, making 1995 the second-warmest since 1959 (along with 1980). Indeed, it would have broken the record warmth of 1990 (11.3°C) if we hadn't experienced the bitterly cold weather of December (more than 2.5°C below normal).

The annual precipitation was very close to normal (within 0.45%) although, like 1994, the individual months showed very considerable variations. There were wet spells in January (some 120% above average, making it the wettest January since before 1921), February (73% above), September (77% above), November (46% above) and December (41% above). Every other month experienced below average precipitation especially between March and August, when totals ranged between 43% and 94% below normal.

Sunshine totals were 10% above average which represented a huge improvement over the previous three dull years (especially 1992 and 1993, when totals were 25% below average). As in 1994, two months exceeded 200 hours (compared with four such months in the brilliant summers of 1976 and 1990). The 279 hours recorded in August made this month the sunniest since 1976 (281 hours). In contrast, June, September and (especially) December were dreadfully dull.

The following monthly weather summaries are based on the table of weather records provided (Table 1), along with mean values for the station over the period 1971-1990 (Table 2). All these data have been kindly supplied by the department of meteorology at reading University.

January started with a very cold spell (with -5.6°C recorded on the 3rd), which soon gave way to more disturbed westerly and cyclonic weather. Consequently, the month turned out to be mild (1°C above normal and excessively wet, with rainfall some 120% above average (the wettest January for over 70 years). Indeed, the bulk of this rainfall (88%) was deposited in the second half of the month (after a very dry first half). The prevailing cyclonic weather gave generally dull conditions, with 15 sunless days and total sunshine only some 19% of the maximum possible.

February proved to be another 'winter-less', cyclonic month with temperatures an amazing 3°C above average (the third-highest since 1959, after 1961 and 1990). Consequently, the numbers of air frosts (1) and ground frosts (12) were well below normal, and the lowest since 1990. Temperatures remained below 0°C for only 30 minutes, compared with 460 hours in the record-breaking cold spell of February 1986. Very wet weather accompanied the unseasonable warmth with the highest number of raindays experienced in almost 20 years and precipitation some 73% above average. The overcast cyclonic weather was responsible for sunshine totals about 10% below normal although the 9.3 hours recorded on the 26th was the highest for any February day since 1977.

March produced slightly below average temperatures since, despite the dominance of anticyclonic conditions, the location of these cells and the associated air circulation favoured mild S-SW-W winds for 62% of the recorded airflow directions. However, these maritime airflows were coupled with the prevailing anticyclonic subsidence and produced very dry and sunny weather (respectively 77% below and 67% above average). Indeed, this March was the sunniest since before 1939, recording a splendid 48% of the maximum possible sunshine hours.

April continued the delightful warm, dry and sunny spring weather with temperatures some 1.6°C above average (and the fifth-warmest since 1959). However, around the middle of the month, some

clear cold nights produced the lowest grass minimum temperature of the year (and the lowest since before 1960). No rain was recorded during the anticyclonic first half of the month and, in spite of the return of more unsettled cyclonic weather on the 21st, total rainfall was only 43% of the average. Sunshine was 16% above average especially since seven days exceeded 10 hours duration.

May provided perfect weather for the VE day celebrations with hot, dry and sunny conditions dominating the first week. During this period, temperatures exceeded 24°C on five days, with the warmest day of the year so far (25.5°C) experienced on the 4th. Sunshine exceeded 12 hours per day in the same period, which was also cloud/rain-less. A cold front from the north restored atmospheric normality on the 10th but, despite the more westerly and disturbed weather over the second half of the month, temperatures remained a degree or so above average. Also, the month's rainfall was only 56% of normal (the sixth-driest since 1971) and sunshine was 11% above average.

June recorded temperatures only 0.5°C above average, despite the complete dominance of anticyclonic conditions. The centre of the high pressure fluctuated between a position to the west of the British Isles (with cold northerly winds and overcast weather) and a position over the country (with hot, sunny weather). For example, maximum temperatures were a miserable 13-15°C between the 10th-13th of the month, compared with 28-31°C during the last three days. Indeed, the 31.4°C maximum recorded on the 30th gave us the warmest June day since 1976 (when temperatures ranged between 32.1 and 34.0°C in the period 25th-28th). The dominant anticyclonic subsidence gave very dry conditions with rainfall 82% below normal (the driest June since 1975) and 13 consecutive dry days recorded after the 17th. The anticyclonic 'gloom' of the first half of the month was responsible for the very dull weather (e.g. only a pathetic 3½ hours of sunshine were recorded over the six-day period 10th-15th). Indeed, 80% of the month's sunshine was recorded during the second half (with a remarkable 15.3 hours measured on the 23rd). Overall, sunshine hours were 6% below normal, which represented a pathetic 36% of the total number of hours possible.

July gave us glorious summer weather, associated with dominant anticyclones. Hot days and warm nights were responsible for mean temperatures up to a remarkable 3°C above normal. For example, the 31.9°C maximum experienced on the 31st was the highest recorded in any July during the past five years. Also, the 18.6°C minimum temperature recorded on the 19th gave us the warmest (most uncomfortable) July night since the 1976 heat wave. Rainfall was 49% below normal, with over half the month's rainfall deposited on one day (the 2nd), making it the fifth-consecutive month with below average deposition. Sunshine exceeded 200 hours, which was very slightly (2%) above average (and well below the 1976 record).

August continued the glorious weather and prolonged the heat wave and drought, with the following remarkable weather characteristics:- temperatures up to 4.6°C above normal; rainfall 94% below normal and sunshine 45% above normal. Consequently, the month turned out to be the warmest August since 1947 (and only 0.3°C below this record temperature of 20.4°C), the driest since 1940 (only 2.3mm below this record) and the sunniest since 1976 (only 1½ hours less than this record). A 23-day drought occurred from the 31st July to the 22nd August - the seventh-longest since 1968, but considerably shorter than the record drought of 37 days between 27th July and 26th August 1976. The night of the 2nd was uncomfortably tropical and 'sticky', when minimum temperatures only fell to 20.8°C (the warmest August night for 35 years at least). In terms of summer records, the period June to August was the second-warmest since 1950 (only 0.3°C lower than 1976), the driest since 1920 (45mm less rain than 1976) and the ninth-sunniest since 1956 (some 175 hours less sunshine than the brilliant summer of 1976).

September proved to be quite a shock (weatherwise) after the continuous heat wave and drought of the previous two months. The dominating anticyclones finally moved away to return the British Isles to its more usual disturbed, cyclonic conditions, with associated dull and wet weather. Temperatures averaged 4-8°C below those of August, with the highest temperature on the 4th (20.9°C) well below the high 20's/low 30's recorded on 16 days in August (and the coolest September night in nearly a decade). Nevertheless, overall temperatures remained very close to average although cool nights (and four ground frosts) characterised the last week or so. Rainfall was 77% above normal which made the month the sixth-wettest September since 1971 (but way behind the record 145.7mm deposited in 1974). Sunshine hours were only 43% of the brilliant total recorded in August and were 17% below normal (but it still turned out to be the sunniest September since 1991).

October experienced the return of anticyclonic dominance and truly 'Indian Summer' conditions, with delightfully warm, dry and sunny weather. Temperatures were pleasantly about 2.5°C above normal, for the fourth month this year, with the highest maxima and minima for over a decade. Indeed, it was the second-warmest October for 74 years (only 0.1°C lower than the record in 1921, mainly because of cold nights in the last week associated with clearing skies). The high pressure control was responsible for rainfall totals about half that expected as normal, but it only turned out to be the tenth-driest October since 1961, way above the record low of 3.6mm in 1969. Similarly, clear skies gave sunshine levels some 16% above average, although the month was only the eighth-sunniest October in the last 25 years, some 36 hours less than the record sunshine recorded in 1971.

November experienced alternating anticyclonic (dry) weeks (1 and 3) and cyclonic (wet) weeks (2 and 4). Temperatures remained above normal (for the eighth consecutive month) by about 1°C, despite cold, frosty spells in the two anticyclonic (cloudless) weeks mentioned above (with the first winter frost occurring 42 days earlier than in 1994). The month's rainfall was 46% above normal (the sixth-wettest November since 1971, but only half of the amount deposited in the record wet of 1974). The two cloudy, cyclonic weeks were responsible for sunshine totals some 10% below normal, although it was still the sunniest November for five years.

December ended the long run of above average temperatures (some 2.5°C below normal), due to dominant anticyclones being located to the east of the British Isles, with freezing easterly winds off the cold continent (52% of the winds blew from the NE/N). December was the sixth-coldest since 1981, with the highest number of air frosts (13) since that infamous December (with 19 air frosts). Precipitation was 42% above average, although most of this was deposited on only four days (75% of the total recorded), especially the 19th when a deluge of 31.3mm occurred. Snow falls accompanied the cold easterly winds and the number of days of snow observed and snow lying was the highest for 14 years. On the 30th, rain deposited on very cold surfaces (concrete minimum was -9.0°C) turned immediately to freezing rain (black ice) with dangerous consequences. Sunshine was 24% below normal, the eighth-dullest December since 1956 (when a chronic 7.8 hours were observed).

Postscript 1995 will be remembered as the year with the glorious hot, dry summer which was pretty close to the record heat wave of 1976 (i.e. only 0.3°C cooler). However, it was actually drier than that remarkable summer 19 years ago, but considerably less sunny. Above-average temperatures were recorded in 10 months of 1995, and four of these experienced temperatures more than 2.5°C above average. December shocked us all with the first cold spell and real winter weather for many years (which carried on into January and February 1996). 1995 obviously continued the warming trend of recent decades, with three of the warmest years since 1959 recorded in 1990 (the warmest), but only 0.1°C warmer than 1990 and 1995 (of equal warmth).

Whether this trend is evidence of global warming, due to the enhanced greenhouse effect, remains to be seen (in 50 years time!), since seasonal heat waves (and indeed cold spells) are clearly distinctive synoptic deviations caused by extreme pressure distributions. Their spatial and temporal variations are controlled by upper air circulations (i.e. Rossby waves and jet streams) which behave independently of minute increases in atmospheric trace gases (including carbon dioxide). Despite the summer drought (and indeed well-below average rainfall in seven months of the year), rainfall was well-above average in the remaining five months. Overall, the rainfall recorded was virtually the normal amount expected. Again, wet/cloudy and dry/sunny spells are caused by alternating cyclonic and anticyclonic dominance, which are controlled in the same synoptic ways as the heat waves and big freezes discussed above.

Table 1 WEATHER RECORDS: 1995

STATION: READING UNIVERSITY (WHITEKNIGHTS)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Mean Daily Temperatures ^{0}C													
Max.	8.4	10.2	10.4	14.0	17.6	19.7	25.0	26.0	18.2	17.4	11.2	5.0	15.3
Min.	2.1	4.3	1.8	5.7	7.3	10.2	13.9	14.1	10.2	9.6	4.7	0.9	7.1
Mean	5.3	7.3	6.1	9.8	12.4	15.0	19.5	20.1	14.2	13.5	8.1	3.0	11.2
Range	6.3	5.9	8.6	8.3	8.3	9.5	11.1	11.9	8.0	7.8	6.5	4.1	8.2
Extreme Temperatures ^{0}C													
Extreme Max.	12.9	13.0	16.1	19.7	25.2	31.4	31.9	33.6	20.9	23.7	14.1	12.5	33.6
Date	31st	4th	31st	25th	4th	30th	31st	1st	4th	8th	13th	22nd	1/8
Extreme Min.	-5.6	-1.1	-3.4	-2.2	1.4	6.7	8.7	8.2	3.8	1.6	-1.5	-5.6	-5.6
Date	3rd	27th	4th	19, 21	14th	9th	23rd	9th	30th	28th	18,20	29th	3/1, 29/12
Extreme Grass Min.	-11.5	-9.3	-10.6	-12.2	-7.5	-0.4	1.1	1.3	-1.1	-3.9	-9.9	-11.8	-12.2
Date	3rd	27th	30th	20th	14, 15	1st	23rd	9th	25, 30	28th	6th	29th	20/4
Days with air frost	21	1	12	2	0	0	0	0	0	0	5	13	50
Days with ground frost	21	12	23	12	11	1	0	0	5	8	16	19	128
Hours at or below 0.0^{0}C	19.5	0.5	35.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	36.5	145.0	251.5
Sunshine Hours													
Sum	49.9	62.8	177.2	180.3	214.8	178.1	210.4	279.4	120.6	112.9	65.1	37.1	1688.6
% of possible	18.9	22.3	48.2	43.5	44.7	36.1	42.4	62.0	31.8	33.9	24.2	14.9	37.6
Daily Mean	1.6	2.2	5.7	6.0	6.0	5.9	6.8	9.0	4.0	3.6	2.2	1.2	4.6

Table 1 (continued) WEATHER RECORDS: 1995

STATION: READING UNIVERSITY (WHITEKNIGHTS)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Ocy	Nov	Dec	Year
Precipitation													
Amount in mm	128.7	71.3	41.7	23.5	28.6	9.5	20.7	3.3	92.4	30.0	78.5	91.3	619.5
Rain days	21	19	13	6	8	3	6	3	16	8	13	17	133
Max. rain in one day in mm	17.2	9.5	13.5	7.8	6.9	6.5	11.3	1.5	21.8	8.8	21.8	31.3	31.3
Date	17th	22nd	2nd	25th	17th	3rd	2nd	25th	26th	24th	26th	19th	19/12
Mean wind speed m.p.h.	6.2	6.3	6.4	5.1	4.0	5.2	4.5	5.0	3.9	4.6	2.6	3.5	4.8
Highest wind gust m.p.h.	45	48	55	30	33	31	33	30	35	-	-	32	55
Date	20th	16th	17th	17th	28th	17th	14th	25, 27	24th	-	-	14th	17/3
Snow or sleet days	1	1	3	0	0	0	0	0	0	0	0	5	10
Days with snow lying	0	0	1	0	0	0	0	0	0	0	0	5	6
Visibility													
Days with fog at 0900 GMT	0	2	1	0	0	0	0	0	1	3	4	3	14
Thunderstorm Activity													
Days of thunder	2	1	2	1	1	0	4	0	2	0	0	0	13
Days of hail	2	2	3	0	0	0	0	0	0	0	0	0	7
Barometric Pressure mb													
Mean	1012.4	1010.1	1013.2	1019.3	1016.5	1019.8	1016.1	1019.7	1012.1	1017.8	1015.6	1016.2	1015.7
Highest	1036.9	1028.1	1037.1	1038.1	1029.3	1032.2	1024.8	1027.4	1026.5	1029.8	1036.8	1037.1	1038.1
Date	13th	2nd	22nd	14th	21st	22nd	23rd	30th	23rd	19th	5th	10th	14/4
Lowest	986.4	995.2	987.7	996.7	995.2	1007.1	1004.0	1008.4	984.1	1001.8	991.7	986.6	984.1
Date	26th	24th	17th	18th	17th	17th	3rd	19th	7th	4th	16th	23rd	7/9

Table 2 MONTHLY AND ANNUAL WEATHER AVERAGES

UNIVERSITY OF READING (WHITEKNIGHTS)

1971 - 1990

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
MEAN BAROMETRIC PRESSURE	1014.2	1015.2	1014.0	1015.8	1014.9	1016.5	1017.2	1016.6	1017.0	1015.2	1015.9	1015.0	1015.7
MEAN TEMPERATURE	4.2	4.2	6.3	8.2	11.6	14.5	17.0	16.7	14.0	10.8	6.9	5.5	10.0
MEAN MAXIMUM TEMPERATURE	7.0	7.3	9.8	12.4	16.2	19.1	21.9	21.4	18.4	14.5	10.1	8.2	13.9
MEAN MINIMUM TEMPERATURE	1.3	1.2	2.6	4.0	7.0	9.9	12.2	11.9	9.7	7.1	3.7	2.7	6.1
DAILY RANGE TEMPERATURE	5.7	6.1	7.2	8.5	9.3	9.2	9.7	9.6	8.8	7.4	6.3	5.5	7.8
SOIL TEMPERATURE 5 cm	3.1	2.9	5.1	8.8	13.6	17.2	19.3	18.1	14.5	10.1	5.9	4.2	10.2
" " 10 cm	3.3	3.1	4.9	8.0	12.4	15.9	18.1	17.1	13.9	10.0	6.1	4.5	9.8
" " 20 cm	4.0	3.9	5.3	7.9	11.8	15.1	17.5	17.0	14.3	10.8	7.1	5.2	10.0
" " 30 cm	5.0	4.7	6.1	8.4	11.7	14.8	17.0	16.9	14.8	11.9	8.4	6.2	10.5
" " 50 cm	5.5	5.2	6.3	8.4	11.4	14.4	16.5	16.8	15.1	12.4	9.2	6.8	10.7
" " 100 cm	6.6	5.9	6.4	8.0	10.5	13.1	15.1	15.9	15.0	13.0	10.5	7.9	10.7
AGGREGATE RAINFALL (mm)	58.6	41.3	54.5	41.1	50.9	51.9	40.6	52.6	52.1	60.8	53.6	64.4	622.3
RAIN DAYS (0.2 mm or MORE)	16	13	16	13	14	11	11	11	10	14	13	15	157
WET DAYS (1.0 mm or MORE)	11	8	12	9	10	9	7	8	8	10	9	9	112
SUNSHINE (No. of HOURS)	55.9	69.3	106.3	155.6	193.4	189.0	206.5	193.0	144.5	97.1	71.9	48.7	1531.2
MEAN DURATION	1.80	2.48	3.43	5.19	6.24	6.30	6.66	6.23	4.82	3.13	2.40	1.57	4.19
DAILY MEAN DURATION POSSIBLE AT LATITUDE 51^0	8.51	10.05	11.86	13.83	15.51	16.45	16.03	14.53	12.65	10.73	8.97	8.04	12.27