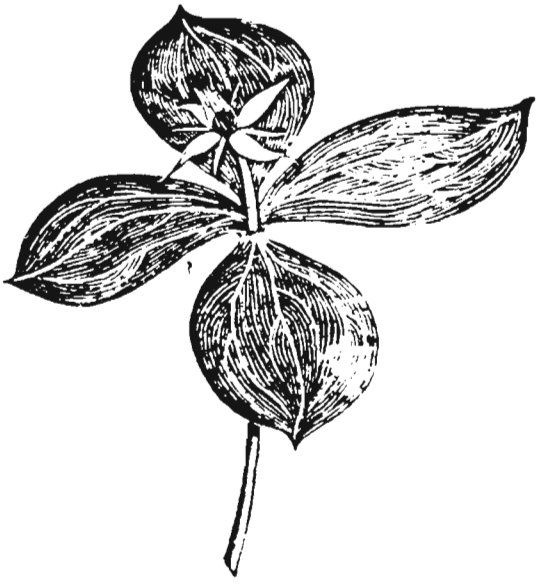
The Reading Naturalist

No 41



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THE READING NATURALIST

No. 41 for the year 1988

The Journal of

The Reading and District Natural History

Society

CONTENTS

EDITORIAL

The 'year' 1987-1988 has been a very successful one for the Society - a year of very good and interesting talks and outings and excursions. This has been due to the efforts of the Programme Secretary, Sheila Ward, of the Field Excursion Secretary, Brian Reed and to the great enthusiasm of the various leaders of the walks. The Society has so much to offer its members and we should all try to take advantage of it.

However we have to report a decline in paid-up membership of the Society over the past two years. We appeal to all keen members to make an effort to recruit amongst their friends etc. We obviously need to publicise our activities and maybe advertise ourselves a little more. A start has been made by reporting our meetings in the local press and also in "What's on in Reading" - as a result at least five visitors have come to our meetings. We must all do our best to increase our numbers and welcome more to our gatherings.

For so many years we have met at the Art Gallery but due to the refurbishment of the Old Town Hall we have been able to meet at the Abbey Room of the new Central Library. For the whole of the year 1989 however, this will be unavailable to us while work goes on in connection with the air conditioning system. We must congratulate Sheila Ward in so quickly booking the Meeting Room of the Abbey Baptist Church for the whole of this period.

We must thank Hugh Carter for the index of contents of numbers 1 - 40 of The Reading Naturalist, which he has prepared, and we hope that readers will find it useful. Some copies of past numbers are still available for purchase from Hugh Carter at the Reading Museum.

May I remind readers that the new list of present members will be issued with the next edition of The Reading Naturalist - No. 42.

MEETINGS - ORGANISED BY SHEILA WARD

The Annual General Meeting was held in the Abbey Room of the Reading Central Library on October 8th. 1987. This was followed by the Presidential Address by Miss Eileen Holly entitled 'Conservation Here and There', (attendance 40). Other talks were:- on October 22nd. B.T.O. and Bird Ringing by Chris Mead (38); on November 5th. due to the non-attendance of the speaker, Martin Sell kindly led a most interesting general discussion on birds (48); Hints and Tips on Natural Photography by Mr. H. Ennion on November 19th. (45) was followed by a fascinating account of the The Co-evolution of Plants and Insects by Professor Harborne (46).

In 1988 we started on January 14th. 'visiting' the Rocky Mountains for wild flowers with Pat Andrews (50). On January 28th. Michael Fletcher described the types of plants found growing on walls - chiefly lichens and mosses (47); Agriculture and Natural History was the topic for Jim Newman on February 11th. (36); Ron Croucher talked on Badgers All Around Us on February 25th. (44); then Andrew Cleave on the Natural History of the Mediterranean on March 10th. (53).

Two Members' Evenings were held - on December 17th. 1987 and March 24th. 1988. Both were, as usual, organised by Hugh Carter. Our thanks to Hugh, to all the contributors and to Ivy and Alan Brickstock for excellent refreshments with mince pies kindly donated by Maureen Baggeley at the December meeting.

WALKS AND EXCURSIONS - ORGANISED BY BRIAN REED

Winter Walks

The two fungus forays were led by Alan Brickstock and Neville Diserens - to Crowsley Park (14) and an all day foray at Sulham and Tadley (15). Two other full day trips - to the coast at Rennington, led by Martin Sell for birds (11) and to Theale Gravel Pits - also for birds with Norman Hall (17).

Half-day trips were:- to Sulhampstead/Ufton Nervet with Neville Diserens for general interest (12); for general interest around Hambleden with Eileen Holly (15); for lichens and general interest at Finchampstead Ridges with Humphry Bowen (16); and to the Woodcote area with Dr. E. Watson for mosses and liverworts (12).

Half-day Summer Excursions

On April 9th. to Satwell with Eileen Holly for wild daffodils and other spring flowers (12); Hurdleshaw and the Downs for Green and Stinking Hellebores (18) on April 23rd; on May 21st. to Munday Dean Bottom and Horton Wood for Green winged orchids (3); to Whiteknights Park with Doug Hambleton on June 4th. for interesting trees and shrubs (4); on August 13th. to Freemans Marsh with Jocelin Whitfield, a return visit for plant life of water meadows (19); and finally to Watership Down and Vale of Kingsclere with Jim Newman for downland plants (29).

Evening Excursions

To Moor Copse with Sheila Ward on 12th. May for Early Purple Orchids and Bluebells (17); on 8th. June to Heath Warren with Chris Cole and members of the Reading Ornithological Club for nightjars, woodlarks and other birds (5); an evening stroll by the Kennet at Theale led by Brenda Moore for waterside plants (2); on 18th. August to the Warren at Caversham with Meryl Beek for general interest (4); to Whiteknights Park for bats with Mike Hardy (5).

Two Mothing Evenings were held:- the first led by Norman Hall on June 18th. to Unhill Wood (7) and the second was the Annual Barbecue and Mothing Evening in the grounds of Wasing House by kind permission of Sir William and Lady Mount. The barbecue was arranged by Jocelin Whitfield and identification of moths by Brian Baker (30).

Full-day Excursions

The Annual Excursion was to Rye Harbour by coach to see examples of shingle vegetation and coastal birds - Sea Pea, Yellow Horned Poppy, Sea Kale and Least Lettuce (just!) and from the hides Ringed Plover, Little Tern and Wheatear (39).

On 26th. June a dragonfly watch was held at Thursley Common and Stopham Bridge led by Graham Vick. The Common is a site for many bogland dragonflies and Stopham Bridge for rarities (6). Roland Ramsdale led at Whitecross Green and Bernwood on 30th. July for flowers, butterflies and other insects (12) and finally on September 21st. Martin Sell led at Bledlow for later flowers and butterflies (17).

OBITUARIES

Mary Trembath

I was saddened to hear of the death of Mary Trembath and like countless others owe her a debt of gratitude. On various excursions of the Society she would point out various flowers that others had not seen. To the beginner she would patiently explain the significant parts of the plant which aided identification, especially on a rarer plant.

I will always remember the many happy hours spent with her walking around Moor Copse, where not only did she warden,but accompanied many tours I took around, when she acted both as a guide and a teacher. Her explanations were always simple and interestingly told, and I felt confident that the girls will always remember the knowledge they gained.

I know that Moor Copse, BBONT and the Natural History Society have lost a very dear friend - one we all will remember with many happy memories. It's been a great privilege to have known her and enjoyed her friendship.

S.W.

Judith Hack

Mycologists in the Society will have been saddened to hear of the death last October of Judith Hack.

When I first became interested in fungi, I heard of 'the American lady' who helped Dr. Hora with the identification and recording of the species of fungi in the Warburg Reserve at Bix. Only some years later did I meet Judith, when she led the Society in a number of forays at Bix and other locations. She could always be relied on to identify a few species that the rest of us did not know, and to give a most enjoyable foray. I also had the pleasure of meeting her on a number of visits of the BBONT Reserves Management Advisory Committee.

We will always remember her with gratitude for her help to the Society, and miss her greatly.

A.B.

A SCAMPER THROUGH THE YEARS

EILEEN HOLLY

My life seems to have been divided into two distinct parts, both always associated with the countryside and natural history. For many years it was dominated by work and home, and time for even local expeditions was limited. Then, in 1963, life changed, and I felt free to do more than sallying forth on two feet or a bicycle, attending Field Study Courses, etc. In that year I ventured on the first of a succession of trips abroad with a Ramblers' Association party. I had to go in August, so flower parties were finished, but everything was exciting. The peaks were the objective, and there was no time for "stopping and staring", but there was always some natural history squeezed in, particularly as one got higher.

Up in dry Alpine pastures I was delighted with such common flowers as Alpine Ragwort, Senecio alpinus, and Stemless Carline Thistle, Carlina acaulis. The latter is frequently called the "Fair weather plant", as it acts as a barometer in the Alpine villages where it is hung on outside walls. The shiny bracts are hygroscopic - they also attract bees. The solid capitulum is edible; a Swiss girl introduced me to this. The thistle is also associated with Charlemagne (after whom it is named), who, 1200 years ago, had given it to his soldiers as a cure for the plague.

In the Otztal Alps and other areas of the Austrian Tyrol I became familiar with the true Alpine zone which exists above the tree line. Deciduous trees occur up to 1500 metres and conifers up to 2600 metres. Above this, one comes to the short meadows with very rocky patches. Grassland can be found up to 3000 metres, and can be used for summer pastures. The vertical range of Alpine plants is extended by melting snow and mountain streams carrying, to lower levels, seeds and fragments of plants. Plants above the tree line and not overgrown in the pastures deal with water loss by the leaves (a) growing in flattened rosettes; (b) being hairy, waxy or leathery; or (c) incurving, to reduce respiration from lower surface pores.

The compact nature of growth is also a protection from the temperature changes of day and night, and the mountain winds and ultra-violet radiation.

There is a nice little story about the Black Vanilla Orchid, Nigritella nigra, one of the best known and loved orchids of the Alps. A monk who spent his days in front of the statue of the Christ Child in a cathedral was overcome by his desire for part of the statue. Breaking off an arm, he fled into the mountains with it. He became completely lost, and, just before he died, he buried the arm. His body was found the following year on a ledge, and nearby were the dark red flowers of the sweetly scented Black Vanilla Orchid. It has small palmately divided tubers resembling a child's hand.

One notices the long flower stalks of these Alpines - a help in pollination - and one realises that such plants have to flower and seed in a very short time. Some flower and set seed in five days after the snow has melted; seventeen days later the seeds are ripe. Other highly adapted ones like Soldanella alpina push up through the snow to obtain the maximum for their life cycle. In some seasons, little seed sets at high altitude; this is the reason for a lack of annuals and biennials (five percent of the prevalence of perennials). There is a predominance of runners, above and below the surface, and bulbs and corms are common. Shrubs are few, and only found up to 3000 metres, e.g., Alpenrose, Rhododendron ferrugineum and Dwarf Alpenrose, Rhodothamnus chamaecistus. Leaving the Alps for the Dolomites, I found an exciting orchid, Corallorhiza trifida, Coral Root. With no roots, it has a knobbly underground stem with twisty branches

like coral. It is a saprophyte; a fungus absorbs liquid from humus and penetrating knobs pass on food to the orchid.

When I retired, I became free to partake of the joy of going abroad in early summer to sample the abundance of flowers at lower levels. I began joining flower and bird parties - still with Ramblers with a competent leader. I emphasise the latter, because (at any rate in those days) they were definitely not all flower recognition experts, but one learned a lot from other members of the party who all had similar interests. I went to Andalucia, not once but four times; Andalucia is composed of eight provinces. I was chiefly concerned with a region south of Cape Trafalgar and west of Gibraltar bounded by 200 miles of brown mountains - the Sierra Morena range and Sierra Nevada's snowy peaks. We stayed three times at a lovely old cortijo at Zahara and once at Tarifa, each time amid an abundance of flowers and birds. Near Tahvilla I had an exciting view of the Great Bustard - not an easily forgotten sight - and then on the Sierra de Retin there was an unusual sight of a white stork nesting in a tree near a farm building. The most striking area, I suppose, was that of long strands of gleaming white beaches, here and there changing to many shades of brown, red and green below high cliffs stretching to Cape Trafalgar. On the top was a tangled vegetation of Arbutus, Rosemary, etc., over which were so many butterflies, Spanish Festoons, Swallowtails, etc., and the whole area broken up by sandy stretches with large patches of Anagallis monelli, the glory of the sand dunes of the Atlantic coast of Spain and Southern Portugal. Another striking plant of the area was Scilla peruviana.

Returning to the beaches, vast areas of Sea Daffodils with their large bulbs and heads of four to twelve flowers were to be seen. Many of the bulbs are uncovered where sand has been washed or blown away. Near the coast, a handsome plant with a stout stem and glistening white flowers, Ornithogalum arabicum, was an attraction. The trees were interesting, including some considerable planting of Eucalyptus. Cork Oaks were common, many showing the harvesting of the cork at that time. The cork is stripped in August with twin-bladed knives. Before any attempt to do this is made, the trees must be at least 50 years old, and a seven-year cycle is the usual period for re-growth. Areas of Umbrella Pines were seen here and there. Around Vefer there were sandy pine-covered flats, with Iris, such as filifolia, with its rich violet flowers and conspicuous golden yellow streak (the long narrow grooved leaves with incurved edges do not detract from its beauty) and Iris xiphium, violet purple and nearly as beautiful. The three-leaved Snowflake, Leucojum trichophyllum with up to five nodding pink flowers, was another joy. Interesting, but not so beautiful, was Dipcadi serotinum, the Brown Bluebell.

Orchids - well, of course, there were many new to me. Of the temperate orchid genus Ophrys, there were Ophrys fusca, the Brown Bee, and Ophrys scolopax, the Woodcock, whose flowers resemble the females of the pollinating insect so that there is sexual attraction. Most male pollinating insects emerge two weeks before the females, so they are first attracted by Ophrys flowers. This is a distinguishing feature of the genus. As insects do not confine themselves to one flower, much hybridisation occurs. My first Serapias occurred - Serapias lingua, the Tongue Orchid. Serapias is a genus easy to recognise, but identification of species is more difficult owing to much hybridisation within the genus. Before leaving Andalucia, I must mention the beauty of Convolvulus althaeoides, Mallow-leaved Bindweed, transforming all waste ground.

My rambling then took me to Mediterranean regions where, in spite of perennial features such as rainfall between October and April, warm winters, hot summers, etc., there are great variations of climate. Hence, habitats differ, and a very rich flora results. The last Ice Age, some 10,000 years ago, did not have a wholly disastrous effect, and many old species survive.

Early history has also had some effect. There are small patches of primaeval forest tucked away in the hills, but many of the remains, due to acts of men and animals, have degraded into maquis, to garigue, to steppes, with the latter occurring in cases of extreme depauperisation and so have become derelict and ungrazed. Where there is maquis there are tall shrubs, maybe two metres high, with stiff twiggy branches and leathery leaves, such as Asparagus acutifolius, all making penetration a daunting effort. It is a little easier where the maquis has degenerated into garigue. Here there are bare areas and patches of rocky stony ground among low bushes such as varieties of Cistus, among which hybridisation is common. The Cistus genus is aromatic. In olden days ladanum was obtained from Cistus incanus and Cistus ladanifer by scraping gum from plants and also by combing the fleeces of grazing animals and the beards of goats. Under the bushes, spectacular parasites, Cytinus hypocistus with its dense rounded heads of yellow flowers and orange-red bracts, and Cytinus rubra, with white or pink as well as crimson flowers were found. Shrubs, mainly spiny, with small leathery leaves or leaves covered with woolly grey hairs and often aromatic, were prolific.

And so I came to sample some of the Mediterranean islands, the first being Majorca, an island I had thought I would avoid visiting. However, away from Palma to the north and east, I found much of interest, such as Paeonia cambessedesii, with its large deep rose-pink flowers, an endemic. Orchids were abundant, and standing out in my memory is Ophrys tenthredinifera, the Sawfly Orchid with its brilliant pink perianth and a broad brown indented lip with a broad yellow margin. In Majorca, specimens of this Orchid are very fine. There was no lack of members of Euphorbiaceae: Mediterranean lands abound in species of this family which, incidentally, include Castor Oil, Rubber and Tapioca plants. The so-called flowers consist of three males, each with one stamen, grouped around one female, with a three-celled ovary. These mop-like flowers are surrounded by cup-like bracts. The number of species increases to about 65 in Greece, where I found Euphorbia characias, the Large Mountain Spurge, a very striking plant.

Sardinia beckoned next, where inland there is a mantle of spontaneous maquis still developing. It has five months' drought at sea level and three months' at 1000 metres, so the forests are confined to higher levels. There were orchids in plenty, and among the many I chiefly remember Orchis papilionacea, one of the most beneficial, with rosy-pink flowers. This is a member of the second Orchid genus comprising Orchids not Ophrys and, broadly speaking, having similar flowers more densely clustered on the stem. The unmistakeable Ophrys speculum, the Mirror Orchid or Mirror of Venus, occurs widely. It has a large, brilliant metallic blue reflective patch in the centre of the lip. Then, also plentiful, was the Man Orchid, Aceras anthropophorum, which the French call "hanging man". Here I also found another Sea Daffodil - Pancratium illyricum. This flowers in the spring among shady rocks and not on the sands, thus differing from maritimum, which is autumn flowering; it has a narrower tube and heads of six to fourteen flowers.

Visits to the Greek islands followed, starting with the island of Corfu, which is not completely typical Greek. It has the highest incidence of rainfall, with even occasional showers in summer, and winter winds can be quite chilly. Its water supply is generous - it has several rivers and many mountain streams, and so is a year-round green island which, of course, has great fertility. There are millions of black olive trees which turn the steep hillsides into shady forests. The Venetians instigated these and so many very old olive trees remain with their gnarled and tangled branches. Other than these are many cypresses.

I stayed at Kassiopi, which is attractive, and straggles over rocky terrain around a wide, irregular bay. Nero is said to have danced here as a young Emperor before an altar in the Temple of Zeus, on the site of which is the present village church. It is a good place to get views of Albania. Small scale trading takes place between the two countries, legal and illegal - chiefly rope and sacking, tinned fish, etc. As orchids prefer short grass, avoiding rank vegetation and seeking open clearings in woods for adequate light, these islands are excellent for them. Orchis coriophora, the Bug Orchid, interested me. It has a sickly smell said to be like that of bed bugs - if we know what that is today! Another Ophrys was good to see - ferrum-equinum, with a metallic blue horseshoe reflective patch in the centre of the lip. Yet another of the Orchis genus caught my eye, Orchis rheinholdii, with two comma-shaped marks on the lip. A pretty violet-blue Squill, Scilla hyacinthoides, again with a tremendous bulb, was very evident.

Another year I found Cephalonia, a delightful island. I added Orchis provincialis to my favourites. This is one of the few yellow-flowered Orchids. It has a faint smell of elder. Here at last I saw Limodorum abortivum, the Purple Bird's Nest, not just in bud nor spoiled by rain as so often happens. It is very striking, with a violet flower, a cane-like stem overlaid with violet, and just clasping scales for leaves. It grows in ghost-like colonies, often in wood clearings or among Lavender or Cistus. As the flowers, which are very delicate, open from four to twenty buds closely pressed to the stem, the corollas turn to face outwards and display magnificent colour and form. I thought I had a new species! Another Euphorbia - rigida, glaucous with half-moon shaped glands with short, blunt, rounded horns, was interesting; as was, of course, the endemic Viola cephalonii.

And so to Crete, which I could not miss, equidistant from North Africa, the Middle East, and Europe. Wherever one goes, one can always be in sight of the sea. It is criss-crossed with dramatic mountains. Between these and the sea are many olive groves, vineyards, orchards and orange plantations. So much to say! It is the largest of the Aegean islands. In all probability it was once attached to the continent for the last time when, towards the end of the Miocene period five and an half million years ago, drying up occurred. The Mediterranean basin flooded from the west, changing it from desert 10,000 feet below sea-level to its present form. Changes of sea-level and erosion following led to formation of plains and valleys, hence the varies and spectacular landscape of present-day Crete and its abundance of habitats, with 1600 wild flower species which include many endemics. Flowers bloom all the year, even though mountains are snow-capped in winter. However, at sea-level, temperature never falls below freezing. For flowers, although spring is the ideal time, there is the 'second spring'. Even during the long dry summer and in mid-winter, flowers are amazing. Crete has over 100 indigenous plants and trees. The surface water drains rapidly through porous rocks into an underground water system, hence many plants - like Alpines - have xeromorphic features. There are many interesting areas of limestone mountains with their gorges and cliffs, such as the Samaria Gorge, providing rich flora.

Above the Gorge, just below the snow line, Chionodoxa cretica was a delight to behold, as well as Romulea bulbocodium, which is rarely white. About half the total area of Crete is grazed by sheep and goats, although there is some cultivation with oxen ploughing difficult terrain. There is very little true maquis, but garigue dominates the poorer lowlands and hillsides. The hillsides, as well as being very rich in Orchids such as Orchis simia, Ophrys cretica (the Cretan Bee) and Ophrys candida (a Cretan sub-species of fuciflora, the Late Spider) are often a sight to behold, with bright yellow

Gorse and Broom, or carpets of brilliant Anemone coronaria (thought to be the 'lily of the field'), Ranunculus asiaticus, and the pink Ebenus cretica, another endemic. Less pleasant, but extremely handsome, was the foetid Dracunculus vulgaris, the huge Dragon Arum. Smaller, but equally interesting, were its relatives, Friar's Cowl, Arisarum vulgare, with a pulpit-shaped flower and long curved club-like spadix projecting, and Aristolochia cretica with a wonderful show of insect-trapping hairs at its mouth. The sterile flowers are few or absent in this species. There were several species of Tulip - Tulipa cretica, Tulipa bakeri, etc. Again interesting was the Snakeshead, Hermodactylus tuberosus, the Widow Iris, with its unbearded petals. This has been naturalised in Devon and Cornwall. A low-domed spiny shrub was Euphorbia acanthothamnos with yellow umbels covering bright green foliage. The whole plant consisted of densely intertwined strands and spiny fruiting heads and branches which, although most attractive, proved somewhat daunting!

And what about mainland Greece - the Peloponnese, with its rugged highlands? It is like a Plane leaf with a central midrib of mountains in each lobe. Its stalk joins it to the mainland at the Gulf of Corinth. In the vicinity of Delphi are rock walls. Above the site a zig-zag track takes one up to the Livadi plateau where Iris pumila ss attica, a dwarf Bearded Iris, was found. In the Parnassus area, a southern region Ophrys spruneri, the Grecian Spider with its long drooping arms, called attention to itself. In the Olympia region Ophrys carmelii (Carmel Ophrys), an eastern race of Ophrys sphegodes ss mammosa (Early Spider) was added. It has a rounded oblong lip with pronounced forward-pointing basal humps and 'H' shaped reflective patches. Northern Greece I adored, with the mighty Olympus range, remote and mist-swathed, craggy pine-forested ravines of the lower slopes, and snow-covered summits. At Menodendri, where the River Pindos pours out of a narrow mountain pass, is a forest of gigantic rocks - high lofty columns, some like separate castles with pointed or flat tops, all separate and isolated by deep crags and coves. Monasteries are situated on the tops with a multitude of flowers around the bases at Meteora. And what do I remember of these flowers? The peculiar but interesting Himantoglossum hircinum, the Lizard Orchid, was represented by such very fine specimens. It can grow to three feet high. Himantoglossum consists of two Greek words meaning a leather strap and a tongue, and the Latin hircinum, the word for a he-goat. It has a strong smell of goats! In bud, the lip is coiled like a watch spring. As it opens it unwinds into a long, narrow, twisted strap resembling a lizard's tongue, hence our British name 'Lizard Orchid'. It was on Mount Olympus, well out of reach, that we found Jankaea heldreichii under Beech. It is one of five European members of the tropical family Gloxinia - living fossils which have held out for millions of years. The second Gloxinia - Ramonda serbica - was in another spot. One saw quite a few lilies: Lilium candidum, Madonna, growing on Meteora or Metsova stacks, Lilium albanicum, Turk's Cap, in the higher meadows, was very variable, with distinctive forms. In the Balkans it is often described as a separate species. In the mountain woods there was Lilium chalcedonicum, the Scarlet Martagon, with up to twelve brilliant orange-red flowers. Off the rocky coast road, Campanula incurva was a handsome sight. Campanula pollination is interesting. In a young flower, five united stamens surround the style which pushes up through the anthers and brushes pollen onto its own hairy surface. A nectar-seeking bee receives pollen from the style onto its body as it pushes into the bell. The three stigmas, which have remained closed until now, open to receive pollen from another flower.

Just to finish - to Bulgaria, the Rhodope mountains, for another fossil plant, another Gloxinia, this time growing in a lax rosette.

Turkey.....Iceland.....and further afield..... Well, I am still scampering. I can thoroughly recommend it, and long may it last.

POTAMOGETON NODOSUS POIR - LODDON PONDWEED

D.F. ARCHER

Introduction

The River Loddon must be fairly unique in that the name 'Loddon' is used in the common names of two plants associated with it, namely Loddon Lily and Loddon Pondweed.

Both plants are listed in the British Red Data Books : 1, Vascular Plants (Perring & Farrell, 1977) since they are considered to be endangered species. In areas remote from the Loddon, Loddon lily is sometimes called Summer Snowflake but Loddon Pondweed has no other common name in the British Isles.

Loddon Lily produces an attractive flower and although this may be an advantage or disadvantage depending on whether one is a 'picker' or a 'protector', public interest in the flower of the plant will probably help in preventing the label 'endangered' being changed to one of 'extinct'. No such public interest however is likely to be aroused over Loddon Pondweed. If beauty is in the eye of the beholder, then in the case of Loddon Pondweed the beholder will first need wellingtons if not waders to reach the plant in order to see in situ its true beauty.

Having said that, there are times when Potamogeton nodosus can be viewed from three road bridges spanning the R. Loddon. These are the Swallowfield by-pass bridge taking the A33 over the Loddon at Grid ref: SU711646. Just prior to this bridge there is a convenient pull-in when travelling in a South-bound direction. Another bridge, King's bridge is also at Swallowfield, Grid ref: SU714647. The third bridge is at Charvil where the A4 road crosses the Loddon at SU778767. Here again there is a convenient lay-by for vehicles. The lay-by is South of the bridge on the left hand side when driving towards Reading. At this particular site the best observations can be obtained by viewing from the West side of the bridge looking downstream.

The distinctive and beautifully net-veined leaves are normally submersed and therefore river level, water turbidity and light reflection will partly determine whether they can be seen easily.

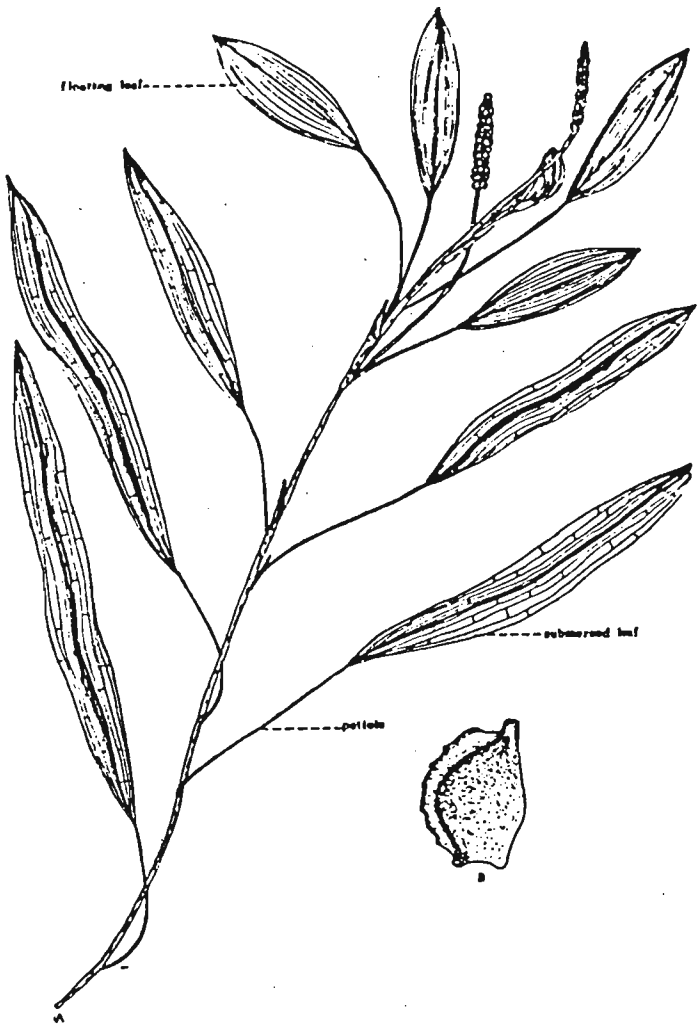
Fortunately the Nature Conservancy Council has designated as Sites of Special Scientific Interest, habitats where Loddon Lily and Loddon Pondweed grow. In the case of Loddon Pondweed a site was first designated in 1987.

Plant Structure

The name Potamogeton nodosus has both Greek and Latin roots. Potamos meaning river and geiton, neighbour, come from the Greek. Nodosus comes from the Latin and means knot. Certainly the plant seems to grow well in rivers and if you run your fingers along a rhizome of the plant during Summer or early Autumn you will feel the 'knots' or nodes. In Potamogeton nodosus the creeping rhizome develops during Spring and Summer from overwintering buds or turions.

From the rhizome arise leafy stems which bear two types of leaves. The submersed leaves appear earlier in the Summer; often have a long petiole and are elliptical/lanceolate in shape. It is these thin and translucent leaves with their characteristic net-veined structure which give P. nodosus plants their particular beauty and character. To quote from Clapham, Tutin & Warburg (1962), "Easily recognised by the lanceolate beautifully net-veined submerged leaves which are quite different from those of any other British species".

The floating leaves which appear in the season in addition to the



Potamogeton nodosus Poir

A. upper portion of plant. B. fruit.

Sizes:

Submersed leaves:100-200mm x 15-40mm elliptical

Floating leaves:60-150mm x 25-60mm broadly elliptical

Fruit: c3.5 x 2.5mm

submersed leaves are not so characteristic and could perhaps be confused with some other members of the Potamogetonaceae. The surfaces of these leaves appear to be slightly waxy and are not nearly so thin and delicate looking as their submerged sisters. To inspect the veins the leaves need to be held up against the light.

Potamogeton nodosus is heterophyllous, that is to say its leaves can be of a somewhat different shape, usually larger or smaller than usual. This depends very much, it appears, on the depth of water and strength of the water current. When kept in static water the leaves remain small but are normal in all other respects.

Attempts at growing Loddon pondweed in a pond have met with only limited success. Growth was normal initially but very soon Limnaea stagnalis (great pond snail) found it and seemed to use it as a "food plant" eating the leaves and laying its eggs on those pieces of the stem and petiole still left.

In streams and rivers the submersed leaves are eaten by ducks and swans. In the River Loddon the writer witnessed a swan voraciously eating numerous submersed leaves of P. nodosus in an area of river which had only recently been designated an S.S.S.I.

Distribution

Although considered rare in this country, P. nodosus is found growing more extensively in several other countries.

In the British Isles it is found only in stretches of the R. Loddon (Berks), R.Avon (Nr. Bath, Avon) and in the R.Stour (Nr. Blandford Forum, Dorset). Although once plentiful in the Thames (Clapham et al 1962) this is no longer the case although there is a recent report of it being found in a backwater of the Thames at Maidenhead. The three U.K. sites mentioned appear to represent the edge of the range for P.nodosus in N.W. direction from Central Europe. It is perhaps for this reason that the plant is under stress and possibly more sensitive to environmental change than might otherwise be the case.

Sculthorpe (1967) does not list P.nodosus as an ancient indigenous hydrophyte of the British Isles. Godwin (1975) states that the finding of fruit of P.nodosus by Turner in material from the warmest part of the interglacial period, sub-stage III of Hoxnian, links well with a species found only in the Southern part of the British Isles and southwards in Europe from Poland and Germany to the Mediterranean. Beyond Britain P.nodosus enjoys extensive distribution. It is found from the Azores to Canary Islands, to Egypt, the Sudan and Madagascar (Symoens 1979). Taylor (1949) calls it a species of Continental Europe with extensions into Western Asia and North Africa.

In North America it is called American Pondweed and causes problems for river management. Haslam (1978) found the plant in Iowa, in Quebec, Nova Scotia, Vermont, New York, Ontario, Michigan and Wisconsin.

Tutin et al (1980) lists it as found in: Albania, Austria with Liechenstein, Azores, Britain, Bulgaria, Kriti, Czechoslovakia, France, Germany, Greece, Switzerland, Netherlands, Spain, Hungary, Italy, Jugoslavia, Portugal, Poland and Romania, the USSR, Sicilia and Turkey.

The species can grow in regions which receive less than 250mm rain per year. Except for some stations in the Atlas mountains, P.nodosus has not been reported as growing in many places beyond the 500m altitude line (Symoens 1979), but Subramanyan (1962) reports it as being common throughout the plains of India and that it is found at the 2700m line in the Sikkin Himalayas.

In his Flora of Berkshire (1897), George Claridge Druce classified what appears to have been P.nodosus as P.fluitans. Druce's entry makes interesting reading:- "First found in Berkshire by the author in 1893 ... My attention was first called to it on a hot June day by the beautiful

green leaves, with very pellucid parenchyma, which were growing in shallow water from a gravelly bottom in the Loddon. It was then a new plant to me and I could not resist the pleasure of gathering it in situ, so I at once walked into the stream and procured a good series of specimens. Subsequently I hired a boat at Loddon Bridge and then was able to trace the plant for a considerable distance along the stream, not only in shallow water but in deep water, in very fine condition and flowering freely. Mr. Fryer places it under P.fluitans Roth., but says it is not quite like any other fluitans in his herbarium. My idea, when I gathered it, was that it was a hybrid P.natans X alpinus.

Druce later seems to have laid claim to his discovery and it was named Potamogeton drucei Fryer. This name appears as a synonym for P.nodosus Poir in Grose's Flora of Wiltshire published in 1957, and together with another synonym, P.petiolatus Wolfg. in Clapham, Tutin & Warburg (1962).

Bowen (1968) in his Flora of Berkshire uses only the name P.nodosus as do the authors of Flora Europea (1980).

Conservation measures

There seems little doubt that in the U.K. P.nodosus is on the edge of its North Westerly range. As a result of this it is probably a plant under stress.

Factors that may not affect the plant in more favourable conditions may tip the scales in this country and cause the demise of the species.

Present evidence suggests that P.nodosus overwinters only in the form of fairly small turions and that there are no heavy roots or tubers. It also seems that the turions are killed by very cold conditions and icing. In this country flowing water conditions appear desirable but if the water is static ice should not be allowed to form in the substrate and so freeze the turions.

From work being carried out by the author it appears that elevated ammonia levels in water might have a detrimental effect on the growth of the plant, especially if detergents are present. The compound ammonia is removed from the water by the action of nitrifying bacteria. These bacteria require oxygen from the air to live. If air is in short supply in the water, or if the amount of ammonia is too great, then problems will arise. In years past water driven mills on the river Loddon, together with sluices and weirs associated with them would have aerated the river which, in turn, might not have been carrying so much ammonia anyway. Those water mills have now ceased to function but happily most of the sluices and weirs still remain with water rushing and bubbling through them. It could well be that conservation of P.nodosus will depend as much on the conservation of upstream items of industrial archaeology for the aeration of water, as on the conservation of the plant's immediate environment.

P.nodosus can re-colonise freshly dredged or excavated channels provided ample parent stock is available and that other conditions are satisfactory. It is important to note that not every short piece of rhizome bearing a few roots will produce a turion and engage in vegetative reproduction. It follows therefore that conservation success in terms of transplanting pieces of rooted rhizome does not necessarily follow.

It will also be appreciated that if channel dredging takes place during the late Autumn, Winter or Spring months the small turions could be removed with dredging spoil and lost for ever even if reasonable care was taken. This comment is not meant to convey the idea that no dredging should take place. In fact in one place in the R. Loddon where P.nodosus was growing quite well in an area of slack water and where no dredging took place, Sparganium erectum grew well and became the dominant plant out-competing P.nodosus.

Clearly a compromise is called for. Very careful dredging of sections during the Summer months with careful supervision of machinery operators

could be a possible but expensive solution.

Another and perhaps better way would be to transplant specimens before dredging takes place but only after a trials programme has been carried out. Such an investigation is being carried out for the Thames Water Authority by the author and Dr. Nigel Holmes an environmental consultant.

For the conservation of this species, as with most others at risk, it is vital that we learn all we can about its biological requirements. Merely taking transplants to another section of the same river may not always be appropriate.

As mentioned earlier P.nodosus does grow in two other rivers, but a river Loddon without Loddon pondweed would be an aesthetic and botanical loss. With the possibility of land development to the South of the M4 motorway the habitat requirements of this species can no longer be considered reasonably safe.

Acknowledgments

I am very grateful to Dr. Kevin Murphy of University of Glasgow for all his generous advice and encouragement: to Dr. John Akeroyd and Dr. Michael Keith-Lucas of University of Reading, for numerous helpful discussions. Thanks are also due to landowners who allowed me access to rivers and to Dr. Humphry Bowen who first introduced me to Potamogeton nodosus and identified my first specimen quite a few years ago.

References

Bowen, H.J.M. (1968) The Flora of Berkshire. Published in Oxford

Clapham, A.R., Tutin,T.G., & Warburg,E.F. (1962) Flora of the British Isles, Cambridge University Press, Cambridge U.K.

Druce, G.C. (1897) The Flora of Berkshire. Oxford University Press, Oxford,U.K.

Godwin, H (1975) History of the British Flora. Cambridge University Press, Cambridge U.K.

Grose, D. (1957) The Flora of Wiltshire. Published in Devizes, Wilts.

Haslam, S.M. (1978) River Plants. Cambridge University Press, Cambridge U.K.

Perring, F.H. & Farrell, L. (1977). British Red Data Books: 1. Vascular Plants. Royal Society for Nature Conservation, Lincoln. pp58-59

Sculthorpe, C.D. (1967) The Biology of Aquatic Vascular Plants. Edward Arnold, London.

Subramanyan, K. (1962) Aquatic angiosperms; a systematic account of common Indian aquatic angiosperms. Council of Scientific & Industrial Research New Delhi, India.

Symoens, J.J., Van de Valden, J. & Buscher, P. (1979). Contributions a l'etude de la taxonomie et de la distribution de Potamogeton nodosus Poir et P. thunbergii Cham & Schlechtend en Afrique. Bull. Soc. Roy. Bot. Belg. 112.

Taylor, G. (1949) Some Observations on British Potamogetons. S.E. Naturalist & Antiquarian. 54. pp27

Tutin, T.G. et al eds (1980) Flora Europea, 5. Cambridge University Cambridge U.K

AN INTRODUCTION TO BEETLE COLLECTING

T.D. HARRISON

There are roughly just under 4,000 species of beetle in the British Isles and a good proportion of these, if not a majority, are doubtless to be found in the South of England. Reading with its more or less central position in the south, is a good base from which to start collecting. In six years I have been able to find specimens representative of 900 species and the vast majority of these are from my own local area. I anticipate there are many more "out there" waiting to be found. Collecting beetles is not, of course, just a matter of numbers, nor of amassing numerous specimens. If collecting is done intelligently it will quickly develop into a study which encompasses numerous aspects of beetle biology and in addition one is able to accumulate information which has scientific value, and hence is of some use to others.

If one embarks on acquiring an insect collection one must feel that the inevitable killing of specimens which is entailed is in some way justified. One can make a very useful collection of local (or not so local) beetles (or any other insect group for that matter) provided one records as much data as is practical with each specimen. The specimens can then be identified and preserved in some way and labelled with the appropriate data. The data should consist of locality, grid reference, date and habitat details. With experience one develops a sense of what are the more significant aspects of any particular habitat with respect to beetle requirements, but the beginner might aim to record as comprehensive an account as possible. A collection built up on this basis will not only provide hours of pleasure to the collector but could at some later date be used by professional entomologists who are pursuing a particular line of research.

The data on distribution can be contributed to various mapping and recording schemes. These schemes require a continuous input of data. Where comprehensive coverage for the distribution of a group of species has been built up by the co-ordinaters of these schemes, distribution maps can be published. In many cases these distribution maps summarise the greatest extent of our knowledge of the biology of the species concerned. Over a period of years or decades these recording schemes accumulate enough information on individual species to enable us to detect and monitor changes in the status of these species; some species decline in numbers rapidly and clearly it is important to be able to ascertain this. Further, habitat details may themselves be of interest to professional entomologists and other specialists. I am often surprised by how much of the information that I have gathered over the years about locally common species can be of use to other workers.

In time the local collector will graduate from beginner to specialist in his own right: becoming an expert on the beetle fauna of his own favourite stamping groups. In many cases he will be delighted and surprised by the rich assemblage of species that may be procured from his own back garden (particularly if the garden is a little unkempt). Even the garden compost heap, if studied systematically over the duration of a year, will provide considerable interest. The collector will soon learn to appreciate that many habitats including the garden and the compost heap undergo a process of succession and that consequently the same spot will provide new finds at different stages of the process.

The beginner would be well advised to start by restricting himself to one or two Families of beetles in order to develop the necessary skills of identification (if one starts by attempting to tackle the whole Order of beetles one might be put off by the difficulty experienced in tracking down species which belong to diverse Families). The ground beetles Carabidae are relatively easy to find, many species are large, and the

key by Lindroth (Lindroth 1974) is particularly clear and unambiguous. Having gained some experience with the common ground beetles (of which there could easily be a dozen different species in your garden) one could then obtain a copy of Joy (Joy 1976) and gradually spread one's interest to cover the remaining beetle Families.

The beginner will probably start by searching for beetles under stones or under logs or by peeling bark away from decomposing wood and many finds will be made initially in this way. But a time will come when it will seem necessary to employ other methods if new species (new to the collector that is) are to be obtained. It is at this stage that collecting becomes interesting. World-wide there are more species of beetle than of any other comparable group (known beetle species number 250,000); one assumes that this incredible diversity is the result of a high degree of specialisation achieved by individual species enabling each to exploit a slightly different range of environmental conditions and food resources (their relatively small size and the fact that they have been around for a long time may be two other factors which contribute to this diversity).

Hence in order to keep making new finds the collector must eventually employ a variety of techniques which probe the diversity of the environment, such as pit-fall trapping, baiting, sweep netting, beating vegetation, sifting leaf litter, examination of carcasses and dung, use of MV lamps just to mention a few. Examining dung and carcasses needs a strong stomach and one must not mind being thought of as an escaped lunatic by the occasional passer-by. (Further, one must always be prepared for the odd stray specimen that might turn up at any time - in this respect I have found it profitable to examine the wet clothes on the washing line which in some seasons act as a very effective beetle "trap".)

Perhaps just as important though: the collector must learn to think of the environment in novel ways - from a beetle's viewpoint, one might say. Generally speaking, the more unusual the approach used the more unusual the finds will tend to be. My rarest find to date was of a small (1.8mm long) ground beetle (Tachys parvulus Dejean to give it its proper name) which I discovered occupying the gaps formed by hair-line fractures within the bricks of a decaying red brick wall.

If one is conservation-minded (as any responsible naturalist is likely to be) one should only collect a limited series of any one species (say, six specimens at the most). The beginner, however, is unlikely to be doing any ecological damage by beetle collecting in his local area; he is, in fact, unlikely to be doing anything more than sampling. One of the most fruitful "samples" of local beetles is to be found in the flood refuse which occasionally gets deposited on river banks by swollen rivers. Many of the ground dwelling species as well as hibernating species from one particular area, will have been flushed out of their homes and deposited, often in considerable numbers, at some point downstream. For similar reasons picking beetles off the surface of flood water in water-logged fields in autumn and early winter can prove highly productive.

The beginner who starts off collecting in a modest way, confining himself to a few favourite local haunts (plus, naturally, the odd excursion further afield) will sooner or later make interesting finds in terms of local or national rarities, aberrant forms, or just very beautiful species. Thus, there is always an element of anticipation and excitement associated with each collecting trip. Even if a particular excursion does not produce an exciting find it will normally produce insights into behaviour or camouflage or further one's appreciation of the range of intraspecific as well as interspecific variation exhibited by beetles; and one will continually be stimulated to ponder the rich network of interacting factors which determine distribution; at the very least, each field trip will produce a number of well documented specimens which are needed to fill not

only gaps in the collection but also gaps in the 10km square mapping scheme.

The seriously-intentioned beginner will need to start not with beetles, however, but with books! Perhaps the first to be obtained is "A Coleopterists Handbook". This will allow the beginner to plan his approach and to decide on his aims from an informal viewpoint. Other books which I have found indispensable are listed below:

Walsh & Dibb (Ed.)	A Coleopterist's Handbook	A.E.S.
Harde, K.W.	A Field Guide in Colour to Beetles	Octopus Books
Lindroth, C.H.	Handbooks for the Identification of British Insects: Carabidae	R.E.S., London
Joy, N.H.	A Practical Handbook of British Beetles	E.W. Classey Ltd.
Kloet & Hinks	A Check List of British Insects: Part 3	R.E.S. London
Freude, Harde, Lohse	Die Kafer Mitteleuropas	Goecke & Evans

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BERKSHIRE RECORDS DURING THE SECOND YEAR OF THE B.S.B.I. MONITORING SCHEME

HUMPHRY BOWEN

1988, the second and last year in this scheme, has been less fruitful in records than 1987, as the law of diminishing returns has come into play. However I would like to thank the faithful band of hard workers who have brought the total number of species recently recorded in each of the four 10 x 10km Grid Squares to between 550 and 670.

In the Faringdon square, far from Reading, Mrs. Creighton believes that she has located the rare Water Soldier. Other welcome records are the ferns Adders Tongue and Hard Shieldfern, Orpine, the weeds Corn Marigold and Greater Fluellen, and two well-naturalised yellow daisies, Elecampane and Leopards Bane (Doronicum pardalianches). The last two are rediscoveries in old localities.

In the Wittenham square, Richard Palmer has made some remarkable finds, notably at Didcot sidings where aliens can still be found as they were 90 years ago in G.C. Druce's time. Thus the first confirmed record for Tall Wallflower-Cabbage was made this year, though reported in the 1890s by Druce. The Latin name of this used to be Rhyncosinapis cheiranthos, but botanists have also included it in Brassica and Hutera, and it is now placed in the genus Coincya. Other good records for weedy species include the two Potentillas, P.intermedia and P.norvegica, and the grasses Apera spica-venti, Bromus carinatus, Hordeum jubatum and Polypogon monspeliensis. Near Radley, Fine-leaved Sandwort, Musk Storksbill and Thick-leaved Stonecrop survive in very small quantity, while the hybrid reedmace (Typha angustifolia x latifolia) found in the Thames may be common but overlooked.

Nearer to Reading, the Aldermaston square has been thoroughly worked by Alan Brickstock, Neville and Mary Diserens, A.R.G. Mundell and Richard Palmer. The national rarityOdontites jaubertiana appears to be reduced to a tiny colony on a private site. It was probably introduced in World War II, and is found by old airfields, along with Erigeron annuus and Potentilla recta in this square and Ononis natrix elsewhere in Berks: Stachys recta has not been seen for some years. Square SU 56 is remarkably rich, with scarce plants of dry places (e.g. Filago minima,

F.vulgaris, Ornithopus perpusillus, Potentilla argentea and Plantago coronopus) as well as those of wetter habitats (Carex laevigata, C.strigosa, Geum rivale, Mentha x gentilis, Ranunculus hederaceus, Scirpus setaceus, Veronica scutellata). The orchids Epipactis phyllanthes and E.purpurata are also here.

Carol Hora produced a long list of species from the Sandhurst square. Most notable of the species not seen in 1987 was the Royal Fern, a great rarity here. Other good finds in this acidic terrain were Creeping Willow, Marsh Lousewort and Wild Service Tree, and the grasses Danthonia decumbens and Nardus stricta. The alien saxifrage Tellima grandiflora was seen near St. Annes, but Carex montana is almost certainly extinct.

The B.S.B.I. aims in the next decade to record every Grid Square in Britain, as was done between 1954 and 1962. The data produced would quantify what we already know to be true, namely the decline of many native species, especially those of wetland, and many cornfield weeds. It will also confirm that many alien species, such as Crassula helmsii, Lemna minuscula and Veronica filiformis are still expanding their range in Britain. For this project, I hope that Reading Naturalists will co-operate with the new B.S.B.I. Recorder for Berks (v.c.22), Dr. S.L. Jury, now that I am leaving the county.

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MAKE THE MOST OF YOUR SLIDES

ROLAND RAMSDALE

Giving a good slide presentation does not require every slide to be of award winning quality. By applying a few simple principles most people should be able to give an adequate talk.

There are a few simple steps to follow:

Have a theme
Gain attention
Maintain interest
Leave the best possible impression

Have a theme

You have something interesting to share with your audience. It is worth spending some time thinking about what you want to say and in what order. (I find it helpful to run through the presentation with my wife). In your introduction tell the audience what the talk is going to be about and how you intend to cover the subject. Stick to your theme - going off at a tangent will confuse your audience.

Gain attention

Your first and last slides need to be the most carefully chosen ones of the whole talk. Start with a very good slide. It should be as appealing, attractive, or stunning as the subject permits. It is important to get the audience interested at the beginning, and let them know briefly what the scope and context of the talk is going to be.

Maintain interest

In general no more than thirty seconds should be spent on each slide, otherwise interest will be lost, but don't go too fast or people won't have time to take in the information. Even a poor quality slide may be used to convey valuable information.

Present the right amount of technical detail - too little and they will get bored, too much and they can't take it in. Provide interest at various levels. If speaking to an audience with a mixed range of knowledge then explain the technicalities in a simple way e.g. say "the loop in this vein" and to point to it, rather than "the loop in vein R4 + 5". The experts will

say in their minds "Ah, he means vein R4 + 5", whilst the others will get a good enough idea of what is meant. If the species do not have English names don't leave out all the Latin names. A name gives people a handle by which to remember the object. Don't cover too many unfamiliar species or people lose track, but by all means use several species without naming them to show particular points e.g. "Ladybirds may be red, yellow, black or brown". Relate to what people know. Familiar species help the audience to feel that they know something about the subject. However too many common ones could become boring.

Leave the best possible impression

Your last slide should be the very best one that you've got on the subject. It can colour the impression of the whole talk. Leave it up until the lights go on, to let people really appreciate it. I like to use a last slide that is really relevant to the topic.

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FISHLOCK PRIZE

This prize is awarded annually to a young naturalist who has shown much promise.

David Blake will be awarded the 1989 prize of books up to the value of £12 at the members evening on Thursday, March 9th.

David, who is a member of the Museum Club in Reading, is a pupil at Reading School. He shares with his brother an interest in all things natural history, but his special field is already birds and butterflies. He has kept a clear and informative book of records and drawings of birds he observed on a holiday to the New Forest recently.

The Fishlock prize is well deserved by David, and we wish him well for the future. Well done!

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THE RECORDER'S REPORT FOR BOTANY 1988

B.M. NEWMAN

The Recorder thanks all those readers who sent records, and in some cases complete lists of plants they had seen on walks. These are all kept for reference, and a selection from the many received is printed below.

The nomenclature and order used in this report are those of the "Flora of the British Isles" by Clapham, Tutin & Moore, 1987. An alien taxon is indicated by an asterisk (*). The English names are mainly from "English Names of Wild Flowers" by Dony, Jury & Perring, second edition, 1986, the recommended list of the Botanical Society of the British Isles.

LIST OF MEMBERS' RECORDS FOR 1988

EQUISETACEAE

Equisetum telmateia Ehrh. — Great Horsetail
Near Beenham church 12.11.88 (AB).

OSMUNDACEAE

Osmunda regalis L. — Royal Fern
Swinley Park, E.E. Green (HJMB).

POLYPODIACEAE

Polypodium vulgare L. — Polypody
Wasing 1.5.88; near Beenham church 12.11.88 (AB).

ASPLENIACEAE

Asplenium scolopendrium L. — Hart's-tongue
On brick walls, Basingstoke Road, Reading; Quarry Wood, Marlow, on soil (HJMB).

ATHYRIACEAE

Athyrium filix-femina (L.) Roth — Lady-fern
Top of Langley Hill, Tilehurst 22.5.88 (AB).

RANUNCULACEAE

Helleborus foetidus L. — Stinking Hellebore
Templecombe, north of Wargrave (HJMB).

Ranunculus auricomus L. — Goldilocks Buttercup
Moor Copse (VG).

Ranunculus flammula L. — Lesser Spearwort
Wasing 1.5.88 (AB).

Myosurus minimus L. — Mousetail
Very scarce near Great Lea Pond (HJMB). (This was recorded as abundant in 1968 Rec.)

BERBERIDACEAE

*Berberis vulgaris L. — Barberry
Bald Hill, Watlington (HJMB).

PAPAVERACEAE

Papaver dubium L. — Long-headed Poppy
One plant, St. Laurence's churchyard (HHC).

Papaver argemone L. Prickly Poppy
A few plants amid a sea of Papaver rhoeas in field south-east of Sonning Common; on the new Vastern Road roundabout (HHC).

CRUCIFERAE

Raphanus raphanistrum L. Wild Radish
Brimpton gravel pit 4.6.88 (AB); Lodge Hill 10.9.88 (J&SW)

Iberis amara L. Candytuft
Unhill Wood, Wellbarn 18.6.88 (AB); Lodge Hill 10.9.88 (J&SW).

*Iberis sempervirens L. Perennial Candytuft
On wall of Christchurch, Reading, for many years (HJMB).

Thlaspi arvense L. Field Penny-cress
The Warren, Caversham 18.8.88 (MB); several plants by ASDA, Lower Earley 21.6.88 (C&RG).

*Bunias orientalis L. Warty-cabbage
Mill Lane, Henley, well established 22.5.88 (KMH).

*Hesperis matronalis Dame's-violet
Abundant beside Red Lane, north of Cookley Green (HHC).

Erysimum cheiranthoides L. Treacle Mustard
A few plants on soil dumped around a street sign, Clayfield Copse (HHC).

Sisymbrium officinale (L.) Scop. var. leiocarpum DC.
Hedge Mustard
Several plants with glabrous fruit at Smallmead tip (HJMB).

Arabidopsis thaliana (L.) Heynh. Thale Cress
Park Farm, outside woods 24.4.88 (AB).

HYPERICACEAE

Hypericum androsaemum L. Tutsan
Wasing Pits (HJMB).

*Hypericum inodorum Miller Tall Tutsan
One plant at Smallmead tip (HJMB).

Hypericum hirsutum L. Hairy St John's-wort
Path Hill and Bottom Wood 29.8.88 (AB).

Hypericum montanum L. Pale St John's-wort
Lambridge Wood (HJMB); Path Hill and Bottom Wood 29.8.88 (AB).

CISTACEAE

Helianthemum nummularium(L.)Miller Common Rock-rose
Unhill Wood, Wellbarn 18.6.88 (AB); Lodge Hill 10.9.88 (J&SW).

CARYOPHYLLACEAE

Stellaria palustris Retz. Marsh Stitchwort
Old Mill, Aldermaston 11.5.88 (AB).

Stellaria alsine Grimm Bog Stitchwort
Wasing 1.5.88 (AB).

CHENOPODIACEAE

Atriplex patula L. Common Orache
Canal, west from Theale 30.8.88 (AB).

TILIACEAE

Tilia platyphyllos Scop. — Large-leaved Lime
Apparently native, in quantity, Bisham Wood (HJMB).

MALVACEAE

Malva moschata L. — Musk Mallow
Gravel pit near Wigmore Lane, Theale 21.8.88 (AB).

Malva neglecta Wallr. — Dwarf Mallow
Vicarage Road, Henley, a roadside weed 2.9.88 (KMH).

GERANIACEAE

Geranium pratense L. — Meadow Crane's-bill
Brimpton 20.4.88; path from Whitchurch Hill and Gatehampton 4.9.88 (AB); roadside, Upper Bucklebury 6.88 (C&RG).

OXALIDACEAE

*Oxalis articulata Savigny — Pink -sorrel
New roadside, Sonning Eye (HJMB).

RHAMNACEAE

Rhamnus catharticus L. — Buckthorn
Canal west from Theale, including gravel pits and stream 15.5.88 (AB).

Frangula alnus Miller — Alder Buckthorn
Gravel pit near Wigmore Lane, Theale 21.8.88 (AB); Lodge Hill 10.9.88 (J&SW).

LEGUMINOSAE

*Lathyrus latifolius L. — Broad-leaved Everlasting-pea
Roadside near Shinfield (HJMB).

Ononis repens L. — Common Restharrow
Lodge Hill 10.9.88 (J&SW).

*Melilotus officinalis (L.) — Pallas Ribbed Melilot
Dinton Pastures 14.8.88 (AB).

Medicago polymorpha L. — Toothed Medick
One large plant at Smallmead tip (HJMB).

Trifolium campestre Schreber — Hop Trefoil
Brimpton gravel pits 4.6.88; in grounds of AWE Aldermaston (AB); Lodge Hill 10.9.88 (J&SW).

Lotus uliginosus Schkuhr — Greater Bird's-foot-trefoil
Dinton Pastures 14.8.88; in grounds of AWE Aldermaston (AB).

Anthyllis vulneraria L. — Kidney Vetch
Munday Dean 21.5.88 (AB).

*Onobrychis vicifolia Scop. — Sainfoin
Top of Langley Hill, Tilehurst 22.5.88 (AB).

ROSACEAE

Filipendula vulgaris Moench — Dropwort
Unhill Wood, Wellbarn 18.6.88 (AB).

Potentilla argentea L. — Hoary Cinquefoil
Scarce, on old ash tip near Wasing (HJMB).

*Potentilla recta L. — Sulphur Cinquefoil
A few plants north of Greenham Common airfield (HJMB).

Geum rivale L. Water Avens
Canal, west from Theale, including gravel pits and stream 15.5.88 (AB).

Aphanes arvensis L. Parsley-piert
Park Farm, outside woods 24.4.88 (AB); Lodge Hill 10.9.88 (J&SW).

Sanguisorba minor Scop. Salad Burnet
Unhill Wood, Wellbarn 18.6.88; Path Hill and Bottom Wood 29.8.88 (AB).

*Prunus domestica L. Wild Plum
Top of Langley Hill, Tilehurst 28.5.88 (AB).

Malus sylvestris Miller Crab Apple
Wasing 1.5.88 (AB).

CRASSULACEAE

Sedum telephium L. Orpine
Roadside, Wasing, Berks; Harpsden Wood, Oxon.; at side of track, south-east of Cross Lanes, Peppard (HHC).

*Crassula helmsii (T.Kirk) Cockayne New Zealand Pigmyweed
In pond at Dinton Pastures (HJMB).

SAXIFRAGACEAE

*Tellina grandiflora (Pursh) Douglas ex Lindley Fringe-cups
Near entrance to Watlington Park; Big Wood, Wokingham (HJMB).

THYMELAEACEAE

Daphne laureola L. Spurge-laurel
Wasing 1.5.88 (AB).

ELAEAGNACEAE

Hippophae rhamnoides L. Sea-buckthorn
Planted south of Easthampstead and by main road south of Bracknell (HJMB).

HIPPURIDACEAE

Hippuris vulgaris L. Mare's-tail
West Wycombe Park 27.6.88 (C&RG)

LORANTHACEAE

Viscum album L. Mistletoe
On Tilia, Sonning Lane 9.88 (JA); on apple and lime, Mapledurham (HJMB).

UMBELLIFERAE

Sanicula europaea L. Sanicle
Streatley Hill 23.4.88 (AB).

*Smyrnium olusatrum L. Alexanders
Growing in profusion on the edge of the Southcote Estate, by a rough lane leading to the railway embankment and along a track leading to the Coley Estate (JC) (The Society has records of this plant in the Southcote area from 1900 onwards. It was cultivated as a vegetable before celery was introduced. Rec.)

Conopodium majus (Gouan) Loret Pignut
Wasing 1.5.88 (AB).

Pimpinella saxifraga L. Burnet-saxifrage
Watership Down and the Vale of Kingsclere NHS walk 27.8.88 (AB); Lodge Hill 10.9.88 (J&SW).

Berula erecta (Hudson) Coville Lesser Water-parsnip
Canal, west from Theale 30.8.88 (AB).

Aethusa cynapium L. Fool's Parsley
Lodge Hill 10.9.88 (J&SW).

EUPHORBIACEAE

Euphorbia lathyrus L. Caper Spurge
North Stoke, Oxon. 1.8.88 (KMH).

Euphorbia helioscopia L. Sun Spurge
The Warren, Caversham 18.8.88 (MB); Brimpton gravel pit 4.6.88; Watership Down and vale of Kingsclere, NHS walk 27.8.88 (AB).

POLYGONACEAE

Polygonum lapathifolium L. Pale Persicaria
Maiden Erleigh woods 14.8.88 (AB).

Polygonum hydropiper L. Water-pepper
Path Hill and Bottom Wood 29.8.88; Fence Wood, Hermitage 11.9.88 (AB).

ULMACEAE

Ulmus minor Miller Small-leaved Elm
Bottom Wood, Mapledurham; planted at Dinton Pastures (HJMB).

BETULACEAE

*Alnus viridis Chaix DC.
Planted at Dinton Pastures (HJMB).

FAGACEAE

*Nothofagus obliqua (Mirbel) Oersted Southern Beech
Several trees at Goring Heath (HJMB).

*Salix daphnoides Vill.
Planted at Dinton Pastures (HJMB).

ERICACEAE

Vaccinium myrtillus L. Bilberry
Park Farm, outside woods 24.4.88 (AB); Bucklebury Common 13.11.88 (J&SW).

PRIMULACEAE

Primula veris L. Cowslip
Roadside between Hermitage and Bucklebury 5.88 (C&RG)

*Cyclamen hederifolium Aiton Cyclamen
Harpsden Wood near Henly, NHS walk. May be a garden throw-out but well established 1.10.88 (KMH).

Lysimachia nummularia L. Creeping Jenny
Blacklands Copse 24.4.88 (AB).

GENTIANACEAE

Blackstonia perfoliata (L.) Hudson Yellow-wort
Lodge Hill 10.9.88 (J&SW).

Gentianella germanica (Willd.) E.F. Warburg
Chiltern Gentian
Watlington Hill 8.9.88. Less common than G.amarella (HJMB).

MENYANTHACEAE

Nymphoides peltata (S.G. Gmelin) O. Kuntze Fringed Water-lily
Filling one pond at Dinton Pastures (HJMB); in grounds of AWE Aldermaston (AB).

BORAGINACEAE

Echium vulgare L. Viper's-bugloss
Unhill Wood, Wellbarn 18.6.88

SOLANACEAE

Atropa bella-donna L. Deadly Nightshade
Quarry Wood (HJMB); path from Whitchurch Hill and Gatehampton 4.9.88 (AB).

*Nicandra physalodes (L.) Gaertner Apple-of-Peru
A garden weed, Goring, Oxon (HJMB).

*Solanum sarrachoides Sendtner Green Nightshade
Crays Farm, Wokingham (HJMB).

SCROPHULARIACEAE

Verbascum nigrum L. Dark Mullein
Lodge Hill 10.9.88 (J&SW).

Chaenorhinum minus (L.) Lange Small Toadflax
Lodge Hill 10.9.88 (J&SW).

Kickxia elatine (L.) Dumort Sharp-leaved Fluellen
Common in kale field near Wasing; in arable north east of Old Deer Park Wood (HJMB).

*Cymbalaria muralis Gaertner, Meyer & Scherb. Ivy-leaved Toadflax
Near Beenham church 12.11.88 (AB).

*Mimulus guttatus DC. Monkeyflower
River Kennet, Tyle Mill lock (HJMB).

Rhinanthus minor L. Yellow-rattle
Munday Dean 21.5.88; Watership Down and vale of Kingsclere NHS walk 27.8.88 (AB).

*Odontites jaubertiana (Boreau) D.Dietr. ex Walters
In grounds of AWE Aldermaston. This plant has been recorded previously at two other sites in Berkshire but it has not been seen recently (AB).

VERBENACEAE

Verbena officinalis L. Vervain
The Warren, Caversham 18.8.88 (MB); Sulham Woods (HJMB); Streatley Hill 23.4.88; in grounds of AWE Aldermaston (AB).

LABIATAE

Mentha pulegium L. Pennyroyal
Near Bray, E.E. Green (HJMB).

Mentha x verticillata L. (M.aquatica x arvensis)
Gravel pit near Wigmore Lane, Theale 21.8.88 (AB).

Mentha x gentilis L. (M. arvensis x spicata)
Near Heath End, A.R.G. Mundell (HJMB).

Mentha x piperata L. (M. aquatica x spicata)
A large plant opposite Reading Bus Station (HJMB).

Acinos arvensis (Lam.) Dandy Basil Thyme
Lodge Hill 10.9.88 (J&SW).

Clinopodium vulgare L. Wild Basil
Unhill Wood, Wellbarn 18.6.88; path from Whitchurch Hill and Gatehampton 4.9.88 (AB).

Salvia pratensis L. Meadow Clary
Lodge Hill 10.9.88 (J&SW).

Stachys palustris L. x S. sylvatica L.
Lane-side, Whitchurch (HJMB).

Stachys officinalis (L.) Trev. Betony
Path Hill and Bottom Wood 29.8.88 (AB).

Ballota nigra L. Black Horehound
Path Hill and Bottom Wood 29.8.88; canal, west from Theale 18.9.88 (AB).

Galeopsis tetrahit L. Common Hemp-nettle
Watership Down and vale of Kingsclere NHS walk 27.8.88; canal, west from Theale 30.8.88 (AB).

Nepeta cataria L. Cat-mint
Field borders near Hurley pit; Starveall Farm, Moulsford (HJMB).

PLANTAGINACEAE

Plantago media L. Hoary Plantain
Unhill Wood, Wellbarn 18.6.88; Watership Down and vale of Kingsclere, NHS walk 27.8.88 (AB).

CAMPANULACEAE

Campanula trachelium L. Nettle-leaved Bellflower
Lodge Hill 10.9.88 (J&SW).

Campanula glomerata L. Clustered Bellflower
Watership Down and vale of Kingsclere, NHS walk 27.8.88; Path Hill and Bottom Wood 29.8.88 (AB); Lodge Hill 10.9.88 (J&SW).

Legousia hybrida (L.) Delarbre Venus's-looking-glass
Lodge Hill 10.9.88 (J&SW).

RUBIACEAE

Sherardia arvensis L. Field Madder
In grounds of AWE Aldermaston (AB); Lodge Hill 10.9.88 (J&SW).

CAPRIFOLIACEAE

*Symphoricarpos albus (L.) S.F. Blake Snowberry
Gravel pit near Wigmore Lane, Theale 21.8.88 (AB).

VALERIANACEAE

Valerianella locusta (L.) Laterrade Common Cornsalad
Canal, west from Theale 28.5.88 (AB).

DIPSACACEAE

Dipsacus fullonum L. Wild Teasel
The Warren, Caversham 18.8.88 (MB); Watership Down and vale of Kingsclere, NHS walk 27.8.88 (AB).

Dipsacus pilosus L. Small Teasel
Near Sonning Lock (HJMB); one or two plants by the Roman wall at Silchester, between the south and west gates 11.9.88 (JC).

Succisa pratensis Moench Devil's-bit Scabious
Watership Down and vale of Kingsclere, NHS walk 27.8.88; Path Hill and Bottom Wood 29.8.88 (AB).

COMPOSITAE

Bidens tripartita L. Trifid Bur-marigold
Brimpton gravel pits 4.6.88 (AB).

Inula conyza DC. Ploughman's Spikenard
The Warren, Caversham 18.8.88 (MB); Path Hill and Bottom Wood 29.8.88 (AB); wood south of Swyncombe Down 7.8.88 (C&RG).

*Solidago canadensis L. Canadian Golden-rod
Path from Whitchurch Hill and Gatehampton 4.9.88 (AB).

Erigon acer L. Blue Fleabane
Canal, west from Theale 18.9.88; in grounds of AWE Aldermaston (AB); Dinton Pastures 28.8.88 (C&RG).

*Erigeron annuus (L.) Pers. Annual Fleabane
A few plants north of Greenham Common airfield (HJMB).

*Conyza canadensis (L.) Cronq. Canadian Fleabane
Reading Road, Henley, a roadside weed 2.9.88 (KMH); gravel pit near Wigmore Lane, Theale 21.8.88 (AB).

Achillea ptarmica L. Sneezewort
Dinton Pastures 14.8.88 (AB).

*Cotula coronopifolia L. Buttonweed
Owlsmoor Bog, Sandhurst 3.8.88 (KMH).

Arctium nemorosum Lej. Wood Burdock
Top of Langley Hill, Tilehurst 22.5.88; Fence Wood, Hermitage 11.9.88 (AB).

Carduus acanthoides L. Welted Thistle
The Warren, Caversham 18.8.88 (MB); Watership Down and vale of Kingsclere, NHS walk 27.8.88 (AB).

Cirsium acaule Scop. Dwarf Thistle
Path Hill and Bottom Wood 29.8.88; in grounds of AWE Aldermaston (AB).

Serratula tinctoria L. Saw-wort
Watership Down and vale of Kingsclere, NHS walk 27.8.88 (AB).

Hypochoeris radicata L. Cat's-ear
Brimpton gravel pits 4.6.88 (AB).

Picris echiodes L. Bristly Oxtongue
Brimpton gravel pits 4.6.88 (AB).

*Hieracium brunneocroceum Pugsley Orange Hawkweed
Net. Office roundabout, Bracknell 5.7.88; Dinton Pastures 28.8.88 (C&RG).

*Crepis vesicaria L. subsp. haenseleri (Boiss. ex DC.) P.D. Sell
Beaked Hawk's-beard
Brimpton gravel pits 4.6.88 (AB).

ALISMATACEAE

Alisma lanceolatum With. Narrow-leaved Water-Plantain
Near Heath End A.R.G. Mundell (HJMB).

BUTOMACEAE

Butomus umbellatus L. Flowering Rush
Four blooms along the bank of the Holybrook stream between the old Southcote Manor area and the bridge over the Burghfield Road 24.8.88 (JC); gravel pit near Wigmore Lane Theale 21.8.88; Old Mill, Aldermaston 11.5.88 (AB).

POTAMOGETONACEAE

Potamogeton nodosus Poiret Loddon Pondweed
River Loddon near Arborfield Hall (HJMB).

LILIACEAE

Fritillaria meleagris L. Fritillary
Two plants appeared in a newly-created garden of a newly-built house in Park Road, Henley. This is near a small stream not far from Henley Station, which discharges into the Thames a short distance away; they were not planted by the first occupant; 20.4.88 (KMH).

JUNCACEAE

*Juncus tenuis Willd. Slender Rush
Burghfield Common (HJMB).

IRIDACEAE

*Tritonia crocosmiflora (Lemoine) Nicholson Montbretia
In grounds of AWE Aldermaston (AB).

ORCHIDACEAE

Epipactis helleborine (L.) Crantz Broad-leaved Helleborine
Watership Down and vale of Kingsclere NHS walk 27.8.88; in grounds of AWE Aldermaston (AB).

Epipactis purpurata Sm. Violet Helleborine
Near Heath End, Berks, A.R.G. Mundell (HJMB).

Epipactis phyllanthes G.E. Sm. Green-flowered Helleborine
Near Heath End, Berks. A.R.G. Mundell (HJMB).

Coeloglossum viride (L.) Hartman Frog Orchid
Lodge Hill 10.9.88 (J&SW).

Orchis morio L. Green-winged Orchid
Munday Dean 21.5.88 (AB).

Orchis mascula (L.) L. Early-purple Orchid
In grounds of AWE Aldermaston (AB).

Dactylorhiza fuchsii (Druce) Soò Common Spotted-orchid
Brimpton gravel pits 4.6.88 (AB).

ARACEAE

*Acorus calamus L. Sweet-flag
Path from Whitchurch Hill and Gatehampton 4.9.88; in grounds of AWE Aldermaston (AB).

LEMNACEAE

*Lemna minuscula Herter Least Duckweed
Scarce in small pond, Dinton Pastures; river Kennet, Tyle Mill lock (HJMB).

CYPERACEAE

Carex ovalis Good. Oval Sedge
Turners Green (HJMB).

Carex pilulifera L. Pill Sedge
Finchampstead Ridges, NHS walk 5.3.88; Big Wood, Wokingham (HJMB).

GRAMINEAE

Vulpia bromoides (L.) S.F. Gray Squirreltail Fescue
Brimpton gravel pits 4.6.88 (AB).

Catabrosa aquatica (L.) Beauv. Whorl-grass
Brimpton gravel pits 4.6.88 (AB).

Apera spica-venti (L.) Beauv. Loose Silky-bent
Crays Farm, Wokingham (HJMB).

Glyceria maxima (Hartman) Holmberg — Reed Sweet-grass
A variegated variety with yellow-striped leaves near Heath End, Berks. A.R.G. Mundell (HJMB).

Bromus benekenii (Lange) Trimen — Lesser Hairy-brome
Scarce, Nippers Grove (HJMB).

Nardus stricta L. — Mat-grass
Windsor Park (HJMB).

Contributors:
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The following items of botanical interest were submitted by members:

From Mr.H.H. Carter.

In 1988 a triangular piece of land in the corner of a field at Caversham Park, having an area of about 0.5 ha, was fenced off and sown with cornfield weeds. The following species were observed:-

Ranunculus repens	*Agrostemma githago*	*Papaver rhoeas*
Geranium dissectum	*Polygonum persicaria*	*Brassica napa*
Heracleum sphondylium	*Chrysanthemum segetum*	*Silene dioica*
Rumex acetosa	*Matricaria recutita*	*Silene alba*
Plantago lanceolata	*Centaurea cyanus*	*Chenopodium polyspermum*
Achillea millefolium	*Centaurea nigra*	*Trifolium hybridum*
Hypochoeris radicata		
Cirsium vulgare		
Lolium perenne		
Dactylis glomerata		

The first column appears to be pre-existing perennials of grassland, the second the sown weeds and the third, species present in small numbers, probably from impurities in the seed used for the second column. There is doubt about the status of *Polygonum persicaria* and *Centaurea nigra*.

From Dr.H.J.M. Bowen

A field near Bradfield contained a remarkable crop of Coriander (*Coriandrum sativum*) and Fenugreek (*Trigonella foenum-graecum*) with unusual associated weeds, e.g. *Brassica juncea*, *Cannabis sativa*, *Chenopodium urbicum*, *C.probstii*, *Panicum miliaceum*, *Vaccaria pyramidata*, *Lepidium sativum*.

THE RECORDER'S REPORT FOR ENTOMOLOGY 1988

B.R. BAKER

The order and nomenclature used in this Report are those given in Kloet and Hincks, A Check List of British Insects, Part 1; Small Orders and Hemiptera, 1964; Part 2: Lepidoptera, 1972; Part 3: Coleoptera, 1977 and Part 5: Diptera, 1975.

ODONATA Dragonflies

Cordulegaster boltonii (Don.) Golden-ringed Dragonfly
Wasing Wood 9.7.88. Single specimen hawking over small stream (BRB).

HEMIPTERA Plant-bugs, Water-bugs, Leaf-hoppers, Aphids, Scale-insects

Ledra aurita (L.)
Aldermaston 9.9.88 (AB,PS). Single specimen in light trap.

Thamnotettix dilutior (Kirschbaum)
Baynes Nature Reserve 30.8.88 (HHC).

Empoasca vitis (Göthe)
Wokefield Common 13.11.88 (HHC).

LEPIDOPTERA Butterflies and Moths

Strymonidia w-album (Knoch) White-letter Hairstreak
Ashford Hill 15.7.88 (BRB) Single specimen on bramble blossom.
" " 18.7.88 (BRB) Single specimen on thistle head.
This butterfly, formerly fairly common in our district, suffered a serious decline following the ravages of Dutch elm diseae. However, the above records suggest that a recovery may be taking place.

Lampides boeticus (L.) Long-tailed Blue
Christchurch Road, Reading 28.5.88 (HJMB). A male of this very rare immigrant butterfly, in very reasonable condition, was found on the pavement by Professor Wolfgang van Emden. First v.c.22 record.

Celastrina argiolus (L.) Holly Blue
25 Matlock Road, Caversham 4.5.88, 22.5.88 (HGB); Lower Warren 6 seen 10.5.88 (BRB); Glebe Road 29.8.88 (HJMB). A hoped-for good second brood did not materialise.

Apatura iris (L.) Purple Emperor
Pamber Forest 17.7.88. Single specimen, high over the oaks (BRB).

Vanessa atalanta (L.) Red Admiral
Wasing Wood 8.5.88 (HJMB); Lambridge Wood 12.6.88 (HJMB); Ashford Hill 8.7.88 (BRB); Matlock Road Caversham, mostly single examples between 3 and 14.10.88 (HGB).

Cynthia cardui (L.) Painted Lady
Swallowfield 11.5.88 (SJW); Aston Upthorpe 19.6.88 (HJMB); Unhill Wood 13.5.88(BRB).

Pararge aegeria (L.) Speckled Wood
Knowle Close, Caversham, seen in the garden during August (JH).
This butterfly has increased dramatically during the last quarter of a century but it is still unusual to see one in a Caversham garden.

Tethea or (D. & S.) Poplar Lutestring
Burghclere 28.6.88 (GGE-F).

Rhodometra sacraria (L.) The Vestal
Burghclere 26.20.88 (GGE-F).

Mesoleuca albicillata (L.) Beautiful Carpet
Burghfield Common 28.5.88 (DAY).

Chloroclysta siterata (Hufn.) Red-green Carpet
Burghclere 9,19.10.88 (GGE-F).

Thera firmata (Hb.) Red Pine Carpet
Burghclere 21.8.88 (GGE-F).

Eupithecia irriguata (Hb.) Marbled Pug
Bowdown Wood N.R. 7.5.88; Burghclere 6 between 2.5.88 and 22.5.88 (GGE-F). The Bowdown record is only the second for vice county 22 (Berkshire) since the Victoria County History list of 1906.

E.intricata arceuthata (Freyer) Freyer's Pug
Burghfield Common 27.5.88 (DAY).

Abraxas sylvata (Scop.) Clouded Magpie
Burghclere 21.6.88 (GGE-F). This very local species, normally associated with wych elm, has only been recorded once for this part of north Hampshire since pre 1895 (Highclere, 11.8.86 Dr.R.J. Hornby).

Semiothisa notata (L.) Peacock Moth
Wellington Country Park 27.5.88 (DAY). A scarce species in Hampshire as a whole the only other records for the north of the County being those of Lt.Col. Eastwick-Field when 3 specimens were noted at Burghclere in 1983.

Pachycnemia hippocastanaria (Hb.) Horse Chestnut
Wellington Country Park 27.5.88 (DAY).

Ennomos quercinaria (Hufn.) August Thorn
Burghclere 4 between 1.8.88 and 16.8.88 (GGE-F).

Selenia lunularia (Hubn.) Lunar Thorn
Burghfield Common 25.5.88 (DAY).

Deileptenia ribeata (Cl.) Satin Beauty
Burghclere 2.8.88 (GGE-F).

Boarmia roboraria (D. & S.) Great Oak Beauty
Burghclere 20.6.88 (GGE-F); Wellington Country Park 28.6.88 (DAY).

Ectropis consonaria (Hb.) Square Spot
Burghclere 3 on 7.5.88 (GGE-F).

Macroglossum stellatarum (L.) Humming-bird Hawk-moth
Wasing Wood 8.5.88 (HJMB).

Euxoa tritici (L.) White-line Dart
Burghclere 31.7.88 (GGE-F)

Cerastis leucographa (D. & S.) White-marked
Burghclere 5 between 7.4.88 and 18.4.88 (GGE-F).

Hadena compta (D. & S.) Varied Coronet
Burghclere 26.6.88 (GGE-F).

Craniophora ligustri (D. & S.) The Coronet
Burghclere 19.7.88 (GGE-F).

Ipimorpha retusa (L) Double Kidney
Burghclere 7 between 2.8.88 and 8.9.88 (GGE-F). Note: Correction. 2 in 1987 not 17 as reported.

Apamea sublustris (Esper) Reddish Light Arches
Burghclere 13.7.88 (GGE-F).

Celaena leucostigma (Hubn.) The Crescent
Woolhampton 23.8.88 (DAY).

Archanara dissoluta (Treit.) Brown-veined Wainscot
Woolhampton 12, 17, 23.8.88 (DAY).

Nycteola revayana (Scop.) Oak Nycteoline
Burghclere 15.4.88, 8.5.88 (GGE-F).

Hypena crassalis (Fabr.) Beautiful Snout
Burghclere 28.6.88 (GGE-F).

COLEOPTERA Beetles

HHC has again kindly selected records from a detailed list supplied by Mr. T.D. Harrison of Leighton Park - the complete list is available from the Museum's Biological Records Index.

Harpalus anxius (Duftschmid)
Hitch Copse Pit near Abingdon 18.2.88, under a stone in disused sand pit (TDH).

Microlestes maurus (Sturm.)
Dry Sandford Pit, Cothill 18.2.88, under a stone on bare sandy bank (TDH).

Cercyon analis (Paykull)
Leighton Park 28.8.88, in compost heap (TDH).

C. terminatus (Marsham)
Leighton Park 28.8.88, in compost heap (TDH).

Grammostethus marginatus (Erichson)
Leighton Park 1.4.88, in leaf litter in entrance of abandoned rabbit burrow (TDH).

Choleva glauca Britten
Near Pingewood 22.10.87, in flood water in a meadow. Identification confirmed by Dr. M.L. Cox (TDH).

Catops fuliginosus Erichson
Welford Park 10.5.88 (SJG).

Neuraphes elongatulus (Müller P.W.J. & Kunze)
Leighton Park 1.4.88, in rotting wood beside a pond (TDH).

Megarthrus depressus (Paykull)
Leighton Park 29.8.88, in compost heap (TDH).

Omalium oxyacanthae Gravenhorst
Leighton Park 25.10.87, in rotting fungus (TDH).

Carpelimus rivularis (Motschulsky)
Near Hall Farm, Shinfield 15.6.88, on bare mud at side of river (TDH).

Platystethus alutaceus Thomson C.G.
Near Hall Farm, Shinfield 15.6.88, on bare mud at margin of river (TDH).

Stenus binotatus Ljungh
Hurst 4.5.88, obtained by dipping into a pond covered with Lemna sp. (TDH).

S. opticus Gravenhorst
Leighton Park 30.8.88, in compost heap (TDH).

S. ossium Stephens
Leighton Park 28.8.88, at roots of grass plants in a lawn (TDH).

S. similis (Herbst)
Near Hall Farm, Shinfield 15.6.88, one specimen resting on leaf of Arctium sp. on river bank (TDH).

Achenium depressum (Gravenhorst)
Near Pingewood 22.10.87, in flood water in a meadow (TDH).

Othius angustus Stephens
Leighton Park 30.10.87, under a mat of grass in a lawn (TDH).

Philonthus discoideus (Gravenhorst)
Leighton Park 29.8.88, in compost heap (TDH).

P. sordidus (Gravenhorst)
Englefield Park 7.6.88 (SJG).

Gabrius pennatus Sharp
Leighton Park 30.10.87, under mat of grass in lawn (TDH).

G. piliger Mulsant & Rey
Leighton Park 29.8.88, in compost heap (TDH).

G. splendidulus Gravenhorst
Near Shinfield Grange 25.11.87, in rotting wood of a fallen section of a tree in deciduous wood (TDH).

Gabrius subnigritulus (Reitter)
Leighton Park 25.12.87, under mat of grass in lawn (TDH).

Sepedophilus pedicularius Gravenhorst
Near Shinfield Grange 17.12.87, inside rotting wood of a log on bank of river (TDH).

Tachyporus pallidus Sharp
Near Pingewood 22.10.87, in flood water standing in a meadow (TDH).

Cilea silphoides (L.)
Leighton Park 28.8.88, in compost heap (TDH).

Autalia rivularis Gravenhorst
Near Shinfield 17.12.87, in grass under bark of decaying branch on ground in woodland (TDH).

Zyras haworthii Stephens
Aldermaston Court 13.6.88 (SJG).

Pselaphus heisei (Herbst)
Near Pingewood 22.10.87, in flood water in meadow (TDH).

Stenagostus villosus (Geoffroy in Fourcroy)
Englefield Park 7.6.88, larvae under beech bark (SJG).

Melasis buprestoides (L.)
Wasing Park 1988 (SJG).

Cantharis figurata Mannerheim
Near Shinfield Grange 10.6.87, by general sweeping in hedgerow. Identification confirmed by Dr.M.L. Cox (TDH).

Phloiophilus edwardsi Stephens
Leighton Park 7.11.87, under bark of decaying branch on ground (TDH).

Tillus elongatus (L.)
Swallowfield Park 1988 (SJG).

Axinotarsus marginalis (Laporte de Castelnau)
Near Shinfield Grange 15.6.88, by sweeping grass and other weeds on margin of wheat field (TDH).

Monotoma bicolor Villa
Leighton Park 27.8.88, in compost heap (TDH).

M.longicollis Gyllenhal
Leighton Park 29.8.88, in compost heap (TDH).

Uleiota planata (L.)
Windsor Forest 26.10.87, under bark of fallen deciduous tree in open deciduous woodland (TDH).

Mycetophagus piceus (Fabr.)
Windsor Forest 26.10.87, in piece of rotting wood in fallen oak branch, in open deciduous woodland (TDH).

Pseudocistela ceramboides (L.)
Swallowfield Park 1988 (SJG).

Tomoxia bucephala
Englefield Park 1988 (SJG).

Ischnomera cyanea (Fabr.)
Englefield Park 1988 (originally recorded as caerulea which has been split off from this species recently)(SJG).

Grammoptera ustulata (Schaller)
Englefield and Wasing Parks 1988 (SJG).

Donacia vulgaris Zschach
Leighton Park 28.5.88, resting on the leaf of a plant of Lycopus europaeus on bank of pond (TDH).

Orsodacne lineola (Panzer)
Whiteknights 12.5.88, resting on the blossom of a plant of cow parsley in open woodland (TDH).

Sitona suturalis Stephens
Near Shinfield 15.6.88, by sweeping Lathyrus pratensis which was growing beside a ditch (TDH).

Hypera adspersa (Fabr.)
Near Stanford Dingley 15.5.88, by sweeping plants of Oenanthe sp., on river bank (TDH).

Leiosoma deflexum (Panzer)
Leighton Park 26.3.88, in pit-fall trap set up amongst Ranunculus sp. (TDH)

Euophryum confine (Broun)
Englefield Park 15.6.88 (SJG).

Tanysphyrus lemnae (Paykull)
Hurst 4.5.88, by pond-dipping in a pond covered with Lemna sp. (TDH).

Xyleborus dryographus (Ratzeburg)
Englefield Park 1988 (SJG).

Note: Correction.

Tomoxia biguttata Gyllenhal, Whiteknights 6.7.86 (R.Nat.39:36) has been re-determined as Mordella villosa (Schrank) (TDH)

HYMENOPTERA Bees, Ants, Wasps, Saw-flies and Ichneumon-flies

Apis mellifera L. Honey Bee
Matlock Road, Caversham 25.12.88. The honey bee colony, now many years resident above our kitchen extension, showed considerable activity during the unseasonable weather conditions of Xmas Day. Pollen loads, of two distinct shades were arriving with regularity from a WSW direction, source undetermined (BRB).

DIPTERA True Flies

Neolimnophora carteri (Tonnoir)
Wasing Park 1988 (SJG).

Hydrophorus praecox (Lehmann)
Sonning Common Sewage Works 18.8.88 to 22.8.88, running on surface of stream (IHC).

Orthonevra brevicornis Loew
Aldermaston Court 1988 (SJG).

Anasimyia contracta Claussen & Torp
Canal bank at Thatcham 4.7.59. Of two males taken that day and given to the Museum by Jon Cole, one proved to be traditional transfuga and one the present species which was not distinguished until 1980 although the difference is clear (HHC).

Themira annulipes (Meigen)
Baynes Nature Reserve 26.7.88, pair in cop. (HHC).

T. superba (Haliday)
Sonning Common Sewage Works 18.8.88 (HHC).

Psacadina verbekei
Aldermaston Court 1988 (SJG).

Agromyza pseudoreptans Nowakowsky
Sonning Common Sewage Works 15.9.88 (HHC).

Cerodontha luctuosa (Meigen)
Baynes Nature Reserve 3.8.88 (HHC).

Norellia spinipes Meigen
Sonning Common 8.4.80, pair in cop.; Baynes Nature Reserve 29.7.85.
These were misidentified as Norellisoma lituratum using a key published before Norellia established itself in this country (HHC).

Fannia minutipalpis (Stein)
Abbey Rugby Football Ground 7.7.88 (HHC).

Coenosia rufipalpis Meigen
Baynes Nature Reserve pond 30.8.88 (HHC).

THE SOCIETY'S ENTOMOLOGICAL EVENING, 9th JULY, 1988

We are indebted to Sir William and Lady Mount for their permission to hold this annual event in the attractive surroundings of Wasing Wood. The weather proved problematical until almost dusk, when a troublesome wind abated and hopeful cloud cover built up. As the Recorder was unloading his car prior to lighting up, a vigorous rustling of leaves made him pause, at which point a badger skidded round the corner closely pursued by a second of its kind! No subsequent records could quite cap that event but we did record 66 species of macro-moths including Grass Rivulet, Twin-spot Carpet, Lilac Beauty, Barred Red and numerous Rosy Footmen. Our thanks go to Norman Hall and David Young for each bringing additional mothing equipment and thereby affording members a choice of inspection sites during the dark hours!

Contributors:-

The Recorder expresses his thanks to Dr.A. Brickstock (AB); Mrs.H.G. Baker (HGB); Dr.H.J.M. Bowen (HJMB); H.H. Carter (HHC); J.Cole (JC); Lt.Col.G.G. Eastwick-Field (GGE-F) S.J. Grove (SJG); T.D. Harrison (TDH); Miss J. Housden (JH); P. Silver (PS); Mrs. S.J. Whitfield (SJW); D.A. Young (DAY).

* * * * * * * * *

ARACHNIDA Spiders

Pirata hygrophorus Thorell
Sonning Common Sewage Works 22.8.88, immature females running on water (HHC).

Helophora insignis (Blackwall)
Baynes Nature Reserve 30.8.88 (HHC).

False Scorpion Chernes cimicoides (Fabr.)
Wasing Park 1988 (SJG).

Contributors: H.H. Carter (HHC); S.J.Grove (SJG).

THE RECORDERS' REPORT FOR FUNGI 1988

ALAN BRICKSTOCK

1988 was one of those years when we wondered whether there ever would be a fungus season, although when it did eventually start, there were many good finds. Many normally common or abundant species appeared in only small numbers, if at all. This was most strikingly demonstrated by the Society foray at Sulham, with the very high total of 116 species, but NO RUSSULAs. Despite the impression throughout that this was an 'odd' season, statistically it seems to have been very average in terms of species found, if not in terms of abundances. The total number of species recorded was 349, compared with the average for 1981-7 of 332; the '12 families' total (see 'Fungus Forays' in last year's magazine), was 150, giving a percentage of 42.9, marginally lower than the mean of 44.5.

However, the number of Russulas and Boleti were appreciably lower than usual, but Mycenas and Lepiotas were equally high.

The numbers of species in the various families, with 1981-7 averages in brackets, were: Agaricus 8 (7), Amanita 9 (10), Boleti 12 (20), Clitocybe 11 (8), Collybia 8 (7), Coprinus 8 (8), Cortinarius 13 (14), Lactarius 16 (17), Lepiota 16 (8), Mycena 25 (18), Russula 18 (23), and Tricholoma 7 (7).

We were sorry that Judith Hack was unfit to lead us on our first foray. In the event, Neville Diserens and I were joint leaders for both our forays. Both were well attended, and I think well enjoyed. On October 1 we went to Harpsden, rather than Crowsley Park, and found 65 species, although with no outstanding finds.

The 'double header' on October 16 was undoubtedly the outstanding foray of the year. The morning at Sulham was notable, not only for the high species total, 116, but also for the number of unusual species found. The afternoon at Impstone Road, Pamber, produced many fewer species, 68, but again there were a few nice finds. The overall total for the day was a superb 164 species. Remarkably, 48 of the 68 species found at Impstone Road were not found at Sulham, a clear indication of the different habitats. Our thanks to Barry Bristow and Alick Henrici for identifying many of the species, and for having some of them checked by Derek Reed at Kew.

One species which occurred, unusually, in great abundance, was Bulgaria inquinans. A large log-pile at Virginia Water, a legacy of the October 1987 gale, was covered with this rubbery black Ascomycete.

Thanks also to all the contributors, and those who helped on and after forays. It would be nice to have records from more people next year!.

With some of the less common species in the list, I have added the book and page where their descriptions may be found.

Agaricus abruptibulbus
Sulham Woods, 06.11.88 (Bot).
Very similar to A. silvicola, but abruptly bulbous at stipe base.

Agaricus luteomaculatus
Sulham Woods, 16.10.88 (NH).

Amanita rubescens var. annulosulphurea
AWE, 27.07.88 (B).
A yellow ringed variety.

Clitocybe phyllophila
Windsor Park, 22.10.88 (MS); Nuney Green and Checkenden, 19.11.88 (B&D).

Conocybe subovalis
Bucklebury Slade, 08.10.88 (NFC).

Galerina autumnalis (Moser P. 424)
Sulham Woods, 16.10.88 (NH).
Common on deciduous wood.

Galerina heimansii (Moser P. 424)
Sulham Woods, 16.10.88 (NH).
A rare species.

Hebeloma sacchariolens
Sulham Woods, 16.10.88 (NH).
Having a sweetish, burnt sugar smell.

Hohenbuehelia atrocoerulea
Impstone Road, Pamber, 16.10.88 (NH).

Hohenbuehelia geogenia
Whiteknights, 30.10.88 (UWG).

Hygrocybe russocoriacea
Windsor Great Park, 22.10.88 (MS).
Has a strong smell of lead pencils.

Inocybe hirtella
Sulham Woods, 16.10.88 (NH).

Lepiota aspera (Moser P. 242)
Sulham Woods, 16.10.88 (NH).

Lepiota castanea
AWE, 19.10.88 (B).

Lepiota ignivolvata
Ipsden, 23.10.88 (B).
Has a bright orange ring-like line low down on the stipe.

Lepiota perplexa
Sulham Woods, 16.10.88 (NH).

Lepiota pseudohelveola
Sulham Woods, 16.10.88 (NH).

Lepiota sericifera (Moser P. 247)
Sulham Woods, 16.10.88 (NH).
Not unlike L. sistrata. White. On damp ground under deciduous trees.

Lepiota subalba (Moser P.242)
Sulham Woods, 16.10.88 (NH).
Smells like L. sistrata. White to cream. Crown sometimes more ochre.

Leptonia incana
Whitehorse Hill, 19.07.88 (HB).

Leptonia polita
Impstone Road, Pamber, 16.10.88 (NH).

Marasmius bulleardii
Sulham Woods, 16.10.88 (NH).

Marasmius recubans
Sulham Woods, 16.10.88 (NH).

Macrolepiota gracilenta
King Charles Head, Mapledurham, 09.10.88 (D).

Melanoleuca cinerascens
Windsor Great Park, 22.10.88 (MS).

Mycena aetites
Redhatch Drive, Earley, 27.10.88 (D).

Mycena leptocephala
Bucklebury Slade, 08.10.88 (NFC).

Mycena olida
Sulham Woods, 16.10.88 (NH).

Mycena olivaceomarginata
Bucklebury Slade, 08.10.88 (NFC).

Nolanea staurospora
Impstone Road, Pamber, 16.10.88 (NH).

Panaeolus campanulatus
Windsor Great Park, 22.10.88 (MS).

Panaeolus sphinctrinus
Nuney Green and Checkenden, 19.11.88 (B&D).
Grows near dung. Has attreactive toothed 'frill' round the cap edge.

Panellus serotinus
Whiteknights, 30.10.88 (UWG).
A rather uncommon olive-green species growing on old dead logs.

Pholiota gummosa
Bucklebury Slade, 08.10.88 (NFC); Impstone Road, Pamber, 16.10.88 (NH).

Pluteus cinerofuscus (Bon P. 199)
Sulham Woods, 16.10.88 (NH).

Pluteus griseoluridus
Sulham Woods, 16.10.88 (NH).

Pluteus lutescens
Sulham Woods, 16.10.88 (NH); Sulham Woods, 06.11.88 (Bot).
A dark cinnamon-brown species with ochre-yellow gills, which turn pink.

Pluteus luteovirens
Sulham Woods, 29.10.88 (B).
A mustard-yellow species growing on elm logs. Gills white, becoming pink.

Psathyrella prona
Bucklebury Slade, 08.10.88 (NFC).

Pseudohiatula tenacella
Sulham Woods, 06.11.88 (Bot).
A small 'brown job' attached by long 'roots' to buried pine cones.

Resupinatus applicatus (Bon P. 122)
Sulham Woods, 16.10.88 (NH).

Stropharia cyanea
Bucklebury Slade, 08.10.88 (NFC).

Tephrocybe boudieri (Bon P. 168)
Sulham Woods, 16.10.88 (NH).
Has a mealy/fishy/cucumber smell.

Tricholoma lascivum
Sulham Woods, 16.10.88 (NH).

APHYLLOPHORALES

Antrodia albida
Sulham Woods, 16.10.88 (NH).
White resupinate polypore, with large, shallow pores.

Eichleriella deglubens (Ramsbottom P. 140)
Sulham Woods, 16.10.88 (NH).

Junghonia nitida (Chaetoporus euporus)
Sulham Woods, 16.10.88 (NH).
Orange-brown resupinate polypore with a white margin.

Ganoderma pfeifferi
Bucklebury Slade, 08.10.88 (NFC).

Hapalopilus nidulans
Bucklebury Slade, 08.10.88 (NFC).

Hymenochaete corrugata
Impstone Road, Pamber, 16.10.88 (NH).
Leaves a pink stain on wood.

GASTEROMYCETES

Geastrum triplex
Sulham Woods, 06.11.88 (Bot).
A few have grown here, in one small patch, for many years, but this year they have spread and multiplied dramatically.

HETEROBASIDIOMYCETES

Ditiola pezizaeformis (Femsjonia luteoalba)
Impstone Road, Pamber, 16.10.88 (NH).
Cup-shaped, eventually disc-shaped and plane, growing on branches. Half inch diameter, bright golden yellow, with white margin.

Exidia thuretiana (albida) (Bon P. 324)
Sulham Woods, 16.10.88 (NH).

ASCOMYCETES

Ciboria batchiana (Phillips P. 274)
Pamber Forest, 08.10.88 (D).
A cup fungus attached to old acorns by a long 'stalk'.

Cordyceps militaris
Windsor Great Park, 22.10.88 (MS).
'Scarlet caterpillar fungus'.

Cordyceps ophioglossoides
Impstone Road, Pamber, 16.10.88 (NH).
Growing on species of Elaphomyces.

Elaphomyces granulatus
Impstone Road, Pamber, 16.10.88 (NH).
'False truffle'.

Hymenoscyphus fructigenus
Sulham Woods, 16.10.88 (NH).
Tiny ivory-yellow cup fungi, growing on acorns or hazel nuts.

Otidea onotica
Windsor Great Park, 22.10.88 (MS).
'Hare's ear'.

Scutellinia trechispora
Aston Upthorpe Downs, ??.07.88 (HB).

Leucogyrophana pseudomollusca
Sulham Woods, 16.10.88 (NH).

Contributors and Abbreviations.

Ivy and Alan Brickstock (B), (B)+Mary and Neville Diserens (B&D), Botanika foray (Bot), Humphry Bowen (HB), Newbury Field Club foray (NFC), Society foray (NH), Microscopical Society foray (MS), Urban Wildlife Group foray (UWG).

RECORDER'S REPORT FOR VERTEBRATES, 1988

H.H. CARTER

AMPHIBIANS

Triturus sp. Newt
An albino newt (species uncertain) in garden pond of 8 Balmore Drive, Caversham (DW).

Rana temporaria L. Frog
One in Ilex Close, Sonning Common 22.3.88; one on Henley Road 26.9.88 (MJC); 2 in garden of 9 Pages Orchard, Sonning Common 11.6.88; one in field by Flowercroft Wood, Sonning Common 29.8.88; spawn in Horse Pond, Gallowstree Common 27.3.88; tadpoles in garden pond at 68 Rosehill Park, Emmer Green 28.4.88 (DB); frogs in garden pond at Fernbank Road, North Ascot.

Bufo bufo (L.) Toad
None at Coach and Horses pond, Binfield Heath until three were found dead 24.3.88. Subsequently many were found there dead on the banks of the pond and the surrounding area, many of them dismembered. Others were breeding normally in the pond. One dead on autumn migration at Rose Hill, Emmer Green 26.9.88. One resident in garden in Beech Lane, Earley (HDL).

REPTILES

Anguis fragilis L. Slow Worm
One on downs at Well Barn 6.5.88 (BRB). One in garden at 74 Beech Lane 13.5.88 (HDL).

MAMMALS

Talpa europaea L. Mole
One dead on Peppard Road between Reading and Sonning Common 9.6.88. Molehills at Sue Ryder Home, Nettlebed 30.1.88, Henley and Stonor 31.1.88, Cookley Green 7.2.88, near Reddish Manor, Sonning Common 12.2.88, Swan Wood, Nettlebed 9.4.88 and Caversham Park Village 26.6.88. 1 dead at Moor Copse 13.7.88 (SYT).

Sorex araneus L. Common Shrew
One dead in Flowercroft Wood, Sonning Common 4.4.88. Shrews heard calling in Binfield Heath Lane and elsewhere in the Sonning Common neighbourhood during the year.

Erinaceus europaeus L. Hedgehog
Frequently seen in garden at 74 Beech Lane (HDL). One in Grove Road, Sonning Common 2.7.88, Gosbrook Road recreation ground, Caversham, adult 28.7.88 and juvenile 18.8.88, Hill's Meadow juvenile 23.9.88, Southview Avenue, Caversham 24.10.88 (MJC). One on Christchurch Meadow 29.9.88 (SM). Seen regularly in garden at Fernbank Road, North Ascot. One seen regularly in garden at Pages Orchard, Sonning Common (JM). One on Milestone Road, Caversham Park Village 21.6.88. Dead hedgehogs at Sonning Common 29.7.88, Highmoor Road, Caversham 9.8.88, Caversham Park Village 1.9.88, Kiln Road, Emmer Green, juvenile 15.9.88, Bishopswood, Sonning Common 23.9.88, Emmer Green 7.11.88 and Westfield Road 21.11.88. Juvenile found dead at Yeomanry House 8.11.88 (BA).

Plecotus auritus (L.) Long-eared Bat
One found dead in alley off Hemdean Road, Caversham 17.9.88 (WR).

Pipistrellus pipistrellus (Schreber) Pipistrelle
One flying by day in Victoria Park, Abingdon 14.2.88

Vulpes vulpes (L.) Fox

One dead on M4 a mile west of Junction 11 30.1.88 (HJMB). A vixen regularly hand-fed by a lady living in St. Barnabas Road, Earley (HDL). Droppings in Clayfield Copse, Emmer Green 26.1.88. Cub dead on Binfield Heath Lane 16.5.88. Fox seen crossing A 4130 between Wallingford and Sotwell at night 29.7.88. Foxes calling at Sonning Common 30.7.88 and Crowsley 15.8.88. One dead on Peppard Road, Sonning Common 12.9.88.

Meles meles (L.) Badger

Dead cub about 33 mm (12") long, very fly-blown, on downs at Unhill Wood 22.4.88; 2 badgers ran through Wasing Wood, passing close to BRB who was setting up the moth trap for the mothing evening 9.7.88 (BRB). Dead badger by Burghfield Road between Reading and Burghfield Bridge 14.4.88.

Lutra lutra (L.) Otter

A sighting reported from the River Kennet near Reading, but no details available at the time of writing.

Mustela nivalis L. Weasel

One dead on Binfield Heath Lane 22.9.88

Dama dama (L.) Fallow Deer

One or two at night in field beside Binfield Heath Lane 1.6.88. Tracks at Pishill 31.1.88, Flowercroft Wood, Sonning Common 7.2.88, and Pissen Wood, Rotherfield Greys 21.2.88. A gnawed femur in Swan Wood, Nettlebed 9.4.88.

Muntiacus reevesi Ogilby Muntjac

Tracks in Rumerhedge Wood, Stoke Row 22.3.88; one seen at Turner's Green 30.7.88 (HJMB). Small one crossing Richmond Road, Caversham at 10.30 pm 16.5.87 (AVM). One dead by road through Highmoor 9.4.88. Tracks in Clayfield Copse, Emmer Green 26.1.88, Flowercroft Wood, Sonning Common 7.2.88 and Pissen Wood, Rotherfield Greys 21.2.88. One seen at Hardwick 4.6.88 (EMC). Barking heard at Crowsley 15.6.88, and at Kidmore End 31.7.88 and two later dates.

Capreolus capreolus (L.) Roe Deer

Seen at Baughurst (just over the border in Hampshire) 29.11.87 (NHD).

Oryctolagus cuniculus (L.) Rabbit

Several, of which one was erythristic, on Christchurch Meadow 4.6.88 (MJC). 1 - 4 seen on many dates on Peppard Road between Reading and Sonning Common (including several dead ones) and in adjoining fields. 1 - 4 seen on many dates on Kennylands field, Sonning Common (EMC, MJC and Recorder). A few other sightings from South Oxfordshire, maximum 15 at Sonning Common sewage works 10.5.88. Total sightings 77, compared with 81 in 1987.

Lapus capensis Pallas Brown Hare

Several at Hardwick 4.6.88 (EMC); road casualties on the A417 near Kingstanding Hill 4.8.88 and on the Portway (A4074) near Ipsden 13.8.88.

Microtus agrestis (L.) Short-tailed Vole

Juvenile male found dead at Theale 8.8.88 (JRC). Male found dead on Kennylands field, Sonning Common 27.5.88. One dead in Kennylands Road 2.9.88.

Rattus norvegicus Berkenhout Brown Rat

Resident at 82 Kennylands Road throughout the year till poisoned in December; often seen climbing old apple tree to enter hollow 2½ metres from ground (EMC). One dead on road near Christchurch, Whitley 18.1.88 (HJMB). Two swimming in temporary pond at Clayfield Copse, Emmer Green 15.4.88 and three juveniles there 18.4.88. 20 sightings alive and dead on roads in and around Sonning Common, a further increase on last year's high figures.

Mus musculus L. House Mouse
Two found moribund in Old Town Hall 18.10.88 and 2.11.88, poisoning suspected though not proved.

Sciurus carolinensis Gmelin Grey Squirrel
One in Grove Road 1.4.88, in Old Copse 14.4.88 and in Wood Lane 8.5.88 (all Sonning Common). Two in Clayfield Copse, Emmer Green 11.4.88 and 19.4.88. One in Pissen Wood, Rotherfield Greys 17.4.88. One dead on road south of Howe Hill, Watlington 3.9.88. 12 dead on roads in and around Sonning Common April to October.

My thanks are due to the following contributors:

Barbara Aldridge (BA); Brian Baker (BRB); Daphne Baker (DB); Humphry Bowen (HJMB); Elizabeth Carter (EMC); Mary Carter (MJC); J.R. Cooper (JRC); Neville and Mary Diserens (NMD); Hilda Lambden (HDL); Sue Marcham (SM); Jessie Millett (JM); A. Vivienne Murphy (AVM); Warren Richmond (WR); Shirley Townend (SYT); Mrs. D. Wilcox (DW).

THE WEATHER AT READING DURING 1988

DR. RUSSELL THOMPSON F.R.MET.SOC.,
DEPARTMENT OF GEOGRAPHY,
UNIVERSITY OF READING.

1988 was generally a year with temperatures slightly (0.4°C) above average, mainly due to the first half of the year which was winterless (ending a run of three consecutive "Big Freezes") and the warmest since 1976. Every month between January and June recorded above average temperatures, although this pleasant trend was spoilt in July and August with temperatures well below average. The early winter was very contrasting with a very cold, frosty November and an incredibly mild December with only one air frost recorded. The year's aggregate rainfall was 8% below normal and indeed only four months experienced above-average rainfall (including June and July to continue our run of miserable, wet summers). For the fourth year running, the total number of hours of bright sunshine was below average (by 11%). Indeed nine months of the year were characterised by below average sunshine, especially July with 32% less than normal.

The following monthly weather summaries are based on the Table of Weather Records provided:-

January was a very mild month with the mean temperature almost 2°C above average, the highest since 1975. Only five air frosts were recorded, particularly mid-month, and about half the month was free from ground frosts. The dominant feature of the month was rainfall, with more than double the monthly average recorded. It turned out to be the wettest January since 1939 and the third wettest since rainfall records began in 1921. The associated cloud cover in the disturbed cyclonic weather was responsible for sunshine totals 7% below normal.

February continued the winterless conditions with temperatures some 1°C above average, which was the mildest since 1980, and a maximum 14.2°C was reached on the 15th. Only four air frosts were recorded although ground frost was more frequent, especially in the more anti-cyclonic conditions during the second half of the month. After a very wet start, it became dry and by the 28th, an absolute drought was recorded (ie. at least 15 consecutive days with precipitation below 0.2mm). The rainfall aggregate for the month was 20% below normal which contrasted with the previous month's deluge. The high pressure dominance over the last two weeks resulted in less cloud than normal and sunshine more than double the normal, making it the sunniest February since sunshine records started in 1956. During January and February, only 75 hours were recorded below 0°C and this mild weather contrasts with the previous three years when severe cold spells produced 637 hours (1985), 575 hours (1986) and 411 hours (1967) during these two months (and 911 hours in 1963!).

March continued the unseasonally mild weather after a frosty start with four air frosts recorded on the first five days (and -3.1°C on the 2nd and 5th representing the coldest nights of the year so far). The monthly mean was more than 1°C above normal, the highest since February 1981 and the particularly balmy spell between the 21st and 27th recorded six days with maximum temperatures in excess of 12.5°C. Rainfall was about average, although most fell in the last two very mild weeks. The disturbed cyclonic weather produced generally dull conditions with sunshine some 23% below the monthly average. It was also a windy month with the run of wind the highest since 1981.

April represented the fourth month in a row where the mean temperature was above normal. Only 3 air frosts were recorded and during a warm spell in the third week, a temperature of 17.4°C was recorded on the 18th which was the warmest day of the year so far. The month was dry (aggregate rainfall some 23% below average) although snow occurred on the 9th which soon melted. The month was dull again with sunshine down on the monthly average by 12%.

May provided ideal early summer anticyclonic weather since it was warm, dry and sunny. Between the 13th and 17th, maximum temperatures exceeded 19°C, with the highest temperature (22.6°C) recorded during this warm spell. The monthly mean was well above normal to give us the warmest May since 1976. Rainfall was 41% below the monthly average making it the driest May since 1982. Sunshine duration averaged 6 hours per day which was almost 40% of the maximum hours possible, and the monthly total was the highest for six years.

June recorded average temperatures and rainfall but was very dull with the highest number of sunless days since 1960 and the hours of bright sunshine some 27% below normal. After a cool start, temperatures generally exceeded 20°C between the 13th and 25th (with a pleasant 24.8°C recorded on the 19th). The average rainfall experienced was largely due to a 15mm fall of rain in 22 minutes in a thunderstorm on the 20th, accompanied by hailstones 10mm diameter. Dry weather characterised 10 consecutive days.

July turned out to be wretched weatherwise and, after the promising summer weather of the previous two months, again ruined home-based holiday plans. Mean temperatures were almost 2°C below normal (the lowest since 1980) and the mean maximum was more than 3°C below which was the lowest since 1954 and the second lowest since 1921. It was also very wet with aggregate rainfall some 90% above normal, the highest July total since 1968. There were 22 rain days (0.2mm or more) in the month which was the highest number since 1939 and the second highest since 1921. To complete an eminently forgettable month, sunshine was 32% below normal making it the dullest July for 23 years. After such terrible weather, it was hard to believe that the greenhouse effect was supposed to be working in our favour!

August was an improvement on the previous month (it couldn't have been worse!) thanks to two warm spells around the 7th (with the warmest day of the year experienced at 28°C) and 17th. However, generally the month was cool with mean temperatures some 1°C below normal and the 7.7°C minimum on the 16th and 29th was the lowest for 15 years. The month was dry until the last two days when 32.8mm of rain fell which resulted in a normal aggregate overall. Once again, it was a dull month with sunshine some 14% below normal.

September was a mixed month with temperatures well above normal in the first half (with a maximum of 25.3°C on the 7th the highest for six years) and generally below normal in the second half (with the 2°C minimum on the 30th the second lowest since 1969). It was a very dry month with rainfall only 51% of that expected, making it the driest month of the year so far. However, it was dull again (the seventh month so far this year with below-average sunshine), with sunshine hours some 12% below normal and the highest number of sun-less days since 1969.

October provided reasonable Autumn weather with no atmospheric disasters like the previous year when the Great Storm hit the region. The month was generally warm, almost a degree C above normal, although the daily mean of 3.7°C on the 30th was the lowest for any October day since 1974. On this date, the first air frost of the Autumn was recorded. It was a

wet month with rainfall 38% above average, although more than half of this aggregate was recorded during a deluge of 28.7mm on the 8th and 9th (the highest for any two consecutive October days for some 30 years). The month was also dull (sunshine 8% down on normal) and foggy, with the highest number of October fogs since 1977.

November gave us an early taste of winter, despite a warm spell in the second week. Temperatures were well below normal, with 13 air frosts and 21 ground frosts recorded, and the first snow of the winter was observed on the 20th. The prevailing anticyclonic conditions caused very dry weather, with the aggregate rainfall for the month the lowest since 1956 and the second lowest number of rain days since 1921. Sunshine was a little above average (only the third month with this trend in the year) and wind speeds were the lowest for over 20 years.

December turned out to be completely winterless, with temperatures over 2°C above normal (the third warmest since 1921) and with the only one recorded air frost (the lowest total since 1974). It was also the driest December since 1921 with 13 consecutive dry days. However, despite this anticyclonic dominance, it was dull and sun-less with sunshine hours some 25% below the monthly average.

WEATHER RECORDS: 1988

STATION: READING UNIVERSITY (WHITEKNIGHTS)

		Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Mean Daily Temperatures °C	Max.	8.5	8.3	10.2	12.8	17.1	18.9	18.8	20.3	17.9	14.8	9.5	10.1	13.9
	Min.	3.1	2.0	4.1	4.3	7.9	10.4	11.4	11.0	9.9	7.6	1.5	5.0	6.5
	Mean	5.8	5.2	7.2	8.6	12.5	14.7	15.1	15.7	13.9	11.2	5.5	7.6	10.3
	Range	5.4	6.3	6.1	8.5	9.2	8.5	7.3	9.3	8.0	7.2	8.0	5.1	7.4
Extreme Temperatures °C	Extreme Max.	12.5	14.2	13.7	17.4	22.6	24.8	22.2	28.0	25.3	18.2	15.4	13.5	28.0
	Date	1/2	15th	21st	18th	14th	19th	20th	7th	7th	18th	9th	9th	7/8
	Extreme Min.	-2.6	-2.2	-3.1	-2.7	1.7	6.5	8.1	7.7	2.0	-1.8	-4.8	-0.2	-4.8
	Date	17th	26th	2/5	10th	20th	7th	3rd	16/29	30th	30th	22nd	3rd	22/11
	Extreme Grass Min.	-5.5	-6.6	-8.0	-7.6	-3.1	1.7	4.1	2.0	-2.0	-5.8	-8.1	-5.4	-8.1
	Date	8th	26th	2nd	10th	20th	14th	3rd	29th	30th	30th	22nd	7th	22/11
Days with air frost		5	4	4	3	0	0	0	0	0	2	13	1	32
Days with ground frost		14	23	8	14	5	0	0	0	1	7	21	12	105
Hours at or below 0.0°C		36	39	19	8	0	0	0	0	0	8	65	1	174
Sunshine Hours	Sum	51.3	115.9	82.4	137.7	186.6	143.3	141.1	167.9	138.1	95.8	78.8	38.3	1371.1
	% of possible	19	40	22	33	39	29	28	37	36	29	29	15	31
	Daily Mean	1.7	4.0	2.7	4.6	6.0	4.8	4.5	5.4	4.6	3.1	2.6	1.2	3.77
Precipitation	Amount in mm	114.3	31.8	55.3	30.6	34.0	58.1	78.4	52.1	29.5	75.8	18.7	9.9	588.5
	Rain Days	23	10	18	11	15	11	22	11	10	13	7	7	157
Maximum rain in one day	"	13.9	8.5	11.7	6.2	7.5	16.9	15.2	16.9	8.1	24.2	10.3	7.0	24.2
	Date	21st	3rd	20th	15/18	8th	20th	3rd	31st	27th	8th	29th	3rd	8/10
Longest run of consecutive rain days		9	5	8	5	4	3	7	3	3	3	3	5	9 Jan
Longest run of consecutive dry days		4	16	5	7	5	10	2	5	7	4	7	13	16 Feb
Snow or sleet days		1	4	1	1	0	0	0	0	0	0	1	0	8
Days with snow lying		0	1	0	0	0	0	0	0	0	0	0	0	1
Visibility	Days with fog at 0900 GMT	3	0	0	0	0	0	0	0	0	6	6	2	17
Thunderstorm Activity	Days of thunder	0	0	0	0	2	3	1	1	1	0	0	0	8
	Days of hail	0	1	0	0	1	1	0	0	0	0	0	0	3
Barometric Pressure mb	Mean	1003	1013	1011	1018	1012	1018	1011	1013	1017	1015	1023	1024	1015
	Highest	1025	1033	1029	1029	1029	1028	1020	1022	1034	1033	1035	1039	1039
	Date	17th	21st	11th	5th	21st	23rd	31st	17th	19th	1st	14th	31st	31/12
	Lowest	973	984	982	1004	996	1008	986	997	988	994	995	999	973
	Date	29th	1st	16th	16th	2nd	4th	3rd	24th	1st	6th	30th	1st	29/1

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