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EDITORIAL NOTE - *There has long been a feeling among members of this Society that the Recorders' Reports should be given a greater permanence. It was with this in mind that your Committee decided to proceed with this present publication, which contains beside the Reports a series of Articles on Pamber Forest, and a note on that interesting plant, The Oxford Ragwort. We place this small book in your hands hoping, that despite its many imperfections, you will by your support make further publications possible.*

P. A. Betts

B. M. Jones

L. H. Williams

THE OXFORD RAGWORT

by Miss B. M. Jones

When one considers the numbers of plants that are continually being imported from other countries—for instance the small seeds in mud on shoes, mixed with corn and other grains, or clinging to rough cloth, wool, and hides—it seems strange that so few newcomers are recorded as being firmly established in Britain. Yet, even if a new species finds our climate suitable, it is not easy for it to become established in natural conditions, where a fierce struggle for existence is already taking place among an association of plants well adapted to the environment. The Oxford Ragwort, or Berkshire Groundsel, is therefore of particular interest to us, as during the last sixty years its spread has been so rapid. The plant is a close relation of the Groundsel *Senecio vulgaris*, though larger and more branched. Its flowers are more handsome—bright yellow in colour, with a central cushion of disc florets surrounded by a circle of about thirteen long ray florets. Flowering begins in March, and is most profuse towards the end of April, but continues intermittently until the winter. It is usually an annual, but specimens often survive for a second year, and sometimes even for a third. On the continent of Europe it is uncommon, flourishing on the piles of cinders erupted by Etna and Vesuvius, and in Sicily it is known as “St. Peter’s Herb.”

In 1699 a few individuals were grown in the Herbarium at Oxford. The hairy seeds are blown considerable distances by the wind, and in 1794 a few struggling plants were noted growing on a near-by wall. By 1877 plants were observed near the railway station, the species having migrated less than two miles in nearly two hundred years. Here, in the clinkery railway sidings, it found conditions reminiscent of its native volcanic cinders, and it spread rapidly along the permanent way. The rush of wind from the trains helps to disperse the seeds, each with its parachute of silky hairs, and doubtless some of these actually avail themselves of the transport provided. Thus, some seeds were observed to float into a carriage at Oxford, later blowing out again at Tilehurst. By 1890 the plant was found at Swindon, and by 1916 it had travelled to Denbighshire. It has been recorded at Bideford, in Devon, and has made its way to Ireland, spreading along the

railway from Cork to Dublin. Since the War it has been among the early colonists of the burned and bombed sites of London. It seems to be a town dweller, often being soon established on disused building sites, and other bare spots. In rural districts it is rarely found unless there is a railway close at hand.

This alien is abundant in Reading—on the walls of the Abbey ruins, on Air Raid shelters and waste ground, on dumps from Gas Works and Biscuit factory, and in side streets, as well as in the goods yards and railway sidings.

The species seems to show considerable variation. Druce mentions a variety whose leaves have very jagged edges, which is the usual form found on walls and dry ground around Oxford and Reading. Varieties with broadly lobed, and even with nearly entire leaves grow in rich waste ground. As these forms are often mingled with the cut-leaved variety, it is difficult to relate these differences in habit to the environment. Suspected hybrids between the Oxford Ragwort and the common Groundsel have also been reported.

It will be interesting to note what further ground is colonised by this unkindly named plant—for "*Squalidus*" means inelegant, which hardly seems suitable. The name adopted in the Prodrromus was *S. chrysanthemifolius*—the chrysanthemum leaved—but perhaps the most fitting name of all is that of "The Railway Ragwort."



GEOLOGY

Professor H. L. Hawkins, D.Sc., F.R.S., F.G.S.

During 1948 a trench was dug along the east side of Shinfield Road from the Green southwards. The trench averaged about six feet in depth, but was locally deeper. It revealed very clearly the nature of the gravel and clay, and their relations to one another, along this particularly interesting line.

We can first consider the relief of the surface, starting for the sake of clearness rather further north than this particular trench extended. At about the entry of Addington Road, the slope of Redlands Road increases sharply, and the hill continues, in two rather indefinite steps, to the Upper Redlands Road entry. The lower step, from Addington Road to the old gateway to Redlands House, represents the slipped ground at the contact between the Reading Clays and the overlying sandy base of the London clay. The upper step, from Allcroft Road to Upper Redlands Road, marks the edge of the "Christchurch Road" terrace of gravel. The rise continues gently as far as New Road, and then a slight, but quite noticeable, reversal of slope extends as far as the northern gate of Whiteknights. This "backward" slope is normal for gravel terraces, and often leads, as in this case, to temporary flooding after heavy rain.

Just before Pepper Lane is reached, the road begins once more to climb (actually the gradient has been artificially "smoothed"), and soon after the north gate of Leighton Park is passed, the summit level (which continues southwards well beyond Whitley Wood Lane) is reached. This flat stretch is another gravel-spread, at a higher level than that of Christchurch Road. On the slope that separates the two, the London Clay comes to the surface with no more cover than the soil.

Although separated from one another by little more than 100 yards horizontally, and about twenty-five feet vertically, the two spreads of gravel are dissimilar. The lower one (in places as much as fifteen feet thick) is coarse, richly ferruginous, and composed mainly of very irregularly shaped flints. It also includes a fair sprinkling of the quartzite "cobbles" that are so

familiar in the Caversham gravels. The higher gravel spread (rarely as much as six feet thick) is fine, often sandy, and consists mainly of small, perfectly rounded flint-pebbles, with an occasional less shapely piece of chert and sarsen. There are no quartzites in the higher gravel, and no cherts in the lower one.

The Christchurch Road gravel is typically one of the Thames series; all of its ingredients have come from the North and North-west. The upper Shinfield Road gravel belongs to the "Southern Drift"; its materials have come northwards from the Weald and Hindhead across the pebbly Eocene strata of the London Basin. Pepper Lane is approximately at the meeting place of these two convergent systems of drainage.

Long before the existing Thames and Loddon valleys were cut down to their present depth,—when the "flood-plain" was at the level of Shinfield Road,—a sweeping meander of the Thames swung across Whiteknights Park, and one of its southern tributaries (an ancestor of the Blackwater) entered it there.



Extract from the BOTANY report

by Miss K. Butler

Owing to the mild winter, flowers were well advanced at the beginning of the year. Mrs Simmonds reports Hazel catkins on Jan. 11th, *Mercurialis perennis* on Feb. 18th, Celandine *Ranunculus ficaria* on Feb. 29th, and Primroses on March 14th. The cold spell which followed arrested growth, making flowering normal for the rest of the year.

The Snowdrop wood near Arborfield is in the way of land drainage operations and trees have been felled and hauled away over the plants—thereby destroying many of the bulbs. A few plants remain unmolested on two small islands in the nearby Loddon and along the river banks.

The Pasque Flower *Anemone pulsatilla* on the Downs is doing well despite its blasting by shellfire during the War. It remains

practically confined to one small area although it used to grow on Streatley Hill.

The parasitic Toothwort *Lathraea squamaria* still thrives in Dyson's Wood near Tokers Green where it is usually found growing on Elm. The Marsh Gentian *Gentiana pneumonanthe* seems to be spreading on Hook Common.

Ashridge Wood near East Ilsley is an isolated wood amid fertile cornfields. It is a locality for several rare and local plants, but their continued existence is made doubtful by extensive felling of trees. It would appear that the land is to be cleared and made into arable. Among the plants known to grow there are *Ornithogalum pyrenaicum*, *Colchicum autumnale*, *Lathyrus sylvestris*, *Vicia sylvatica* and *Pimpinella major*. We hope that at least a small area of the wood will be allowed to remain and so preserve these rarities.

The Lizard Orchis *Orchis hircina* has been twice recorded this year, from near Stoke Row and in N.E. Berks. These rare orchids are very sporadic in their appearance. The Meadow Saxifrage *Saxifraga granulata* appears to be increasing locally and is now known from within the Borough boundary and from several places within four miles of the town centre. The Small Teasel *Dipsacus sylvestris* is increasing in the Sonning area.

Several new aliens are becoming established locally— *Galinsoga parviflora* in Suttons Trial Grounds, *Lepidium draba*, now quite common along the railway and on waste land; *Lotus siloquosus* in a field near Henley, and less abundantly near Basildon. Adder's Tongue, *Ophioglossum vulgatum*, a plant on the decrease, has been found in two new Oxfordshire localities this year. It was first seen near Cookley Green by Miss L.E. Cobb, and later near Nettlebed by Mrs Simmonds. This plant is inconspicuous so is probably often overlooked. Records for the allied British species the Moonwort *Botrychium lunaria* are also required.

Extract from the ENTOMOLOGICAL report by Mr. C. Runge

The 1948 Season has been decidedly below the average and there is but little to record. In my last year's report I had a good deal to say about insect immigration from the continent, which was remarkable both as regards numbers and variety. This year the story was very different, and the most obvious, and most welcome sign of this was the relative scarcity of those tiresome pests the Large and Small White Butterflies, *Pieris brassicae* and *P. rapae*. The Silver Y. moth, another common immigrant, has not been in my experience at all frequent this year, while the Clouded Yellow Butterfly, another common if somewhat erratic visitor, was also scarce--Mr Baker informs me that during the time he was at Blewburton in connection with the archaeological excavations he only observed three on a good patch of clover.

Of our indigenous lepidoptera the common ones were usually less common and the rare ones rarer still. For example two common pests of fruit and other trees have been so abundant this year as to constitute a plague. These were the Mottled Umber moth, *Hybernia defoliaria* and the Winter Moth *Cheimatobia brumata*. In many orchards hardly a leaf could be seen on any tree that had not been attacked, and the hedgerow and woodland trees, Oak, Elm, and Beech, suffered similarly.

In the spring three specimens of the Large Tortoiseshell Butterfly, *Nymphalis polychloros*, were taken at Pamber. The Light Orange Underwing Moth, *Brephos notha*, was discovered to occur on Burghfield Common by Mr Parfitt of Crowthorne. Considering how thoroughly the Common has been worked by generations of Reading Lepidopterists, it is remarkable that this species should have been for so long overlooked. The moth flies in the sunshine like its more familiar congener, *B. parthenias*, and frequently in company with it, though the peak of its emergence is usually some little time after that of *parthenias*. The attenuated green larvæ feed on aspen, and have been obtained in some numbers by beating.

On April 24 a careful search of the Sallows at Pamber resulted in the finding by three of us of two larvæ each of the Purple Emperor Butterfly, *Apatura iris*. On the following day I obtained

two more and Mr Baker tells me he took eight between April and June. Despite the unusual numbers of the larvæ the customary bait of putrid fish-heads attracted no adults in July.

During the last week in April the Pearl Bordered Fritillary, the Wall Butterfly, and the Grizzled Skipper were seen on the wing, which is rather early for what are usually May insects.

Larvæ of the Dark tussock Moth, *Dasychira fascelina*, were obtained at Crowthorne in May, and one of the resulting females paired with a wild male in June. Eggs were laid, and the larvæ thrived awhile, but ultimately died during hibernation.

Search was made for the larvæ of the Scarce Burnished Brass Moth, *Plusia chryson*, at Thatcham, but only one larva was taken.

The Dotted Chestnut Moth, *Dasycampa rubiginea*, a local species, was obtained by sugaring at Crowthorne in late October and early November.



Extract from the ORNITHOLOGICAL report by Mr. J. Bowden

Owing to the extremely mild winter, some birds including the Song Thrush, Hedge Sparrow, Great Tit, Rook and Chaffinch, were heard singing and seen making preliminary courtship flights as early as February.

On April 30th, I heard the "drumming" of a Woodpecker in Pepper Lane. The noise was exceptionally loud but I searched in vain for it on nearby trees for several minutes before I detected it on the very top of a tall Oak. Here it was perched on a slender twig and I saw it point its head and beak and make this loud and reverberating noise. Most of us have read of this sort of thing and some observers say that they have even seen the bird "drumming" on an iron post. At any rate, it always makes the same sound so the query is—does the bird make it with its throat? It rather looks as if it does.

A bird which is rarely seen is the Water-rail. After hearing a splash in a small pond, I searched in vain for the culprit and visited the spot on four successive days before I saw it—a Water-rail almost entirely hidden behind the partly curled up leaf of a Water-lily. This bird is remarkably shy, and although I was concealed behind a bush, the bird would not move from its cover until I was some distance away.

Corporal Gribble reports seeing Sedgewarblers and Reed Buntings in quite large numbers by the Thames near Sonning. Also four Common Sandpipers from the same locality.

In a flooded gravel pit at Tilehurst, he saw two pairs of Great Crested Grebes and two well-grown young; also two Green Sandpipers and six herons.

Mrs. Simmonds reports visiting Cranesmoor Lake at Englefield on November 30th 1947, when the lake was frozen over. Scores of duck, mostly Mallard were standing on the ice but a few Shovellers, Widgeon, Teal and Little Grebe were also present.

Among the birds reported as having been seen in this area during 1948 are :—

Waxwing	.....	party of about twenty at Pangbourne Feb. 11th.
Hoopoe	.....	one in a garden at Caversham which stayed several days during March.
Buzzard	.....	one, at Mortimer, November 19th.
Hen Harrier	.....	one, at Arborfield, February 24th.
Pintailed Duck	.....	two drakes and one duck at Cottage Lane gravel pits, December 22nd.
Scaup Duck	.....	a pair at Burghfield gravel pits November 31st.
Scoter	.....	one duck at Burghfield gravel pits, November 31st.
Smew	.....	one duck at Theale gravel pits, November 27th.
Greenshank	.....	one, Sonning gravel pits, May 13th.

also Lesser Redpoll, Brambling, Corn Bunting, Whinchat, Peregrine, Falcon, Garganey, Goldeneye, Goosander, Curlew, Jack Snipe, Dunlin, Ringed Plover, Golden Plover, Black Tern, Arctic Tern, Common Tern, Greater Black-backed Gull and Kittiwake Gull.

GEOLOGICAL NOTE

Professor H. L. Hawkins, D.Sc. F.R.S. F.G.S.

Pamber Forest is a low-lying area (mostly between 250 and 300 feet above sea-level) to the south of the plateau of Silchester Common. Except towards the north-east, it is almost encircled by isolated relics of that plateau that now stand up as fairly conspicuous hills at Tadley, Baughurst and Little London. It is drained by the Tittlebourne, a stream that becomes called the Foudry Brook in its lower reaches.

The "forest" nature is in no sense special to Pamber, for from Burghclere to Bramley there are extensive tracts of essentially similar woodland. Unlike the woods of the high plateau, which are mainly coniferous, these lowland areas support a great variety of trees, and their mixed character gives them much of their charm. Oaks and ashes are mingled with firs and birches, while the undergrowth is an apparently hap-hazard mixture of bracken and clay-loving plants.

This mixture of floras is an expression of the close association of a variety of subsoils. In some places loose sand, in others stiff clay, come to the surface, each tending to support its appropriate assemblage of plants; but so small and alternating are the patches of sand and clay that their ingredients, and the plants they support, tend to overlap. It is common to find the deep-rooted plants to be clay-lovers and the shallower types sand-lovers, or vice-versa.

The frequent alteration of porous sand and impervious clay tends to waterlogging, for the rain-water is trapped in the sandy layers, oozing out in innumerable springs that keep the area saturated in all but the driest seasons. Except along the course of the Tittlebourne the surface is but slightly undulating, so that quick drainage is rarely developed.

Pamber Forest, and the other woodland areas previously indicated, owes its characters to the nature of the "bed-rock" on which it is situated. Except for the western edge, which rises towards Tadley Hill, practically the whole area is on the outcrop of the Bagshot Beds, the lowest member of the Upper Eocene

succession in the London Basin. These Bagshot Beds are usually coarse yellow sands which (with or without the help of overlying gravels) tend to produce dry, hilly heath land of the Aldershot type. But in the south-western part of the London Basin their character changes, and they come to contain almost as much clay as sand. Indeed, they take on the aspect of Coal Measures in miniature, with black shales and Lignite seams and irregular banks of sand.

The Bagshot Beds are about eighty feet thick in the Pamber district. They rest on the silts and clays of the London Clay, and here and there retain some of their cover of the bright green sands of the Bracklesham Beds. Although black or very dark grey at depth, the Bagshot Beds and London Clay "rust" near the surface of the ground into a yellow sandy or clayey silt, and it is this aspect of them that is usually seen.



HISTORICAL NOTE

Detailed information regarding the history of what is now Pamber forest is scanty. It would have been a woodland area in the time of the Romans, and would remain largely such for a long period, excluding the clearances round the Saxon villages. In a grant of 1280, it is mentioned as the forest of "Pamber and Eversley," and Stratfieldsaye park was enclosed from it on a licence granted by Henry III to William de Say in 1261: while a dispute between the King and the Dean and Chapter of Rouen in 1331 suggests that it abutted if it did not actually include part of the parish of Kingsclere. The woods were sold "more than fifty years" before 1669.



BIRD LIFE OF PAMBER

by L. H. Williams

The birds found in the area now under consideration all occur in similar places throughout the South of England and may be considered as typical of these habitats over much of the country. Such typical woodland birds as the Wood Pigeon *Columba palumbus*, Green Woodpecker *Gecinus viridis*, Jay *Garrulus glandarius*, and the now naturalised Pheasant *Phasianus colchicus*, are to be seen in the forest throughout the year whilst other species such as the Tree-Pipit *Anthus trivialis*, are only summer visitors. Owing to the limited amount of space available, I shall deal here with only a few of the more interesting birds inhabiting the Forest and the adjoining area of heathland.

Two birds nearly always seen only on tree-trunks are the Tree-creeper *Certhia familiaris* and the Nuthatch *Sitta caesia*. Both are small and often overlooked, although neither is uncommon. In exploring the bark for insects, they move sideways, up and down, often in spirals with the same ease as the Tits and in the same peculiar and fascinating mouse-like manner. These birds are well adapted for their habits—strong curved claws for holding on to the trunk and a long slender beak with which to extract food from the crevices. The long stiff tail of the Tree-creeper is pressed against the tree to provide extra support. Both birds have a protective coloration rendering them inconspicuous against their background. The Tree-creeper has a beautifully pencilled brown back whilst that of the Nuthatch is slate-grey. The underparts are light in colour but are rarely exposed to view.

The two British Spotted Woodpeckers *Dendrocopus major* and *D. minor* are more often heard than seen. Their only note is a short sharp "chack" very different from the laugh of the Green Woodpecker. The characteristic "drumming", a sound which carries for a considerable distance, is made by repeatedly striking the branches with their bills. This sound is usually heard for only a short period during Spring and early Summer. Both species are black and white with a red patch on the rump, and, in the males, on the head also. The Greater Spotted Woodpecker is believed to migrate eastwards for the Winter. All our Woodpeckers nest in holes which they make in the trunk of a tree, a

dead one often being chosen. From the entrance hole, a tunnel goes inwards for some distance and then turns downwards to widen out into a more spacious nesting chamber. The eggs are laid on a layer of wood chips and are white, in common with those of most other birds which nest in dark places.

Towards dusk in early summer the weird call of the male woodcock *Scolopax rusticula* can often be heard in the Forest. The bird is nocturnal and, during the breeding season, the males indulge in a special twilight love-flight. This takes place every evening (and probably also at dawn) and the same course is followed on each occasion. It is said to be in the form of a triangle, each side being about a quarter of a mile in length. The bird flies swiftly, but with slower and steadier wing-beats than after it has been flushed. The strange sound is probably made in the throat but some observers claim that it originates in the wings. The nest, frequently close to the base of a tree, is merely a depression in the ground lined by a few dead leaves. Here, four eggs are laid in March or early April. Both the Woodcock and its near ally, the Snipe, have been known to carry their young in flight between the thighs and pressed close to the body. This is said to be done when the old bird is alarmed, each chick being carried to safety, some distance away. It is also claimed to take place every evening, the mother transporting her young to the marshy feeding grounds, but this requires further corroboration. In common with the Snipe, the Woodcock has a long straight bill but it lacks the usual graceful form of a Wader, having rather short legs and a 'dumpy' form.

On Silchester Common occurs another nocturnal bird—the Nightjar *Caprimulgus europaeus*. At night, the air is disturbed by its "churr". It is the last of our summer visitors to arrive, seldom appearing before mid-May, but the two beautiful eggs are often laid before the end of the month. No nest is made but the brown and grey blotched eggs lying among the dry bracken and heather are as inconspicuous as the birds themselves. The young are born in a more advanced and active condition than is usual among birds of this order. As the Nightjar feeds on night-flying insects, it has a wide mouth and a greatly reduced beak.

The Linnet *Linota cannabina* is a small bird of the Finch family which is noted for its fine song. It often makes its nest near the

ground in a clump of gorse. The nest is composed principally of moss with a lining of feathers. Both sexes are brownish during the greater part of the year, but in the summer, the male adopts a crimson forehead and breast. It can always be distinguished from the female by its grey head.

The last bird I shall mention is seldom seen owing to its retiring habits. It is the Grasshopper Warbler *Locustella naevia*, a summer migrant with a very distinctive whirring song often as continuous as that of a grasshopper but unlike it in tone. The nest is usually situated among long grass, heather or dwarf furze. In common with other warblers, the food consists mainly of insects. Owing to the recent heath fires at Silchester, this bird is less common here and is probably now more plentiful at Mortimer.



INSECT LIFE OF PAMBER FOREST

by P. A. Betts

Pamber has long been a well-known collecting ground for entomologists, but as usual, the less "easy" and conspicuous orders have been sadly neglected. It has particularly attracted the attentions of Reading lepidopterists, and I have it on good authority that one of them, the late W. Holland, was early in the century in the habit of walking to Pamber and back for a day's collecting—eleven miles each way.

The predominant tree in the forest is the oak, which harbours more insect species than any other tree: the lepidopterous fauna is quite rich but not particularly exciting—most of the species one would expect in an oakwood in Southern England are present. Included among these is the well-known Purple Emperor Butterfly, which, however, is sporadic in its appearances—in the last forty years its sallow-feeding larvæ have been common only in two—1919 and 1947-8. This, though, is only mentioned in passing, as I intend to dwell rather on a few more conspicuous insects of other orders.

The Giant Lacewing *Osmylus fulvicephalus*—a relative of the common green lacewings of our houses and gardens, may occasionally be found in numbers resting in bushes near the streams in the Forest. This handsome, orange-bodied insect—the largest of the British Neuroptera, has dark-blotched wings that are fully two inches in expanse.

The larvæ occur under stones or among moss near streams, and their diet consists solely of animal juices. The adults seem to have a strange penchant for sitting under bridges, well out of the hot sunlight; the species is very local but not scarce: especially in Southern England.

By the sides of streams in early summer one not infrequently notices the eggs of the Alder Fly *Sialis lutaria*, another Neuropteran, laid in brownish masses, composed of from 500-700 eggs, laid on the leaves of grasses etc. These eggs produce larvæ that make their way after hatching into the water, where they prey actively on other insect larvæ and small worms: when the larvæ are full grown they again leave the water, and pupate in the earth, becoming winged adults a few weeks later, the whole cycle taking one year to complete. The adults are sluggish, smoky-winged creatures, and spend much of their time among the waterside weeds on which they lay their eggs, flying away slowly and heavily when disturbed.

While not rich by comparison, say, with those stretches of the Basingstoke Canal that pass through the heathlands of Hants and Surrey, the streams of Pamber provide feeding grounds for quite a number of our Dragonflies.

Dragonflies can be divided into two main groups—the Anisoptera—large, strongly built and powerfully flying insects, that hold their wings open in repose: including for instance the familiar black and green *Æschmas*; and the Zygoptera, slender bodied creatures that fly feebly round the vicinity of their parent streams, and close their wings over the abdomen when at rest. Their larvæ are elongated and delicate, and with their prominent caudal gills have a nearer superficial resemblance to the larvæ of May-flies than to the stockily built larvæ of the Anisoptera, which have inconspicuous tracheal gills.

To the Zygoptera belong two of our most striking Dragonflies, *Agriion splendens* and *A. virgo*, both of which can be seen fluttering round the Pamber streams on a sunny June day. The

wings of the males of both species are pigmented—*A. virgo* with large blotches of deep brown on all four wings, while in *A. splendens* the wings are coloured all over ; in both species the brown shows brilliant blue reflections in certain lights. The males have metallic blue bodies, while those of the females are green, and their wings are only slightly tinged with yellowish. The eggs are laid singly and the larvæ live among the water-weeds and are like all Dragonfly larvæ, fiercely predaceous.

On the heaths and dry hot Paths of Silchester Common and in the sandier parts of the forest itself, attenuated black and red wasps, something over an inch long, may be seen half running and half flying hither and thither with the greatest activity. They are Sand Wasps, a general name that covers four closely related species of the genus *Ammophila*. These wasps, the adults of which are on the wing during July and August, are not social, like the common wasps, but solitary, and thus produce only males and females, and no workers. The female makes a burrow of considerable depth in the ground which terminates in a rounded cell, the digging being accomplished by using the mandibles as picks and the legs as shovels. The burrows are not inhabited by the wasp during the period of construction. Each cell is provisioned with a single non-hairy caterpillar which is paralysed by the venom injected by the wasps sting : rendered incapable of activity the meat is yet kept fresh, for the wasp larvæ. A caterpillar having been stung, it is dragged to the burrow, and deposited in the cell at the bottom, and a single egg laid upon it. The burrow is then carefully closed with sand grains or a stone and the female goes off to repeat the process.

These few notes should give some slight indication of the vast variety of insect life within even a circumscribed area—space will permit no more.

THE PLANTS OF PAMBER & SILCHESTER

by Mrs. A. M. Simmonds

Silchester Common is one of the few beauty-spots in the neighbourhood of Reading which has escaped military requisitioning during recent years, and no barren concrete roadways or derelict Nissen huts mar its wide expanse. Probably the undulating nature of the ground has saved it from such spoliation. Even so, it is not entirely free from the desecration perpetrated by Man. Those very hollows which lend variety to the scene have been considered convenient hiding-places for all kinds of things, including a wonderful selection of worn-out shoes! Mercifully, the waving fronds of waist-high bracken conceal them for many months, but they are there, and are revealed in the winter and spring. However, the Common and the adjacent Pamber Forest still afford a happy hunting-ground for naturalists.

Since the Common has escaped encroachment, many plants which flourished there in bygone years may be found in their old haunts. The main ground-flora is the Bracken *Pteris aquilina* with Bilberry *Vaccinium myrtillus*, heaths, Common Furze and several species of Grasses. Three members of the Heath family grow here,—Ling *Calluna vulgaris*, Bell-heather *Erica cinerea*, and the Cross-leaved Heath *E. tetralix*; the latter, with its dainty pale pink waxen bells, is very attractive at close quarters, although it does not make such grand colour-masses as its two relatives. Besides the Common Furze *Ulex europaeus*, the equally prickly Dwarf Furze *U. nana* occurs occasionally, and where the Bracken ceases, the PettyWhin *Genista anglica*, with its much-inflated pods is found, in company with a lowly member of the Salix tribe, the Creeping Willow *S. repens*.

A very interesting feature is the boggy hollow which has remained moist even in a dry season such as the summer of this year. Here the water-channels are brightened with the reddish rosettes of the curious Round-leaved Sundew *Drosera rotundifolia* growing with the moisture-holding Sphagnum moss. This Sundew is one of the few British insectivorous plants. Its round spoon-like leaves are furnished with fine red tentacle-like hairs, each tipped with a glistening drop of fluid. On sunny days small insects are attracted by the promise of a feast, but upon

alighting are imprisoned. The edges of the leaves curl inwards, and the victim is held fast by the tentacles. Digestive juices are poured out and the soft parts of the insect eventually absorbed. The leaves then expand and the process is repeated ad lib. In this way the plant gets the nitrogen necessary for its well-being, instead of in the usual way by absorption in solution from the soil by the root-hairs, as bogs are deficient in nitrogen.

A careful search near the haunt of the Sundew may reveal the frail pink flowers of the Bog Pimpernel *Anagallis tenella*, a delicate member of the Primrose family, also the Marsh Red-rattle *Pedicularis palustris* with dainty fern-like leaves, and the Lesser Skull-cap *Scutellaria minor*, a small replica of the familiar Greater Skull-cap, but with pale pinkish purple flowers. The Marsh Hypericum *Hypericum elodes*, has also been recorded from here.

Among the more striking plants in this boggy area which attract notice are the handsome, rosy purple flowers of the Meadow Thistle *Cirsium pratense*, the waving silky-white tufts of the Cotton Grass *Eriophorum sp.*, the pale mauve Spotted Orchis *Orchis maculata* and the lovely Bog Asphodel *Narthecium ossifragum*. The latter plant is equally attractive when in fruit, with its brilliant orange capsules and stalks. It retains its colour well into the winter.

A discovery of recent years has been the Wood Horsetail *Equisetum sylvaticum* with its yellowish branched whorls, but so far the Marsh Club Moss *Lycopodium inundatum*, recorded in this locality some fifty years ago, has not been noted by present-day botanical enthusiasts.

The Lesser Dodder *Cuscuta epithimum* parasitic on low-growing shrubby plants, makes its appearance year after year, usually on the Dwarf Furze.

Near the village, the rosy-purple spires of the Rose-bay *Epilobium angustifolia*, make a special splash of colour, although this fast-spreading Willow-herb is not yet as plentiful here as on some other local commons.

A few yards inside the wood which borders the Common on the South, the fragrant Lily-of-the-Valley *Convallaria majalis* is established, but it seldom produces many blossoms.

Before one leaves the sunny Common for the cool depths of the Forest, many other plants, both common and less common

will reward the observer. Among these is the Common Cow-wheat *Melampyrum pratense*, which is probably a semi-parasite like its near relation the Yellow Rattle *Rhinanthus crista-galli*, Devil's-bit Scabious *Scabiosa succisa* with its compact round heads of bluish-purple florets is frequent and some of the many Hawkweed sub-species *Hieracium umbellatum* and *H. sabaudum*, for instance, may be noted, also the tiny Bird's foot *Ornithopus perpusillus*.

A favourite approach to Pamber Forest from the Common is through a stretch of marshland. Among the many typical marsh-plants growing here in their appropriate season are the Great Valerian *Valeriana officinalis*, Sneezewort *Achillea ptarmica*, Dropwort *Cenanthe fistulosa*, Lesser Spearwort *Ranunculus flammula*, Ragged Robin *Lychnis flos-cuculi*, Procumbent Apium *Apium nodiflorum* and two Veronicas, Marsh and Water, *V. scutellata* and *V. Anagallis aquatica*. *V. scutellata* is very unlike the typical members of this genus, and might easily be overlooked as the flowers are small, white, and soon fall. A delightful sight a few years ago was a number of the graceful Butterfly Orchids *Habenaria virescens* growing among the lush grass; they also occur along the grassy rides of the forest itself.

The forest itself is mainly composed of Oak *Quercus robur*, with Birch *Betula alba*, Alder *Alnus glutinosa*, Sweet Chestnut *Castanea sativa* and plantations of Scots Pine *Pinus sylvestris*. A fine avenue of Douglas Firs *Pseudotsuga* has been planted. The Alder Buckthorn *Rhamnus frangula* occurs sparingly. It may easily be distinguished from the chalk-loving Cathartic Buckthorn *R. cathartica* by its toothed leaves and less thickly-clustered berries which turn red before they finally become black. There are many fine individual specimens of *Quercus robur*. In Spring, where clearing has taken place, the ground is carpeted with Anemones, Primroses, Violets and other early flowers. Later in the year the grassy rides are bordered with Devil's-bit Scabious, Wood Betony *Stachys betonia*, Common Melampyrum and Saw-wort *Serratula tinctoria*. This latter member of the great Composite Family is not very frequent locally.

The Purple Molinia or Moor Grass *Molinia caerulea* is a very common grass both in the Forest and on the Common, where it occurs in company with the Rush *Juncus effusus* and the Jointed Rush *J. articulatus*. It is not particularly handsome but it is

noticeable as it flowers late in the Summer when the majority of grasses are past their flowering stage.

As may be expected, the Rose-bay known as "Fireweed" in North America, is establishing itself wherever burning has occurred in the Forest. This introduced plant is figured in Sowerby's "English Botany", but it was comparatively scarce until recent years. The increase in heath and woodland fires has resulted in its abundance in many districts. It is one of the first plants to spring up in recently burnt ground.

Before leaving the district of Silchester and Pamber, the observer may visit the site of the ancient Roman city of Calleva Atrebatum. Here may be found plants which are probably the descendants of those which flourished there in the first four centuries A.D. A study of the collection of seed and plant remains from the Silchester Pits made by A. H. Lyell, Esq., F.S.A., during the late nineteenth-century excavations reveals that very many of the species mentioned in this paper are represented. The handsome Umbellifer, Hemlock *Conium maculatum*, still flourishes just outside the ancient wall, and doubtless some of the weeds of cultivation which the Romans are said to have introduced may still trouble the twentieth-century cultivator of the soil.



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