The Reading Naturalist

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THE READING NATURALIST

No.16 for the Year 1962-63

The Journal of
The Reading and District Natural History
Society

1964

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EDITORIAL

The tardy appearance of the last number of the Reading Naturalist was due, as most Members know, to very considerable difficulties on the production side. We have tried to overcome them this year. Time must show whether we have succeeded.

Our publication date of March was chosen to make records of one season available for the next. This appears to allow almost six months in which to prepare the Journal, but in practice this time dwindles alarmingly. Most people in the production chain have periods when professional duties or other commitments exclude all else, the spare time of all is limited, the Christmas period and its postal irregularities cause delays, and illness is rife in winter. Furthermore, one person out of action may lead to a general break-down of arrangements. These are problems for the Sub-Committee, but there is one stage at which everyone is concerned. The season ends in early October, and by mid-November the Recorders should have completed and passed on their Reports. They cannot even start, however, until they receive the records, and many people forget to send them in promptly. We therefore strongly urge everyone to make a note, now, to do this immediately after the last summer meeting -- and to act on it when the time comes.

We are very grateful to all who have helped with this number by contributing or in the actual work of production, to the Director of the Museum and Art Gallery, Mr. T.L. Gwatkin, for allowing us production facilities, and to the Cultural Committee of the Reading County Borough Council for a generous grant towards the cost of the Journal.

NOTICE TO MEMBERS

Members are invited to submit original papers and general observations not suitable for inclusion in the Honorary Recorders' Reports to the Editor.

Contributions should be typed, with double spacing, or, if this is quite impracticable, written clearly and legibly with widely spaced lines.

Scientific names in records for the Honorary Recorders should be written very plainly or printed in block capitals. For botanical records, the nomenclature of J.E. Dandy should be followed, and the author for each species included, where possible.

Latest dates by which matter should be submitted

Records for the Reports (to the Honorary Recorders) and General Observations (to the Editor)	As early as possible in October
Original papers	The beginning of October. Prior notice would be helpful.

MEETINGS, EXCURSIONS AND ATTENDANCES, 1962-63.

The winter programme opened with the Annual General Meeting, at which Mr. J.F. Newman gave his Presidential Address on "Measurements in Biology" (46). Two Members' Evenings were held (54 and 55), and another evening was devoted to nature films (37). Lectures were given at the remaining meetings. The lecturers, with their subjects, were Mr. B. Loughborough, on "Patterns in Landscape" (29); Sir Shane Leslie, on "American Big Trees and Rare Birds" (56); Dr. Phyllis M. Cartwright, on "Some Crops and Plants in Southern Rhodesia" (17); Dr. Hora, who kindly gave a highly entertaining lecture on fungi at short notice (36); Mr. T.J.H. Homer, on "Survival Methods adopted by British and Foreign Lepidoptera" (28); and Dr. P.D. Wood, on "The Earliest Fields in Berkshire" (41).

The summer field excursions were as follows:- April 6th, Streatley, for archaeology (26); April 20th, Theale gravel pits, for birds (2); May 4th, Stratfield Saye, for fritillaries (at least 50); June 1st, Crown Lands, Bracknell, conifers and general interest (20); June 12th, Fair Mile, via Kingstanding Hill Corner, for birds and plants (30); June 22nd, Pamber Forest, for entomology (about 15); July 3rd, Burghfield gravel pits, for freshwater life and plants (8); July 13th, Pangbourne to Theale, for geology (about 12); July 24th, Hazeley Heath, for plants (7); August 14th, Emmer Green to Play Hatch (6); August 24th, Bucklebury Common, for plant galls (25); September 7th, Peppard, a woodland walk (16); September 21st, Kingwood Common, Fungus Foray (about 50); October 5th, Southlake, Earley, for birds and fungi (4). The excursion to Stanford Dingley, Jennett's Hill and the Blue Pool arranged for August 3rd was cancelled owing to heavy rain, but the five stalwarts who turned out visited the Museum of Rural Life instead.

Winter walks and excursions were held on November 3rd (6-8); December 1st (11); January 5th, a visit to the Museum of Rural Life (19); February 2nd (6); and March 2nd, when the Eversley Wild Fowl Trust was visited (about 20).

On May 19th, in the National Nature Week, the Society laid a Nature Trail at Finchampstead Ridges, by kind permission of the National Trust. An account of this highly successful venture appears elsewhere.

The Young Naturalists' Evening, attended by about 700 children, was held in the Town Hall on March 20th. The members of this year's panel were Professor T.M. Harris, Mr. Robert Gillmor, Mr. Michael Hardy and Mr. Brian Baker, with Mr. W.A. Smallcombe as Questionmaster. Eight prizewinning questions, from the record number of 759 submitted by pupils from Reading schools, were selected. The Right Worshipful the Mayor of Reading, Alderman E.C.E. Barrett, presented the prizes, and the film "River of Life" was screened. The prizewinners were:- Pamela Jenkins, Alfred Sutton Girls' School (17½ yrs); Susan Mann, Abbey Junior School (11½ yrs); Jillian Fortune, Southlands Girls' School (17 yrs); David Lee, The Grove Secondary School (12 yrs); Susan Williams, Abbey Junior School (11 yrs); Mark Baker, Battle Junior School (10 yrs); Philip Wheeler, Manor Junior School (10½ yrs); Clare Ager, St. Joseph's Convent Preparatory School (11 yrs).

Publication Received

Journal of the North Gloucestershire Naturalists' Society.

THE NATURE TRAIL

The first visit of the representatives of the Reading Natural History Society to Finchampstead Ridges, where the Nature Trail that was to be the Society's contribution to National Nature Week, was to be held, was on 30th March, a bleak wet Saturday. The Honorary Secretary of the local committee of the National Trust, the Rev. M. Tarbet, kindly showed us the area and we formed our preliminary impressions of the features that we could point out to visitors. A second visit was made on 4th May, when details were planned. Then posters to mark the various points of interest and leaflets giving information about them, to be handed out to the visitors, were prepared.

We were very lucky with the weather on the actual day of the Trail, 19th May. At 9 a.m. the working party arrived, including a group of boys from Forest Boys' Grammar School, who helped with the transport of the poles and posters. At 10.45 a.m. the last post was being driven into the ground, and we were ready to receive our visitors. On top of the Ridges it was cold because of the wind, but down in the valley, where most of the trail was laid, it was warm and pleasant.

Our first visitors arrived before 11 o'clock, the official time for the trail to begin, and by lunch time we had had about 150 people. It was not until about 3 o'clock that we really became active, and then parking places were few and far between on the road. We lost count after this, but several hundred people must have completed the circuit. The outstanding event of the afternoon was undoubtedly the arrival of 28 crossbills, which exhibited themselves on a dead conifer tree and even visited the trees over our display table. Only half an hour earlier, one of the helpers had been asked whether crossbills were ever seen in the district. The family party of squirrels gave colour to a post marking a squirrel's drey, and the blue-tits feeding their young in a hole over a moss exhibit appeared not to be disturbed by the interested onlookers.

Popular points on the trail were Mr. Price's tanks, not to mention Mr. Price himself, who was knee deep in the Spout Pond. The moths which Mr. Baker had placed on a tree trunk to illustrate protective coloration kept visitors busy as they tried to find them. One man returned to our table after he had completed the trail, and remarked upon the fact that he would never have thought that there were over three hundred kinds of mosses in England. When asked who had told him this he said - "That man sitting in the ditch down there". We can only assume that this was none other than our President, Dr. Watson, who, like so many other members of the Society, kindly turned up to man the posts in the morning and afternoon and to explain to the visitors the various points of interest.

The beautiful map drawn by Mrs. Newman, and afterwards displayed at the National Trust meeting at Finchampstead, was a worthy introduction to the trail. It is impossible to thank all the helpers for the work which they put in, both on May 19th and before that date, but the undoubted success of the venture would suggest that this is an experiment which is worth repeating in future years. Our only disappointment was the rather meagre contribution put into the National Trust box at the end of the trail. We would like to thank Mr. Tarbet for his help, and the National Trust for allowing us to use The Ridges for our trail.

CHILTERN RESEARCH COMMITTEE

The Chiltern Research Committee investigated another approach to the collection of information for their Chiltern Beechwood Survey in 1963. Cards, similar to those circulated for the Cambridge B.S.B.I. Distribution Maps Scheme in the 1950s, but listing plants which may be found in the Chiltern Beechwoods, were printed. These cards have been much more successful than the enquiry sheets, which required rather more detail than the majority of people felt capable of giving. Before the cards were more than one month old, exciting new records were made. Daphne mezereum was found in a Chiltern Beechwood — not just one plant, but several. For obvious reasons this locality must be kept secret. In sites near Salisbury, no sooner were plants of this rare shrub discovered than they were removed for someone's garden. Another interesting find was Anaphalis margaritacea. This is normally found in South Wales, or the extreme west of England, but the small colony of plants is flourishing in its Chiltern home. These two finds show that there is still plenty to discover in the countryside near to our homes. In 1964, we are linking birds of the Beechwoods with the plants and lists are also available for them. If anyone is interested in carrying one of these cards in their pockets when they go for a walk in a Chiltern Beechwood, will they please send a stamped addressed envelope to Mrs. V.N. Paul, Overdale, Peppard Common, Oxon.

MEASUREMENTS IN BIOLOGY

A summarised version of the Presidential Address, November 1962

By J.F. Newman, B.Sc. F.R.E.S.

For most people an interest in natural history begins by getting to know how to identify and name animals and plants. This is a limited interest, and in due course one progresses to making observations on their size, numbers and distribution, both in time and space. The aim of this address is to show some methods of making such observations, and to indicate some of the pitfalls which may exist in the interpretation of the figures obtained.

The distribution of animals or plants is often indicated on maps by the use of dots, each dot representing a record of the observation of one or more individuals. Such maps are accurate only if the intensity of search is the same over the whole area; otherwise such a map may indicate the distribution of observers rather than of the observed.

The number of animals, and particularly of those which are difficult to observe, are often estimated with the help of traps. It is important to realise that traps are often selective in their catching. Catches of flying insects in sticky traps are affected by the wind, pit traps tend to catch more active insects than slow moving ones. These effects are illustrated by data for catches of tse-tse fly in Africa, where extensive studies have been made. One kind of trap tends to catch more females than males, and the difference varies at different times of the year.

It may be quite difficult to appreciate the way in which one's observations are biased, and how this bias can lead to absurd conclusions. If we look at data on a series of biological events - the first hearing of the cuckoo, the flowering of the

horse-chestnut or the arrival of the swallow - and classify these events according to the day of the week, we find, for example, that the cuckoo shows a tendency to arrive at the week-end. This false conclusion arises from the fact that the observations are biased - more people are out in the country at the week-end and are more likely to hear the cuckoo at this time. This result is what the statistician calls a spurious correlation, and it is evidently most important to make sure that one's observations are not biased when correlating two sets of figures.

The scatter diagram is useful when investigating the possibility of correlation between two sets of data. If we plot the performance of individuals in intelligence tests against the numbers of their front doors, we find that the points are scattered at random over the graph paper; there is no evidence of any relationship. If, however, we plot the yield of wheat over a period of years against the rainfall in those years, the dots show a definite grouping, and it is clear that the yield of wheat is related to the amount of rain. Another illustration is provided by figures for the first leafing of the oak and the ash over a period of nearly 200 years. Here again there is a clear relationship - when one is late the other tends to be late as well. Over this period, the oak is the earlier more often.

In considering observations on any particular physical characteristic of a species, we are often interested in the way in which the individuals vary in this characteristic. If, for example, we record the height of a number of men, we find that most are of medium height, a few are short, and a few are tall. On plotting the numbers of men in a particular height group against the groups, we obtain a bell-shaped curve. This shape is known as a normal curve and is of common occurrence in biological observations on variation.

Sometimes, on plotting data in this way one obtains a curve with a double hump This indicates that the population may not be a uniform one - perhaps two species are involved instead of one, or two different stages in the life-history are present. This method may be used to distinguish between species where characteristics overlap and which are otherwise difficult to determine. The larvae of the mosquitoes Anopheles stephensi and An. superpictus are very similar. If measurements are made of the relative lengths of the broad and narrow portions of certain palmate hairs on a sample of larvae, and if these measurements are then plotted in a frequency distribution diagram, it is clear that while this characteristic overlaps between the two species, the maxima occur at different places, giving a two humped curve. This enables us to identify any particular sample of larvae as one species or the other, or as a mixture. A similar technique can be applied to a sample of insect larvae of mixed ages. If measurements are made of the sizes of some fairly rigid part of the animal - e.g. the head capsule-width-plotting these observations in a frequency distribution will give a curve with as many peaks as there are larval stages.

CONGRESS OF THE SOUTH-EASTERN UNION OF SCIENTIFIC SOCIETIES, 1961

A one-day Congress will be held at the London Zoological Gardens in September, 1964, at which there will be two lectures in the morning and a conducted tour in the afternoon. The actual date of the meeting was not fixed at the time of writing, but further information will be available from our Secretary, Mrs.Fishlock.

The Congress in 1965 is to be at Folkestone from 7th to 9th May.

Weather Records in 1963

By A. E. Moon

The data refer to Reading University Meteorological Station. A "rain day" is a day on which rainfall equals or exceeds 0.01 in. The averages for temperature refer to the period 1921-50, those for the amount of precipitation and number of rain days to 1916-50, and those for sunshine to 1921-50. For the designation of frost and ground frost days see Weather Records in 1961.

STATION - READING UNIVERSITY HEIGHT ABOVE SEA LEVEL - 148 FT.

YEAR 1963

		JAN	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	YEAR
MEAN DAILY TEMPERATURES °F	D.B.													
	W.B.													
	MAX.	32.7	36.7	50.5	56.6	60.5	68.6	69.6	66.8	64.1	58.4	53.2	41.6	55.0
	MIN.	24.0	27.6	37.5	42.2	44.3	51.9	52.7	52.2	49.6	46.8	42.3	32.3	42.0
	MEAN	28.3	32.1	44.0	49.4	52.4	60.3	61.1	59.5	56.9	52.6	47.7	36.9	48.5
	RANGE													
	GRASS MIN.													
EXTREME TEMPERATURES °F	E.MAX.	41	48	61	67	81	81	83	77	76	70	63	50	83
	DATE	26	28	14	28	31	9	30	1	15	12	10	29	June 30
	E.MIN.	9	20	25	30	36	46	47	45	43	40	30	20	9
	DATE	23	25	2	1	4	15,23	27	19,29	25	3,14	21	24	Jan. 23
	E. GRASS MIN.	5	10	16	19	29	37	37	35	33	27	22	16	5
	DATE	23	25	3	13	4,6	15,23	27	19	13	3	21	21,23,24	Jan. 23
DAYS WITH	FROST	27	24	5	2	0	0	0	0	0	0	1	13	72
	GROUND FROST	27	26	12	8	2	0	0	0	0	8	12	19	114
REL. HUM.	%													
SUNSHINE HOURS	SUM	59.9	75.1	92.3	120.9	189.7	191.3	185.8	159.4	119.4	76.4	54.4	50.8	137.54
	% POSS.	23	27	25	29	39	39	37	35	31	23	20	21	31
	DAILY MEAN	1.93	2.68	2.98	4.03	6.12	6.38	5.99	5.14	3.98	2.46	1.81	1.64	3.77
CLOUD	AMOUNT													
PRECIPITATION INS.	AMOUNT	0.89	0.41	3.50	2.43	1.24	2.69	1.55	2.79	2.14	2.01	4.54	0.83	25.02
	RAIN DAYS	9	8	19	18	14	14	14	19	13	15	24	13	180
	MAX. RAIN IN 1 DAY	0.37	0.18	0.59	0.40	0.18	0.67	0.66	0.46	0.63	0.50	0.89	0.32	0.89
	DATE	3	6	9	18	13	29	6	3	1	5	17	25	Nov. 17
	LONGEST RUN OF CONSECUTIVE RAIN DAYS	3	2	7	9	3	3	5	5	5	4	11	4	61
	LONGEST RUN OF CONSECUTIVE DRY DAYS	9	6	4	3	5	6	6	4	11	5	2	8	69
	SNOW OR SLEET DAYS	15	15	1	1	0	0	0	0	0	0	0	3	35
	DAYS SNOW LYING	31	17	0	0	0	0	0	0	0	0	0	0	48
VISIBILITY	THICK FOG 1 220 yds.													
	FOG AT 0900 G.M.T.	4	3	2	0	0	0	0	0	2	1	3	4	19
THUNDERSTORM ACTIVITY	DAYS OF THUNDER	0	0	2	1	0	7	2	2	2	0	1	0	17
	DAYS OF HAIL	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGES MEAN DAILY TEMPERATURE °F	MAX.	45.2	46.3	51.8	56.9	63.7	69.2	72.3	71.5	66.8	58.8	50.2	45.7	58.2
	MIN.	34.3	34.5	36.1	40.1	44.8	50.5	54.1	53.4	49.9	43.8	38.3	35.3	42.9
	MEAN	39.8	40.4	44.0	48.5	54.3	59.9	63.2	62.5	58.3	51.3	44.3	40.5	50.6
PRECIPITATION	AMOUNT	2.41	1.78	1.69	1.90	1.86	1.61	2.53	2.20	2.10	2.60	2.74	2.30	25.72
	RAIN DAYS	17	13	13	14	13	11	13	13	13	15	15	17	167
SUNSHINE	SUM.	52.7	70.0	120.9	156.0	195.3	210.0	192.2	182.9	138.0	105.4	63.0	46.5	1532.9
	DAILY MEAN	1.7	2.5	3.9	5.2	6.3	7.0	6.2	5.9	4.6	3.4	2.1	1.5	4.20

THE EXCEPTIONAL WEATHER OF JANUARY 1963

The following is an extract from the Monthly Weather Summary prepared by the Department of Geography, Reading University, and kindly sent to us by Mr. Moon.

"Following the cold finish of 1962, with the Christmas period (24th-26th December) the coldest recorded at the University Station, January 1963 proved to be the coldest since reliable records started at this Station in 1921, the next in line being January 1940; taking all months into consideration, February 1947 ranks as the second coldest month in the 42 years of records. The temperature figures for the three months under consideration are as follows:-

	Maximum	Minimum	Mean
January 1963	32.7	24.0	28.3
January 1940	36.3	24.3	30.3
February 1947	33.4	26.0	29.7

The lowest maximum temperature recorded in the period 1921-63 occurred on the 24th January, the figure being 22°F., though the day maximum of 21°F on the following day, masked by a rise of temperature during the ensuing night, might unofficially be credited the lowest maximum temperature yet recorded at this Station in the period 1921-63. The mean day temperature on the 24th was only 16.1°F. On the 23rd the minimum temperature of 9.5°F. was the lowest of any month since 15th February 1929 when the figure was 8.8°F. The maximum temperature of 41°F on the 26th was the highest since 22nd December 1962 and the night of the 27th-28th was the first frostless night also since 22nd December.

The snow cover amounting to 31 days in January was remarkable in that it was the longest period recorded during the 42 years 1921-63. The greatest snow depth measured in a uniform surface without drifting was 12.4 inches at 0900 hours on the 3rd. On this day also considerable freezing rain fell, which is a rare occurrence in the British Isles."

NOTES ON A SECTION OF GRAVEL IN READING

By Herbert L. Hawkins, D.Sc., F.R.S.

During September and October, 1963, an extensive and deep excavation was made near the junction of Rupert Street and Kings Road (Grid ref.: 4729/1732). Several features of interest were revealed. The excavation went right through the gravel, exposing the Chalk beneath it. The junction between the gravel and the Chalk was

very even on the north side of the hole, and came at about 11 feet from the surface. On the south side, however, it was most irregularly piped, at an average depth of only about 6 feet. It seems probable that the deep-lying, level surface of Chalk marks part of the bed of the ancient river, whereas the irregular, relatively shallow southern part indicates the valley floor that was above the saturation-level at the time.

The gravel itself was seen to be clearly, though not horizontally, stratified in lenses of, alternately, coarse pebbles and sand. The whole mass was rich brown in colour, though some of the sandy lenses were noticeably greenish. The coarse material, though mostly consisting of flints, included quite numerous pebbles of quartz and quartzite, evidently derived from the "northern drift" of the higher terraces on the Chiltern slopes. The sand seems to have been derived mainly from the Reading Beds, which must then have covered most of the surrounding slopes, especially towards the south. The whole succession, with its masses of large pebbles and lenses of finer, but still coarse, sand, indicated the activity of a powerfully flowing stream, far more vigorous than the modern Thames.

BIRDS IN THE READING AREA NOVEMBER 1962 TO NOVEMBER 1963.

A short statement by E.V. Watson,
Recorder for Ornithology.

For full information members are referred to the Reports of the Reading Ornithological Club for 1962 and (in due course) for 1963. A few words, however, on the subject of the year under review will not be out of place in our own Journal.

The exceptional winter of 1962-63 brought with it all manner of unusual incidents in bird behaviour and in local bird movements, quite apart from the heavy toll that it took of the numbers of many species. A sharp fall in the numbers of wrens, goldcrests and other species was widely noticed in the spring of 1963. Long tailed tits were scarce and green woodpeckers must have suffered on a considerable scale.

Yet the care and trouble taken by many people with bird table facilities must inevitably have saved the lives of a large number of individuals; and these would belong to a wide assortment of species. Dr. A.G. Erith reported that no less than thirteen species visited her bird table in the cold spell. They were: house sparrow, robin, missel and song thrushes, blackbird, starling, hedge sparrow, chaffinch, greenfinch, great tit, blue tit, coal tit and redwing. Other members may well have had similar experiences which they did not report. Jays were prominent just outside Senior Common Room lounge on the main (London Road) site of Reading University during January; and a cock pheasant was foraging within fifteen yards of our back door at Little Court, Cleeve, on the morning of January 20th. Sir John Wolfenden drew my attention to fieldfares just outside the windows of his (London Road) office and numerous observers noted redwings in the middle of the town. A female golden-eye on the Thames at Pangbourne on March 3rd was symptomatic of the influx of less common duck which the river receives at times when

still waters are frozen over.

Dr. Erith has mentioned the interesting point that greenfinches quickly learned to hang on to the fat or to the cylinder of pea-nuts which she put out, and were almost as successful in this as the tits themselves.

A Natural History Society bird excursion on April 20th was quite fruitful despite poor conditions. Five or six yellow wagtails, in all the bright canary yellow of their nuptial plumage, were seen at Theale Gravel pit, where a Grey Wagtail also happened to be present, beside the weir. Swallows and sand martins were over the water in hundreds. Sedge warblers had returned to the marshy places. An uncommon visitor to the area was a single cormorant.

On April 21st a nightingale began to sing in an overgrown garden 300 yards from my house at Cleeve and it continued to do so for three and a half weeks. This event was without parallel in recent years in our particular dry chalk valley. In May a general awareness of the collared doves in the Forbury Gardens found expression in the local papers, when it also became clear that these unobtrusive birds had been frequenting the gardens for longer than any ornithologist had suspected! Mr. H. Carter, of the Reading Museum, has kindly supplied me with the following note: "This bird was first seen wild in Britain (apart from a doubtful record in 1953, probably an escaped captive) in Norfolk in 1957. This was the culmination of a spectacular extension of its range during the present century. Previous to 1900 the species was virtually absent from Europe; it is now a resident of all Central Europe from the Rhine to the Baltic.

The first local report, unfortunately not confirmed by an experienced observer, was from Peppard in 1958.

As far as I know, no well-authenticated observation was made until I saw a group of 5 in the Forbury on 23rd April 1963. Enquiries indicated that the birds had been present, but overlooked by ornithologists, for some time, perhaps as much as two years. This summer they bred successfully, and 16 were seen together. My last observation was on 23rd September 1963. The bird is not migratory in the true sense, and I still hope to locate its winter feeding grounds in this area."

Mr. Carter subsequently informed me that he counted a flock of 20 beside Marsh Land (leading from the Henley Road towards Sonning Eye gravel pits) at 1.30 and again at 2.30 p.m. on November 13th.

Mrs. John Major, a new member, informs me that she saw one in Craven Road during the first week of May. It was at 20 yards' range and a mistaken identification can be ruled out.

The month of May also saw crossbills "in the news", for they were present in numbers (c. 27 in all) among pines at Finchampstead Ridges on the occasion of the N.H.S. Nature Trail at that site on May 19th. Mr. Carter has drawn my attention to other records of this species - going back to September 1962, and to these I can add a party of about six which habitually visited the garden and bird bath of Dr. P.F. Holt at Basildon in the autumn of 1962 and came again during the present year. All these numerous records originated from an invasion of European Crossbills into Britain, on a big scale, in 1962.

Few records of breeding species have come to me. Mr. Carter, however, mentions a pair of House Martins in Kenilworth Avenue which reared a brood of four young, one of which had pure white plumage throughout. One parent had a white neck patch. In a second brood again a single nestling was an albino. The genetical explanation of this phenomenon would be simple if one supposes this to be a chance instance where two birds have mated both of which are carrying, concealed, a factor for albinism. Of sand martins in central Reading Mr. Carter writes: "Last year I came across a colony (if 3 pairs can be dignified with the term) of these birds nesting in drainpipes at the side of the Kennet, under the King's Road car park. This summer they failed to reappear, no doubt because building operations were in full swing overhead. At least one pair, however, found a home in a similar site rendered vacant by the demolition of Abbey Mills. As the two localities are so close together, it is possible that these were some of the same birds."

The same observer reports that the Chiltern escarpment at Swyncombe seems to have been deserted by stone curlews because the favoured area has been ploughed up and sown with barley.

After having seen nothing of the wood warbler in the Reading district for many years, I was pleased to find one in full song in a low-lying well timbered part of Mortimer Pickling Yard on May 31st. I was also interested to see a woodcock (presumed nesting) cross the Woodcote road as I drove through Abbots Wood on the evening of June 6th. A hoopoe which seems definitely to have visited a garden in Theale in late April (strutting in full view on the lawn) was not seen by any ornithologist. A remarkable windfall was a spotted crake that was found dead on 12th September just outside the Town Hall.

Swallows were about well into October this year, but a visit to Theale and Aldermaston Wharf gravel pits on October 2nd showed no trace of yellow wagtail or sedge warbler. It was odd that so late in the season a young great crested grebe should still be in the 'striped-head' stage. Chiffchaffs were still in song. On October 27th I first heard fieldfares flying over my garden at Cleeve, their 'chuck-chuck' calls muffled in the autumn breeze - a sight and sound always associated in our minds with the fall of leaves against a leaden, wintry sky.

THE RECORDER'S REPORT FOR ENTOMOLOGY 1962 - 1963

By B.R. Baker

Order Odonata (Dragon-flies)

The following records relate to species observed at Ascot Place, Berkshire, and have been submitted by Mr. W.M. Bunce, (the habitat has been described in Reading Naturalist No.14, 1962).

Coenagrion puellum (L.) Common Coenagrion

First noted on 7th June in some quantity, numbers dwindling by 17th July. Less common than in 1962.

Ischnura elegans (van der Lind.) Common Ischnura

Appearing by 31st May and numbers building up by 7th with a good continuance until 3rd July.

Erythromma najas (Hans.) Red-Eyed Damsel-fly

Specimens active on western edge of lake on 7th June - mating and oviposition on Potamogeton natans observed. Species identification confirmed from captured specimen.

Aeshna grandis (L.) Brown Aeshna

Observed several times between 17th July and 14th September.

Aeshna cyanea (Muell.) Southern Aeshna

Infrequently observed in mid-September.

Aeshna juncea (L.) Common Aeshna

Seen in close-ups on 10th, 11th and 12th October. Pair (probably this species), observed mating, rising high into the air and carried away by westerly breeze.

Libellula quadrimaculata L. Four-spotted Libellula

Fairly common for a short season, being first observed on 7th June.

Orthetrum cancellatum (L.) Black-lined Orthetrum

First observed on 23rd June (a male), with sporadic occurrences up until 17th July.

Anax imperator Leach Emperor Dragon-fly was not observed at Ascot Place this year. (It was present in its usual good numbers at Wokefield Common when our Junior Section visited this locality on 15th June).

Order Orthoptera (Grass-hoppers and Crickets)

Tetrix undulata (Sowerby)

This unobtrusive little insect was noted in some quantity among oak litter on the occasion of the Junior Section's excursion to Wokefield Common on 15th June.

Order Hemiptera (Plant Bugs etc)

Reduvius personatus (L.)

A specimen of this interesting bug was attracted to mercury-vapour light at Pamber Forest on 19th July. It is a predaceous insect and has been known to attack man, inflicting severe pain. The normal prey consists of other insects (often Cimex lectularius L. Bed-bug), - this explains the well known occurrence of this species in houses.

Order Mecoptera (Scorpion-flies)

Panorpa germanica L. Common at Pamber Forest, 20th July. There are only three species of Panorpa known to occur in Britain - all three occur in our district. The males have a pair of formidable forceps at the tip of the abdomen which is held curved over the preceeding segments in the manner of a scorpion.

Order Lepidoptera (Butterflies and Moths)

After the severe winter of 1962-63 it seemed reasonable to hope that the following summer might be a favourable one for that most popularly studied group of insects, butterflies and moths. It is a well known fact that insects generally fare better during a hard winter than in a mild, damp one when predation of the over-wintering stages can go ahead unhampered by frozen ground. However, Lepidoptera appeared to have a less than average year despite the freezing treatment tolerated during the winter months. In 1947, following an extremely severe winter, migrant Lepidoptera visited this country in large numbers - the year 1963 however was without doubt a very poor 'migrant year'. The only notable record for our district was one for the Vestal Moth, Rhodometra sacraria (L.), observed at Medmenham in mid October (T. Harman). The Red Admiral butterfly, Vanessa atalanta (L.), was not recorded at all from our area and the only specimen that the Recorder saw was at Amesbury, Wiltshire on 9th October.

Notes on Resident Species

Polygonia c-album (L.) Comma Butterfly

Noted out of hibernation on 14th March., (Mrs. Phillips). On 31st August, a specimen feeding on rotten plums in a Reading garden (Miss L.E. Cobb). Later in the autumn this species was a regular visitor at the michaelmas daisies in the recorder's garden, 4 specimens frequently being seen in close proximity to each other.

Aglais urticae (L.) Small Tortoiseshell butterfly

On 15th March, a specimen which had been hibernating on a bedroom wall all winter was noticed to have taken up a new position lower down on the wall. On 16th March it left the house.

Gonepteryx rhamni (L.) Brimstone butterfly

The 16th March was a very favourable day for the reappearance of this hibernator and this bright yellow species was observed flying in Berkeley Avenue (C. Allum).

Apatura iris (L.) Purple Emperor butterfly

A specimen observed flying round the tops of tall sallows at Pamber Forest, 27th July.

Odontosia carmelita (Esp.), Scarce Prominent

2 specimens, Padworth 24th April; 1, Padworth 4th May. Several to mercury vapour light near Medmenham in late April (T. Harman).

Ptilophora plumigera (Schiff.) Plumed Prominent

This speciality of the Chilterns was recorded from a new locality near Fawley Bottom, Bucks on 9th November (10 specimens to light between 8 and 9 p.m.).

Apatele alni (L.) Alder moth

8 specimens to light at Pamber Forest on 7th June; further specimens noted the following week (T.J. Homer & T. Harman).

Rhyacia simulans (Hufn.) Dotted Rustic

Noted 4 times near Faringdon, (M. Corley). These would appear to be the first recorded Berkshire specimens.

Spaelotis ravida (Schiff.) Stout Dart

A very uncommon species, of uncertain appearance - recorded near Faringdon (M. Corley).

Polia tincta (Brahm) Silvery Arches

Larvae plentiful after dark feeding on birch buds and young leaves; Wokefield Common, 20th April.

Phalaena typica L., The Gothic

Woolhampton, 3rd and 17th September; at Henley, 20th July (T.J. Homer).

Oria musculosa (Hbn.) Brighton Wainscot

This species, which has its headquarters in the wheatfields of Salisbury Plain, has steadily been spreading northwards from that area over the past 15 years; it has been recorded from the Kennet valley in recent years and a specimen was taken at Woolhampton on 12th August (T.J. Homer).

Caradrina ambigua (Schiff.) Vine's Rustic

Formerly regarded as a purely maritime species, now recorded from several inland stations. Recorded from Medmenham, Bucks in 1961 and from Henley, Oxon, 20th and 24th September, 1963. (T. Harman and T.J. Homer).

Gypsitea leucographa (Schiff.) White Marked moth

Recently discovered to have a good centre in the Chilterns. Present in some quantity at sallow bloom between Henley and Medmenham on 17th April.

Plusia chryson (Esp.) Scarce Burnished Brass

Fully fed and three quarter grown larvae found by searching hempigrimony at Thatcham, 26th May and 1st June.

Trisateles emortualis (Schiff.) The Olive Crescent

Again noted from the Chilterns in late June and early July. This species, only rediscovered in Britain in 1962 after a gap of over 100 years was little investigated this year once its presence in the Chilterns was again confirmed.

Parasocotia fuliginaria (L.) Waved Black

This interesting little moth whose known distribution in Britain appears to bear a relationship to the range of the Bagshot Sands has once been recorded from the Kennet valley at Woolhampton (9th August, 1958). It was thought that the Woolhampton specimen might have resulted from the accidental introduction of the larva

in a consignment of cut logs bearing bracket fungi, various species of which form the foodplant. However, on the night of 1st June 6 larvae of fuliginaria were found at Woolhampton, the foodplant in this instance being the lichen Cladonia fimbriata L) Fr. These might have resulted from an earlier accidental introduction of the species as suggested above, but an examination of similar habitats further westwards in the Kennet valley might produce fresh evidence for solving this interesting problem.

Cosymbia annulata (Schulze) Maple Mocha

10th June, a single specimen from Pamber Forest (T.J. Homer)

Lobophora halterata (Hufn.) The Seraphim

14th May; 30th May, Henley (T.J. Homer).

Anagoga pulveraria (L.) Barred Umber

7th June, 10th June at Pamber Forest (T.J. Homer)

Dipsosphecia scopigera (Scop.) 6 Belted Clearwing

Adults obtained by sweeping plants on the chalk slope at Fawley Bottom, Bucks; 26th and 27th July.

Sesia apiformis (Clerck) Hornet Clearwing

The colony frequenting the black poplars at Coley Recreation Ground now appears to be confined to only 2 of the trees. Four pupae and resultant adults observed on 13th June.

Order Coleoptera (Beetles)

The following notes are supplied by Mr. Arthur Price:

24th February. The following species were taken under elm bark at Burghfield Bridge, Reading; Bembidion quadrimaculatum (L.); Chrysolina staphylaea (L.); Rhynchaenus alni (L.); Megatoma undata (L.) Hypophlaeus bicolor (Oliv.); Clytus arietis (L.).

4th April. A specimen of Ptinus sexpunctatus Panz. was found on a text book by a boy in Redlands Primary School - a collection of buds in pots was on display in the classroom.

11th May. Approximately 200 specimens of Agabus biguttatus (Oliv.) were found in the River Pang near Hampstead Norris Station.

26th May. Haliplus lineolatus Mannerheim was found in the River Kennet above the sewage outfall at Thatcham.

3rd June. 2 specimens of Hydroporus longulus Mulsant were taken in a mossy trickle in Pamber Forest, Hants.

8th September — 6 specimens of the very uncommon Platycis minuta (F.) were submitted to me by Mr. J.H. Cole. He had found this bright red species abundantly in a rotting log in Hartslock Woods.

29th September — Whilst fishing in a temporary acid pond about a quarter of a mile due east of Wokefield Common Fish Pond 11 of the 33 British species of the genus Hydroporus (Fam. Dytiscidae) were taken on the same afternoon. The species were: H. dorsalis (F.); H. memnonius Nic.; H. neglectus Schaum; H. angustatus Sturm; H. palustris (L.); H. tesselatus Drapiez; H. nigrita (F.); H. erythrocephalus (L.); H. striola (Gyll.); H. pubescens (Gyll.); and H. planus (F.). 2 other species of Hydroporus taken previously, (H. gyllenhalii Schioedte and H. umbrosus (Gyll.), bring the total of this genus from this pond to 13. In all 33 species of Hydradephaga have been taken in this pond which dries up every year about the end of October.

The following species of water beetle in a teneral condition have been taken on the following dates in 1963:

3rd June — Hydroporus discretus Fairmaire; H. planus; and Agabus chalconatus (Panz.); all from Pamber Forest.

5th June — A. chalconatus from Ober Heath, New Forest, Hants.

22nd June — A. chalconatus from Pamber Forest

8th September — Hygrotus decoratus (Gyll.), and Dytiscus marginalis L., from the temporary acid pond on Wokefield Common.

29th September — D. marginalis, from the acid pond on Wokefield Common

6th October — Hydroporus neglectus; Copelatus agilis (F.); and D. marginalis; all from the acid pond, Wokefield Common.

Lucanus cervus (L.) Stag Beetle

Emergences were greatly in excess of numbers noted in recent years. Between 21st May and 19th July 28 males and 17 females were seen in one location at Whitchurch, Oxon; they were marked on the elytra to distinguish the sequence of emergence. On one evening, 22 were in flight at the same time, attracted to light (D. Leatherdale).

Order Hymenoptera (Ants, Bees, Wasps and Saw-flies)

Lasius fuliginosus (Latr.). Jet Ant

This species was found at Whitchurch, Oxon on 20th August (determination of species by British Museum Nat. Hist.). This is a very local ant, not believed to be recorded for the area - also of interest as possessing apparently the most painful bite of any British insect!

Urocerus gigas (L) Greater Horntail

This imposing looking saw-fly is brought to the Muesum most years, and all instances,

as far as is known to the recorder, have concerned female specimens. These large (45mm. incl. ovipositor), slow and black insects would be conspicuous on the trunks of Pinaceae in which they lay their eggs whereas the males are smaller and resort to the tree tops or to high ground where pairing takes place. Our most recent record is 22nd July (B. McDonagh, 5 Valentine Crescent, Caversham).

Sirex juvencus (L.)

A female of this striking metallic blue-black saw-fly was brought to the Museum on 14th September (Mr. C. Woodburn, Crazies Hill, Wargrave). It occurs in this country as an established alien and also as a frequent introduction in timber.

Cimbex femorata (L.) Birch Sawfly

A specimen of this infrequently encountered sawfly was brought to the Museum from Kenilworth Avenue, Reading, on 23rd May, 1963.

Order Diptera (True Flies)

Pedicia rivosa (L.)

A larva of this Tipulid was found in a peat hole at Pamber Forest on 22nd June (A. Price). The adult Crane-fly was noted from the same area by Mr. J. Cole in 1962.

Crataerina pallida (Latr.)

Several examples submitted to Reading Museum having been found on 24th June in a house in the town. These strange looking flies are external parasites of swallows, swifts and martins. Their reduced wings, leathery 'skin', well developed claws and piercing and sucking mouthparts are in keeping with the mode of life of an external, blood sucking parasite. The pupae overwinter in the nests of their hosts whilst the birds are away from this country and the resultant adults re-infest the birds on their return in the spring.

The Recorder is grateful to the members whose names appear in the report and to the Director of the Museum, Mr. T.L. Gwatkin, for permitting inclusion of the Museum records.

THE RECORDER'S REPORT FOR BOTANY, 1962-63

By A. M. Simmonds

The early months of 1963 will long be remembered for the weeks of frost-bound conditions in field and garden. It seemed indeed that spring would never come. Arum maculatum L. (Wild Arum), whose leaves are usually pushing through the bare earth on New Year's Day, was not seen until March 10th, and although I saw my first Hazel catkins along the Lower Warren on March 6th, it was at least a week later before Corylus avellana L. was really shaking out its lambs-tails. March

5th brought the warmest night since December 21st, and that afternoon Galanthus nivalis L. (Wild Snowdrop) was seen in bloom in a copse near Aborfield, and in a few days yellow Crocuses were rapidly pushing through their welcome flowers in town gardens. Ranunculus ficaria L. (Lesser Celandine) and Tussilago farfara L. (Coltsfoot) followed and the abundant, though late, flowering of both these "early" spring species was especially notable in April. In parks and gardens, trees and shrubs, especially evergreen species, suffered from the prolonged frosts. On the Downs, many branches of trees and shrubs were either stripped of their bark by small mammals, or the ends of twigs had been nipped off completely. As the year advanced, Ulex europaeus L. (Common Furze or Gorse) was observed to be greatly affected by the earlier severe weather. Some bushes were almost dead, scarcely a green twig to be seen. It is interesting to note that Gilbert White in his Natural History of Selborne comments that the frosts of the winter of 1784 killed the furze.

Our wayside trees were late in leafing, and some individual trees appeared to produce fewer leaves than usual. A theory has been advanced by some naturalists that the vast quantities of salt used on the roads during the snowy weather may have been the cause. Neither Crataegus monogyna Jacq. (Hawthorn) nor Rosa canina L. have produced much fruit, but in contrast Prunus spinosa L. (Blackthorn) has borne quantities of sloes. P. cerasifera Ehrh. (Cherry Plum), which fruits more rarely, also bore many colourful small plums, which are very palatable. Some exotic trees and shrubs, such as Cornus mas L. (Cornelian Cherry) and P. pissardii (Purple Plum), also fruited this year. It is thought that the prolonged period of consistently low temperatures followed by a fairly rapid warming up created favourable conditions for producing a profusion of flowers and fruit in many species.

Many unfamilar weeds have appeared in some members' gardens this year, due to the feeding of our feathered friends with various wild-bird seed mixtures. This, however, could not account for the appearance of three plants of the rare Pulicaria vulgaris Gaertn. (Lesser Fleabane) in my own back garden. In last year's report, it was mentioned that attempts had been made to transplant this species, which was in danger, to another suitable habitat (not my garden). In the process, it can be assumed that some seeds must have adhered to my clothing and were carried back to Reading!

Revision of the Flora of Berkshire

Work on this is continuing, and it is hoped that it may be completed in five years instead of ten as originally contemplated. The careful scrutiny of many hitherto unexplored corners of our neighbourhood has resulted in some interesting records.

The Berks., Bucks., and Oxon. Trust.

The Trust continues to keep a watchful eye on our local plant life (upon which all other life depends). There has been a noticeable increase in the numbers of Pulsatilla vulgaris Mill. (Pasque-flower), Orchis ustulata L. (Burnt-tip Orchid), Senecio integrifolius (L.) (Clairv.) (Field Fleabane), Gentianella anarella (L.) Börner (Felwort) and other typical chalk species, in the Aston Upthorpe Downs valley since the Trust secured the co-operation of the owner. It is also gratifying to report that Herminium monorchis (L.) R. Br. (Musk Orchid) and other

members of the Orchidaceae have flourished on West Woodhay Down this year since grazing has been withheld. O. simia Lam (Monkey Orchid) is scarcely maintaining its very precarious status. Very few plants (probably not more than five) appeared and of these only two flowered. These were wardened by members of the Trust during two week-ends.

Field Excursions

As might be expected, Fritillaria meleagris L. (Fritillary or Snakeshead) was late flowering, and it was the end of April before any number were in bloom. On May 4th, upwards of 40 members and friends made their way to the river-side meadow near Stanford End Mill where hundreds of the chequered nodding flowers, both coloured and white, greeted our delighted eyes. They were, literally, as plentiful as buttercups. Happily we roamed amongst them, scorning the dampness underfoot, whilst several members took photographs of this plant, which though locally abundant, is far from common.

On June 1st, Mrs. Phillips led the excursion to a part of the Crown Lands near Bracknell. It was a really hot day (one of the few) and we had a pleasant walk beneath the fine trees bordering the wide grassy rides. Genista anglica L. (Petty Whin, or Needle Furze) with its small yellow pea-flowers and inflated pods was the most exciting find.

The evening excursion to the Berkshire Downs (Fair Mile) led by Dr. E.V. Watson on June 12th enabled us to study the grass family under expert tuition. At least a dozen species were observed, of which Bromus erectus Huds. (Erect Brome) was most plentiful. This is a typical chalk species, as is also the charming little Koeleria cristata (L.) Pers. (Crested Hair-grass).

The botanists as well as the entomologists enjoyed good hunting on the excursion to Silchester Common and Pamber Forest led by Mr. B.R. Baker on the afternoon, again sunny, of June 22nd. The presence of Dr. H. Bowen encouraged the search for Carex species (Sedges), of which at least six were noted. Our leader led us to a delightful bog where the rosettes of Drosera rotundifolia L. (Sundew) shone redly. On the way we noted Dactylorchis maculata (L.) subsp. ericetorum (E.F. Linton) Vermuel (Heath Spotted Orchid), Equisetum sylvaticum L. (Wood Horsetail), Cirsium dissectum (L.) Hill (Meadow Thistle), Narthecium ossifragum (L.) Huds. (Bog Asphodel) and Salix repens L. (Creeping Willow) in fruit. Although Cuscuta epithymum (L.) L. (Common Dodder) was not yet in flower, its fine reddish leafless steams enmeshing its host plants (Calluna) were visible from a great distance. Among the young fronds of Pteridium aquilinum (L.) Kuhn (Bracken) were many young plants of Convallaria majalis L. (Lily of the Valley).

The Fungus Foray.

This took place on September 21st, a fortnight earlier than usual. The woods around Borocourt were searched in the morning, and New Copse and Kipping Hill occupied the afternoon. Dr. F.B. Hora accompanied us on both occasions. Eighteen species were added to the already lengthy list from this fruitful area, and are noted elsewhere in this Journal.

Members' Records

The following have furnished records, which are gratefully acknowledged:- Mr. H. Carter (H.C.), Miss L.E. Cobb (L.E.C.), Mr. M. Fletcher (M.F.), Mrs. W. Fulford (W.F.) Mrs. P. Hawkins (P.H.), Mrs. E. Hodgson (E.H.), Mr. J. Hodgson (J.H.), Mr. B. Kemp (B.K.), Mrs. V.N. Paul (V.N.P.), Mrs. V.A. Phillips (V.A.P.), Dr. E.V. Watson (E.V.W.) and Miss J.M. Watson (J.M.W.). Their initials are appended to their records. The nomenclature and order is according to 'A List of British Vascular Plants' by J.E. Dandy. * indicates an alien taxon, i.e., one known or believed to have been introduced by the agency of man.

Adiantum capillus-veneris L. (Maidenhair Fern). On Sonning Bridge. Confirmed by Dr. H. Bowen. Plants have since died. It is thought that the spores may have come from material in the churchyard (M.F.).

Phyllitis scolopendrium (L.) Newm. (Hartstongue Fern). Young plants on Borough Bridge (L.E.C.) and on walls at Sonning (M.F.). This species is not common locally and seldom attains maturity.

Asplenium adiantum-nigrum L. (Black Spleenwort). Borough Bridge (L.E.C.)

A. trichomanes L. (Common Spleenwort). One plant on an old wall at Wargrave; old wall at Medmenham. Uncommon locally (A.M.S.).

A. ruta-muraria L. (Wall-rue Spleenwort). Borough Bridge (L.E.C.); Sonning Bridge (M.F.).

Polypodium vulgare L. (Common Polypody). Old walls at Sonning (M.F.).

P. interjectum Shivas. Wood near New Mill, Eversley (A.M.S.).

Ophioglossum vulgatum L. (Adderstongue Fern). Near Aston Tirrold cross-roads, an unusual locality (A.M.S.).

Aquilegia vulgaris L. (Columbine). Bix Bottom, on opposite side to its usual place (V.N.P.).

Fumaria muralis, ssp. boraei (Jord.) Pugsl. (Rampant Fumitory). Hedgerow near New Mill, Eversley (A.M.S.).

F. micrantha Lag. Garden weed, Cleeve (E.V.W.).

* Diplotaxis muralis (L.) DC (Stinkweed). Station car-park (L.E.C.).

* Rapistrum rugosum (L.) All. Waste ground near Barkham Ride (A.M.S.).

* Lepidium ruderale L. (Narrow-leaved Cress). Garden weed, Reading (W.F.); Reading tip (J.H.).

* Coronopus didymus (L.) Sm.(Lesser Swine-cress). Reading tip (A.M.S.).

Erophila verna (L.) Chevall. (Whitlow Grass). Norcot (E.H.); Woodley; and near Twyford (A.M.S.).

* Cheiranthus cheiri L. (Wallflower). Old Walls, Sonning (A.M.S.).

* Sisymbrium orientale L. (Eastern Rocket). Theale (J.H.).

Viola canina L. (Dog Violet). In a heathy meadow between Pangbourne and Sulham (J.H.). This is the true Dog Violet, and was thought not to occur in Berkshire. Determined by Prof. Valentine.

Hypericum x destangsii Lamotte. This is the hybrid between H. maculatum Crantz and H. perforatum L. Two different forms at Hazeley Heath and Padworth Gulley (A.M.S.). It is said to occur in the absence of both parents, is fertile, and can be puzzling. We have yet to get a recent local record for H. maculatum.

H. montanum L. (Pale St. John's-wort). Dark-lane Copse, Bradfield (J.H.); Ashampstead Common (A.M.S.).

Silene gallica L. (Small-flowered Catchfly). Cornfield near Tutts Clump (A.M.S.). The previous recent local record was from N. Hants in 1960.

Cerastium arvense L. (Field Mouse-eared Chickweed). Near Wargrave (A.M.S.); Juniper Valley and Fair Mile, Berkshire Downs (J.M.W.).

Minuartia hybrida (Vill.) Schischk. (Fine-leaved Sandwort). Old wall at Medmenham (A.M.S.).

* Chenopodium hybridum L. (Sowbane). Has increased at Henley Tip, after nearly disappearing in 1962 (V.N.P.).

Geranium pyrenaicum Burm. f. (Pyrenean Geranium). Canal-side, Aldermaston (E.V.W.) This species is increasing locally.

* Impatiens capensis Meerb. (Orange Balsam, Jewel-flower). Ditches in the Loddon Valley full of this plant (A.M.S.); still flowering on October 2nd on canal-bank, Aldermaston (E.V.W.).

* I. parviflora DC (Small-flowered Balsam). Wood near Checkendon (A.M.S.).

* I. glandulifera Royle (Himalayan Balsam). Pond on building site, Tilehurst (E.H.); reed beds near Ufton Nervet (per Reading Museum); New Mill, Eversley (A.M.S.).

Buxus sempervirens L. (Box). Considerable thicket in a wood near Ashampstead (A.M.S.).

* Lupinus sp. (Lupin). Escapes from Messrs. Waterer's land well established on railway bank between Henley and Twyford (M.F.).

Genista tinctoria L. (Dyer's Greenweed). Caversham Park (H.C.); Binfield (L.E.C.)

Medicago x varia Martyn (M. falcata L. x *sativa L.). One plant near Goring (J.H.).

M. minima (L.) Bartal. (Bur-Medick), M. polymorpha L. (Toothed Medick), M. arabica (L.) Huds. (Spotted Medick). These three species on market-land at Drayton St. Leonard's, Oxon. (A.M.S.)

* Melilotus indica (L.) All. (Small-flowered Melilot). Henley tip (V.N.P.). Previous record by same observer in her garden, 1950.

Trifolium medium L. (Zig-zag Clover). London Road, Charville; railway bank, Woodley (A.M.S.). Known previously only on Shepherd's Hill.

Lotus tenuis Waldst & Kit. ex Willd. (Slender Bird's-foot Trefoil). Field near Nunhide Lane (J.H.). G.C. Druce records this plant from Tilehurst.

Agrimonia odorata (Gouan) Mill. Bridle road near Hurley, with A. eupatoria L. (V.N.P.).

Rosa villosa L. (Downy Rose). Nettlebed Common. This species has beautiful deep pink flowers, followed by bristly fruits (V.N.P.).

Sorbus terminalis (L.) Crantz. (Wild Service Tree). Kingwood (L.E.C.); Red Hill, near Bradfield; Clay Copse, Emmer Green, well-grown trees (A.M.S.).

Sedum telephium L. (Orpine, Livelong). Near Bradfield; Garson's Hill; near Mongewell Woods (A.M.S.).

* Sempervivum tectorum L. (House-leek). Porch-roof, Sonning (A.M.S.).

Saxifraga granulata L. (Meadow Saxifrage). Railway bank, Twyford (A.M.S.): golf links, Streatley (E.V.W.).

* Tolmiea menziesii (Pursh) Torr. & Gray (Pick-a-back Plant). Wood at Newnham Hill, Stoke Row (A.M.S.).

Ribes nigrum L. (Black Currant). Copse near Littleheath School, Tilehurst (E.H.).

Drosera intermedia Hayne (Long-leaved Sundew). Silchester Common (A.M.S.). An old record.

Daphne laureola L. (Spurge laurel). Clay Copse, Emmer Green (A.M.S.).

Scandix pecten-veneris L. (Shepherd's Needle). Grass verge, Tilehurst (E.H.).

* Bupleurum lancifolium Hornem. From "Swoop", Northcourt Avenue (L.E.C.).

Petroselinum segetum (L.) Koch (Corn Parsley). Canal-side between Theale and Burghfield Bridge (E.H.).

Silaum silaus (L.) Schinz & Thell. (Pepper Saxifrage). Between Pangbourne and Theale; Binfield (L.E.C.).

Polygonum historta L. (Bistort). Roadside near Theale (J.H.). Recorded from here some years ago.

* P. amplexicaule D. Don (Mountain Fleece). W.R.D.C. tip near Twyford (A.M.S.).

* Fagopyrum esculentum Moench (Buckwheat). Downland farm-track near Sheepcote Farm (J.H.). This species is often cultivated as food for peasants, and occasionally persists.

Rumex palustris Sm. (Marsh-Dock). One small plant near Reading tip (J.H.). Confirmed by J.E. Lousley.

Parietaria diffusa Mert. & Koch (Pellitory of the Wall). Old wall, Holme Park, Sonning (A.M.S.).

* Cannabium sativa L. (Hemp). London Road, Reading (A.M.S.).

Myrica gale L. (Bog Myrtle). Despite increased drainage at Owlsmoor, E. Berks., some healthy bushes remain.

Salix alba L. (White Willow), S. triandra L. ♂ ♀ (Almond Willow), S. purpurea L. ♂ ♀ (Purple Osier), S. viminalis L. ♂ ♀ (Common Osier). All seen near Burghfield Bridge (A.M.S.).

S. aurita L. (Golden Osier). Near Twyford. Easily recognised by its bright yellow branches (A.M.S.).

Vaccinium myrtillus L. (Bilberry). Plentiful in wood near Heath End, Hants.; sparingly at Silchester, Fence Wood, Bucklebury Common (A.M.S.).

Monotropa hypopitys L. (Yellow Bird's-nest). Ashampstead Common, sparingly; Nuney Green, Oxon., plentiful (A.M.S.).

Primula veris L. x vulgaris Huds. non Bast (False Oxlip). Chalk slope near Southridge Farm (A.M.S.).

Gentianella amarella (L.) Börner (Felwort). Abundant on chalk slopes in both Berks. and Oxon. (A.M.S.).

* Borago officinalis L. (Borage). Appears regularly on Henley tip (V.N.P.).

Cuscuta europaea L. (Great Dodder). Sonning (M.F.); river-bank near "Roebuck", Tilehurst (E.H.)., both parasitic on Urtica dioica L.; Aston Ferry, on Cirsium sp. and Urtica (V.N.P.). Our records of this species are increasing.

Hyoscyamus niger L. (Henbane). One plant in a yard in Castle Street, Reading (E.H.).

*Datura stramonium L. (Thorn-apple). Cockney Hill (J.H.); Henley tip (V.N.P.); Wargrave Cemetery; Woodley, roadside (A.M.S.).

D. s. var. tatula L., with purple flowers and purplish-green leaves and stem, Stanford Dingley (A.M.S.).

Verbascum lychnitis L. (White Mullein). Railway bank, Ruscombe (L.E.C.).

Misopates orontium (L.) Raf. (Weasel Snout). Cornfield, Sonning Common (H.C.); near Theale (L.E.C.); Gallowstree Common; Hurley: Henley tip (V.N.P.).

Linaria x sepium Allman (Hybrid Toadflax). Roadside near Wargrave (A.M.S.).

Veronica polita Fr. (Grey Speedwell). Wargrave Cemetery; Reading tip; cornfield near Binfield Heath (A.M.S.).

* V. filiformis Sm. (Slender Speedwell). River meadow at Medmenham; Thames-side Promenade, Reading, forming ground-flora with grass (A.M.S.).

Lathraea squamaria L. (Toothwort). Ashampstead; Chamber's Copse, Emmer Green (A.M.S.).

Galeopsis bifida Boenn. (Hempnettle). Building site at Tilehurst (E.H.).

Glechoma hederacea L. (Ground Ivy). Pink-flowered form at Emmer Green (A.M.S.).

Plantago lanceolata L. (Ribwort Plantain). Viviparous form at Wokefield Common (A.M.S.).

Campanula trachelium L. (Nettle-leaved Bellflower). Wargrave Cemetery; between Cleeve and Woodcote (A.M.S.).

* C. rapunculoides L. (Creeping Bellflower). Near Goring Station (established for many years): Hill's Meadow, Reading, beneath poplar trees, plant cut down (A.M.S.).

C. patula L. (Spreading Bellflower). Near Bucklebury (A.M.S.). An old record, and probably the only Berkshire situation for this plant.

Jasione montana L. (Sheep's-bit). Several plants in a gravel-pit near Beenham (A.M.S.). This is a new Berkshire locality, previous local records having been from East Berks.

Cruciata chersonensis (Willd.) Ehrend. (Crosswort). Ground flora on a strip of rough grassland at Ashampstead Common (A.M.S.).

* Centranthus ruber (L.) DC. (Red Valerian). Type and white form on railway bank at Ruscombe (A.M.S.).

Dipsacus pilosus L. (Small Teasel, Shepherd's Rod). Girder Bridge, Ruscombe, a new locality; previously recorded from Sonning (river-bank) (A.M.S.).

Succisa pratensis Moench (Devil's Bit). Pink flowered form near Hook (A.M.S.).

* Galinsoga ciliata (Raf.) Blake ("Shaggy Soldier"). Abundant at Henley tip and in the garden of Townlands Hospital (V.N.P.).

Filage spathulata C. Presl (Broad-leaved Cudweed). Chalk-pit, Henley Road, Oxon. This seems to be a new record for Oxon. Druce records F. apiculata G.E. Sm. from this locality. Confirmed by E.B. Bangerter, Brit. Mus. (A.M.S.).

* Anaphalis margaritacea (L.) Benth. (Pearl Everlasting) (V.N.P.) See report of the Chiltern Research Committee.

Chrysanthemum segetum L. (Corn Marigold). Abundant in many suitable habitats (V.N.P.).

Cirsium x forsteri (Sm.) Lond. (Hybrid Meadow Thistle). Near Yateley, Hants. (P.H.); Silchester Common (A.M.S.). Two distinct forms, and with parents (C. dissectum (L.) Hill and C. palustre (L.) Scop.) in both cases.

* Carthamus tinctorius L., a bright yellow thistle-like p lant and
* C. diluta Aiton, a pinkish Knapweed, both appeared in my garden (A.M.S.).

Picris echioides L. (Prickly Ox-tongue). Hedgerow, Burghfield (J.H.).

Taraxacum palustre (Lyons) DC (Marsh Dandelion). Marshy field between Theale and Sulham. (J.H.). Confirmed by Dr. H.M. Bowen.

Sagittaria sagittifolia L. (Arrowhead). Stream near "Flowing Spring", Sonning Lane (B.K. and V.A.P.).

Potamogeton nodosus Poir (Loddon Pondweed). R. Kennet between Burghfield and Theale (J.H.). Confirmed by Dr. Bowen.

P. crispus L. (Curled Pondweed). R. Pang at Bradfield (A.M.S.).

Groenlandia densa (L.) Fourr. (Opposite-leaved Pondweed). R. Pang at Bradfield; R. Whitewater, North Warneborough (A.M.S.)

Luzula sylvatica (Huds.) Gaudin (Great Woodrush). Frilsham Common, (A.M.S.).

* L. luzuloides (Lam.) Dandy & Willmott. Grounds of Wellington College (P.H.). One of Druce's records.

Leucojum aestivum L. (Loddon Lily). Although this species has disappeared from below Sindlesham Mill, it is growing freely near Loddon Bridge, but is fortunately inaccessible. It is also reported farther down-stream in Whistley Park Meadows (A.M.S.)

Cephalanthera damasonium (Mill.) Druce (White Helleborne). A beautiful albino plant, completely devoid of chlorophyll, at Bix Bottom (V.N.P.).

Epipogium aphyllum Sw. (The "Ghost Orchid"). See separate account.

Spiranthes spiralis (L.) Chevall. (Autumn Ladies' Tresses). Dr. E.V. Watson reports that this orchid did not appear on his lawn at Cleeve this year. There were no flowers on the other Chiltern lawn on which it grows.

Orchis morio L. (Green-winged Orchid). Old pasture, Heath End, Hants; Yattendon Estate Office drive (A.M.S.).

O. mascula (L.) L. (Early Purple Orchid). At least a hundred plants flowered in Clay Copse, which is near the Borough of Reading and easily accessible to the public. It is encouraging to note that the blooms were not picked excessively (B.K.).

Scirpus sylvaticus L. (Wood Scirpus). Damp meadow near Yateley (P.H.).

Carex pulicarius L. (Flea Sedge). This quaint little Sedge had hitherto been overlooked at Coleman's Moor, a small part of which remains undeveloped (A.M.S.).

Glyceria plicata Fr. (Plicate Sweet Grass). Marshy field between Theale and Sulham (J.H.). "Flowing Spring" pool, Henley Road (J.H. and A.M.S.).

Poa compressa L. (Flattened Meadow Grass). Talbot's Pit, Caversham (E.H.).

Hordeum secalinum Schreb. (Meadow Barley). Abundant in field near Borough Bridge (A.M.S.).

* H. jubatum L. (Fox-tail Barley). This very ornamental N. American species was growing on a newly seeded bank near Bradfield College (A.M.S.).

Calamagrostis epigejos (L.) Roth (Bush Grass or Wood Small-reed). Near an old chalk-pit at Nuney Green, Oxon. An unusual habitat as it is usually found in damp shady places and on heavy soils (A.M.S.).

Apera spica-venti (L.) Beauv. (Silky Bent-grass). One plant at Reading tip (J.H.)

FUNGI AT KINGWOOD COMMON

(Supplementary List)

At the Society's Foray at Kingwood Common on 21st September 1963, the following species, which did not figure in the previous lists for the area, published in nos. 12-15 of the Reading Naturalist, were found by members and kindly identified by Dr. F. B. Hora.

Bolbitius vitellinus

Entoloma sericeum

Hygrophorus dichrous

unguinosus

obrusseus

Marasmius oreades

rotula

Nolanea papillata

Panaeolus campanulatus

Pholiota muelleri

Otidea aurantiaca

Russula grisea

pectinatoides

pulchella

Sparassis crispa, laminate form

Tricholoma virgatum var. scioides

Mycena olida

Pluteus salicinus

GENERAL OBSERVATIONS

Nematoda

Hundreds of the nematode Mermis nigrescens were seen waving on the tops of the Esther Read daisies in the garden of 6, Mansfield Rd., Reading, on 30th June, following three days of extremely heavy rain. All the specimens examined were gravid females, which climb out of the soil in wet weather to oviposit on plants. The larvae parasitise insects, especially earwigs, When sexually mature, the nematodes leave the insects and live some 2 feet below the surface of the ground.

A. Price.

Insecta

The depth of the ice on Wokefield Common Fish Pond was checked on 3rd February, following severe weather. It was found to be 14 inches thick. The following insects emerged from the hole which had been cut in the ice: Corixa castanea (Thomson) (a lesser water boatman); Cloëon dipterum (L.) (a may-fly), in larval form.

A. Price.

Acarina

An undescribed Eriophyid mite was recovered from galled flower-heads of Saponaria officinalis L., collected by Mrs. Simmonds at Hurley, Berks., on 3rd October 1962. More information on this find should be forthcoming next year.

D. Leatherdale

EPIPOGIUM APHYLLUM

By V. N. Paul

In 1963, after a lapse of ten years, this elusive orchid was again found in flower in the original locality where I found it as a school girl in 1931. At the meeting of the Botanical Society of the British Isles, which was held at Reading University on September 14th, Mr. J. E. Lousley told me that his plant always flowered much later than those in the Buckinghamshire site. This prompted me to go down to look in the wood where I last saw mine in 1953. The visit was made on the evening of Tuesday September 17th. It was almost dusk when I arrived. Imagine my surprise when I saw not one, but five, spikes, standing in a row near the original stump where the plant first flowered. Unfortunately slugs had already been busy, and three of the spikes had been eaten through at the base, so that they were standing by the support of the beech leaves among which they were growing. The parts of stems and one flowering shoot were gathered up, and are now in the possession of Reading University, where, it is hoped, someone will study the anatomy of the plant. One unusual feature of the plants this year was the appearance of the underground stolons above the surface of the ground. Further examination of the area showed that the plants extended along several yards of thick humus, and one other small group of flowering shoots were coming out from underneath a stone.

The past history of the plants found in this site is an interesting one. On June 30th, 1931, my father and I were looking for Fly and Butterfly Orchids when I saw an orchid which I did not recognise growing out of the middle of an old tree stump. Not realising how rare my find was, I picked it. On our way out of the wood we met Dr. Carling, the lady doctor who first opened the Peppard Chest Hospital. She was also puzzled by our find and recommended me to go and see Dr. Somerville Hastings. Luckily Dr. Hastings was at home, and, after searching through his Sowerby's Botany, we discovered the name and status of the plant. Our excitement was so great that we literally wrapped the plant in cotton wool and took it to the Reading Museum, where it was photographed and preserved. This was the tenth known specimen to be found in the British Isles. It was 9½ inches high, and I think still holds the record for size. The average height of healthy specimens in this country is about 4 inches. When Mr. Summerhayes published his book on orchids in the New Naturalist Series, it was the photograph of this plant taken at Reading Museum which was used as an illustration.

During my first year at Reading University, Professor J. R. Matthews asked me to show him the spot where Epipogium was found. This visit, in 1933, marked the finding of the second specimen, and was an opportune moment as far as I was concerned, since I was studying botany under Professor Matthews.

After Mr. Graham had found his wonderful colony in Buckinghamshire in 1953, Mrs. Simmonds and Miss Butler asked me if I would visit my area although it was rather late in the season. I invited them to come along too. The necessity for guarding the spot was not so important now that another rich habitat had been found. As we were walking through the wood, I kept pointing out various dead bluebell capsules, to give my companions an idea of what to look for. At one stage they were walking well ahead of me, when I saw in the distance something which was an even better likeness to the plant. I called after them to say

"Look, that is the sort of thing we are looking for". Then as I got nearer to the object I saw that it was indeed the sort of thing that we were looking for - it was a small spike of Epipogium, only 2½ inches high. This tiny specimen captured the news, and after the publication of the find in the Daily Express, Mr. Smallcombe and I appeared in the television programme called "Guess my Story" at the Radio Exhibition at Earls Court.

This plant is still too rare for the locality to be made common knowledge to everyone. The plant is so delicate that walking over the underground parts would probably damage the tiny buds which represent potential flowering spikes for future years.

SOME OBSERVATIONS ON THE LARGE WILLOW APHID, TUBEROLACHNUS SALIGNUS (GMEL.), IN THE READING DISTRICT

By Donald Leatherdale, F.L.S., F.R.E.S.

Although the Large Willow Aphid, Tuberolachnus salignus (Gmel.) (= Aphis viminalis Fonsc.), is probably the largest of the British aphids, it was not until 1957 that I first became aware of it. In September of that year, a colony consisting of a single alate viviparous female and about 18 apterous viviparae was found at Whitchurch, Oxfordshire, on a three-year-old tree of Salix chrysocoma Dode, a golden-barked weeping willow. The site chosen for the colony was a rub-mark in the bark, worn by the top of the tree's supporting stake; the cambium had been exposed and dried, and the edges of the wound had already callused and in places been covered with new bark. The aphids were feeding at the junction of the callus or bark with the cambium, and gave a momentary impression of a cluster of small but well-fed sheep ticks. This resemblance applied both to their shape and colour. Mr. W. O. Steel tentatively named the aphid from my description of it, but none were to be found a few days later for verification, although the trunk below the scar was still sticky with honeydew.

I have since then kept an eye open for this splendid aphid, and on occasion searched carefully for it, having been intrigued by its reputation for appearing at long intervals of time. Theobald (1929) has recorded that at Wye it did not appear between 1904 and 1912, and Fowler has mentioned (1954) that periods of 17 and 15 years elapsed between its occurrences at Wisley. Despite this habit, T. salignus is widely distributed in Wales and the southern half of England: Theobald listed no records from counties further North than Cheshire and Nottinghamshire. Eastop (1951) records it as common in the areas of Reading and Midgham - Woolhampton.

Colonies were found in 1961 at two locations, North Stoke in Oxfordshire and Lower Basildon in Berkshire. Both colonies were on Salix fragilis L., and much larger than the 1957 colony at Whitchurch. The North Stoke colony, seen in late August, consisted of apterous viviparae surrounding a branch ¾ in. in diameter for

a length of five inches; that at Lower Basildon, observed in September, also contained one alate and extended as a closely-packed band $\frac{1}{2} - \frac{3}{4}$ in. wide for about ten inches along the underside of a horizontal branch nearly two inches in diameter. Copious honeydew was present at both these colonies. At North Stoke, it had covered lower foliage, which was in consequence heavily infected with sooty mould, whereas at Lower Basildon, despite the position of the colony, it had remained amongst the aphids and given the colony a very mucky appearance. No ants were seen in attendance, nor were other insects attracted by the honeydew. Both Theobald and Buckton (1881) mention that wasps in particular are attracted to this secretion of T. salignus.

My fourth meeting with this aphid was at Whitchurch on 19th August 1963, on the same tree of S. chrysocoma that it had infested in 1957. On this occasion, my attention was drawn to it by first observing the steady march up and down the trunk of a striking black ant, which was determined by the British Museum (Natural History) as Lasius fuliginosus (Latr.). The tree is no longer the sapling that it was six years ago, and these ants were disappearing upwards into its crown. Those on the earth-bound journey were so distended with honeydew that the glossy abdomen appeared ringed like that of a wasp, with a transparent ring between each segment. I had little doubt but that these ants were journeying to a colony of my old friend T. salignus, and indeed with the aid of a ladder it was soon located.

This colony was a discrete one, like the first, which raises the question of food-plant suitability. No alate forms could be found, but some 30 apterous viviparae were clustered around the junction of two branches, each of which was about an inch in diameter. There was little honeydew present, and presumably all of it was being taken by the ants. The bark was intact but discoloured. I visited this colony each evening thereafter, and its numbers remained nearly enough constant for the next week; but on the evening of 28th August only three apterae remained, although the ants continued their marching.

Buckton describes such dramatic disappearances, and also states that the missing colony is usually to be found on another tree in the immediate vicinity. Unfortunately, there are several willows within 20 feet of the tree in question, two of which are S. fragilis of mature size. A search for the migrant colony was carried out as diligently as possible, but was not found and all that can be positively said is that it was not on adjacent trees of S. vitellina var. britzensis, S. gracilistyla, S. matsudana var. tortuosa or the lower branches of S. fragilis, nor on Populus tacamahaca, Prunus serratula "Shidare Zakura" and two varieties of cultivated apple, species of which genera are also food-plants of T. salignus, according to Theobald.

All authors make mention of the large quantities of honeydew excreted by T. salignus, and of the development of sooty mould. Sometimes this occurs so abundantly as to kill the foliage, and Buckton records that the aphid "swarmed in such thousands ... at Carshalton, that trees thirty or forty feet high had been killed by their poisonous influence". A study of the rate of honeydew excretion has been carried out by Mittler (1958), who found that it varied from 0.45 cu.mm./hour in first-instar nymphs to 1.71 cu.mm./hour in apterous adults. No doubt this fact was fully appreciated by the L. fuliginosus noted on this occasion. Mittler records L. niger L. in attendance, and it is interesting that these observations are directly opposed to those of Theobald (1905), who specifically states that "ants will not touch it, as they do the honeydew of other plant-lice".

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GALL MIDGES (DIPTERA: CECIDOMYIIDAE) IN THE READING AREA

By Donald Leatherdale, F.L.S., F.R.E.S.

The Gall Midges tend to be rather an overlooked family in the Diptera. They are in no sense spectacular in their appearance to the naked eye, they are small, and although they may sometimes occur in considerable numbers at a lighted window on a summer's evening they are usually dismissed casually as "midges". Indeed, were it not for the fact that the family contains a handful of well-known agricultural pests and that a large proportion of others cause galls on plants, their existence would probably pass unnoticed in all save specialist circles.

The very fact that they constitute one of the major groups of animals concerned with gall causation is in itself an obstacle to the understanding of the family as a whole, as I have previously pointed out with regard to another group associated with galls - the Eriophyid mites (Leatherdale, 1959). Cecidomyiidae may be translated as "the family of gall flies", but the larvae of many Cecids (as they are more often called) feed on plants without causing distortion, some live as inquilines within the galls of others, many are predaceous on other insects, and yet more occur in decaying vegetable matter or even in the frass of larger insects. Cecids with such non-galling habits are only slowly becoming known, and, although some taxonomists may be content to describe new species from individuals collected at light-traps, such information is of lesser value when no attempt is made to discover at least something of their ecology. There is a wide field here open to investigation by anyone who combines the necessary patience with perseverance.

Briefly, the Cecidomyiidae are small Diptera (length 0.4 to 8 mm.) in which the tibiae are without spurs, the coxae not produced, and the wings usually have no crossveins and only three or four (exceptionally, six or seven) long veins. The flies are slender, with broad, sometimes hairy wings and comparatively long legs and antennae. The latter are often objects of beauty and interest under the microscope, for they have 6 to (in one exotic genus) 63 bead-like segments which in the males are frequently equipped with elaborate patterns of hairs and processes known as circumfila. The abdomen has usually nine segments, although in females the last few are often disguised and modified to form the ovipositor; this organ is capable of great extension in some genera, such as Dasyneura. The larvae are somewhat rounded at both ends and many species possess on the ventral, anterior part of the body a chitinous strip known as the "anchor process" or "breast bone": its shape is often characteristic for the species, but its function is still conjectural. A curious ability in Cecid larvae, especially among the members of the genus Contarinia, is that of being able to throw themselves for a distance of several inches, rather after the fashion of a "click beetle". The colour of the larvae is sometimes an aid to identification, although it is a variable character and one subject to much change after death. It varies from a transparent white, through yellows and oranges to a brick colour and deep red; this last would appear to be most common in predaceous species.

The gall midges are closely related to the Mycetophilidae (Fungivoridae), fron which they may be distinguished by the short coxae, absence of tibial spurs and usually fewer wing veins. Larvae of both families may be found together in soil litter. There is a superficial resemblance between large adult Cecids and some of the smaller Tipulids, but the latter have a V-shaped suture on the thorax and several cross veins in the wings.

There are three subfamilies in the Cecidomyiidae, of which the adults may be separated as follows:-

1 Tarsus with basal segment shorter than second segment 2

Tarsus with basal segment longer than second segment, and antennae without circumfila 3

2 Wing with 3 or 4 long veins and antennae with circumfila ... Cecidomyiinae.

Wing with 3 or less long veins and antennae without circumfila ... ... Heteropezinae.

3 Tarsus with 5 segments and wing with 4 or more long veins ... Lestremiinae.

Tarsus with less than 5 segments and wing with 3 or less long veins ... ... Heteropezinae.

All the species in the following list belong to the largest subfamily, Cecidomyiinae, which alone contains gall-causing species.

Some 600 species of Cecids have been recorded for Britain, including a large number that have been found only once or twice and which therefore require verification. The number in this list for the Reading area is but a small fraction of that total, and comprises those species that have come to the writer's notice

during the past ten years. In this connection, it is appropriate that gratitude be expressed to those who have brought galls for identification; and, although it may be a little invidious to mention individuals, I cannot let the occasion pass without particular mention of the members of my family and Miss L. Cobb and Mrs. Simmonds of our Society. As is to be expected, the majority of species in the list are gall-causers. Some of the records have been published earlier (Leatherdale, 1956, 1957).

A comprehensive nomenclature of the British species does not yet exist: Kloet & Hincks (1945) is outdated so far as the Cecidomyiinae is concerned, but has been followed here except where a revision has been indicated in the very useful but necessarily restricted regional list by Kidd & Brindle (1959). As in the Eriophyid list, the arrangement is in alphabetical sequence of host-plant genera, taking Dandy (1958) as the authority, and species most widely distributed are indicated by an asterisk. Plants named within parentheses are horticultural species or cultivars, and at the end of the list are grouped together crops on which Cecids occur as pests within the Reading district.

Achillea millefolium L. Yarrow	1 Rhopalomyia millefolii (H. Lw.). Galls on leaves and crown (or on flowers), green at first turning black, with star-shaped opening at apex. Goring.
A. ptarmica L. Sneezewort	2 R. ptarmicae (Vallot). Head of plant transformed into hairy, spongy mass. Stanford Dingley.
Betula ? pendula Roth x pubescens Ehrh. Silver Birch	3 Anisostephus betulinum (Kieff.). Leaf pustules; larvae pale yellow. Bucklebury Common.
Bryonia dioica Jacq. White Bryony	4 Dasyneura bryoniae (Bouché). Gall consists of irregular leaf malformation (see Leatherdale, 1954). Finchampstead, Uffington.
(Buxus sempervirens L.) Box	5 Monarthropalpus buxi (Geoff.). Leaf gall. Whitchurch.
Cardamine pratensis L. Lady's Smock	6 Dasyneura cardaminis (Winn.). Flower distorted. Whitchurch, Twyford.
Centaurea scabiosa L. Greater Knapweed	7 Loewiola centaureae (F. Lw.). Leaf gall. Whitchurch.
Chamaenerion angustifolium (L.) Scop. Rosebay Willow-herb	8* Dasyneura epilobii (F. Lw.). Flower-bud swollen and remaining closed. Mapledurham, Goring, Whitchurch, Pangbourne, Shinfield, Burghfield, Theale, Woodcote.
Corylus avellana L. Hazel	9 Contarinia corylina (F. Lw.). Male catkin swollen. Hardwick.

10 Dasyneura corylina Kieff. Inquiline in catkins galled by C. corylina. Hardwick.

Crataegus spp.
Hawthorn

11* D. crataegi (Winn.). Terminal leaf rosette. Whitchurch, Goring, Caversham, Peppard, Woodcote, Reading, Tilehurst, Wokingham, Bracknell, Hawthorn Hill, Lower Basildon, Pangbourne, Burghfield.

Daucus carota L.
Wild Carrot

12 Kiefferia pinpinellae (F. Lw.). Fruit swollen. Hardwick, Ewelme.

Fagus sylvatica L.
Beech

13* Hartigiola annulipes (Htg.). Cylindrical, hairy leaf gall. Bucklebury Common, Binfield, Mapledurham, Whitchurch, Woodcote, Goring Heath, Pangbourne, Hardwick.

Filipendula ulmaria (L.) Max.
Meadow-sweet

14* Dasyneura ulmariae (Bremi). Conical leaf gall. Occurs in almost every station of the host-plant in this district.

Fraxinus excelsior L.
Ash

15 D. fraxinea (Kieff.). Leaf pustule. Hawthorn Hill.

16 D. fraxini (Kieff.). Pouch-shaped gall on midrib. Clifton Hampden.

Galium mollugo L.
Great Hedge Bedstraw

17 D. galiicola (F. Lw.). Terminal leaves bunched and swollen. Bradfield.

18 Geocrypta galii (H. Lw.). Pea-size gall on stem. Bradfield.

G. saxatile L.
Heath Bedstraw

19 Schizomyia galiorum Kieff. Flowers closed, enlarged and thickened. Goring Heath.

G. verum L.
Lady's Bedstraw

20 Geocrypta galii (H. Lw.). (As No.18, but also on flower stalks.) Fairmile.

21 Trotteria galii Ruebs. Flower-buds slightly swollen. Goring Heath, Finchampstead.

Glechoma hederacea L.
Ground Ivy

22* Rondaniola bursaria (Bremi). Cylindrical leaf gall (see Leatherdale, 1955). Bucklebury Common, Tilehurst, Whitchurch.

Hedera helix L.
Ivy

23 Dasyneura kiefferii Marchal. Flower remains closed, sometimes distorted. Hartslock Wood.

Heracleum sphondylium L. Hogweed	24 Kiefferia pimpinellae (F. Lw.) (as no.12). Bucklebury Common.
Hieracium pilosella sens. lat. Mouse-ear Hawkweed	25 Cystiphora pilosellae Kieff. Leaf pustule Hawthorn Hill.
Larix decidua Mill. Larch	26 Dasyneura laricis (F. Lw.). Buds distorte and resinous. Hardwick.
Lathyrus pratensis L. Meadow Vetchling	27 D. lathyricola (Ruebs.). Terminal stipules swollen. Goring Heath.
Lotus corniculatus L. Birdsfoot-trefoil	28* Contarinia loti (Deg.). Flower swollen and closed; yellow larvae. Tidmarsh, Whitchurch, Ewelme, Woodcote, Binfield.
Pimpinella saxifraga L. Burnet Saxifrage	29 Kiefferia pimpinellae (F. Lw.) (as no.12). Upper Basildon, Checkendon.
Populus tremula L. Aspen	30 Harmandia loewi (Ruebs.). Spherical leaf galls, red at maturity. Pangbourne, Goring, Sonning, Ewelme.
Prunus spinosa L. Blackthorn, Sloe	31 Dasyneura tortrix (F. Lw.). Leaf margins loosely rolled, terminal leaves in a confused cluster. Fairmile.
Pteridium aquilinum (L.) Kuhn Bracken	32 D. filicina (Kieff.). Thickened roll at edge of pinnule, turning black. Pamber, Bucklebury Common, Whitchurch Hill, Warfield.
Querous robur L. Common Oak Q. petraea (Matt.) Lbl. Durmast Oak	33 Macrodiplosis dryobia (F. Lw.). Leaf lobes turned under. Whitchurch Hill, Sulham, Bracknell, Theale, Wallingford.
	34 M. volvens Kieff. Tight marginal leaf roll between lobes. Warfield, Teading, Hardwick.
Rosa spp. Rose	35 Wachtliella rosarum (Hardy). Leaflet folded upward into a pod. Whitchurch, Pamber.
	36 Unidentified species. White larvae in galls of W. rosarum (see Niblett, 1942) Whitchurch.
Rubus fruticosus L. sens. lat. Blackberry, Bramble	37* Dasyneura plicatrix (H. Lw.). Leaves twisted. Bucklebury Common, Pangbourne Upper Basildon, Burghfield, Theale, Whitchurch, Goring, Gatehampton, Mapledurham, Woodcote, Bracknell.

	38 Lasioptera rubi Heeger. Woody stem gall, less than 2 in. long. Hawthorn Hill.
Salix alba L. White Willow	39 Dasyneura inchbaldiana (Mik). Discontinuous marginal leaf-roll. Whitchurch.
S. aurita L. Eared Sallow	40 Iteomyia major (Kieff.) Irregularly ovoid swelling of midrib. Whitchurch Hill, Hardwick.
	41 Rhabdophaga rosaria (H. Lw.). Terminal leaf rosette. Hardwick.
S. caprea L. Great Sallow, Goat Willow	42* Iteomyia capreae (Winn.). Ovoid leaf gall. Bucklebury Common, Hardwick, Woodcote, Purley, Tidmarsh.
	43 Rhabdophaga rosaria (see no.41). Hardwick.
S. cinerea L.	44 R. rosaria (see no.41). Hardwick.
(S. gracilistyla Miquel)	45 R. marginemtorquens (Winn.). Continuous marginal leaf-roll; see Leatherdale, 1962. Whitchurch.
S. purpurea L. Purple Willow	46 R. marginemtorquens (see no.45). Whitchurch.
S. ? purpurea L. x atrocinerea (Brot.) Silva and Sobrinho	47 Iteomyia major (see no.40). Bucklebury Common.
S. triandra L. Almond Willow	48 Rhabdophaga heterobia (H. Lw.). Small, often brown, upright terminal leaf rosette. Woodcote, Ewelme.
(S. vitellina var. britzensis Späth)	49 R. marginemtorquens (see no.45). Whitchurch.
Salix spp.	50 R. salicis (Schrk.). Ovoid galls on twigs, often involving leaf petioles, about 8 - 20 mm. in diameter. Hawthorn Hill.
	51 Helicomyia saliciperda (Duf.). "Shot holes" in bark of twigs. Hardwick, Theale.
Senecio jacobaea L. Ragwort	52 Contarinia jacobaeae (H. Lw.). Involucre swollen. Ewelme, Rotherfield Greys.
Senecio squalidus L. Oxford Ragwort	53 C. jacobaeae (see no. 52). Pangbourne.

Sorbus torminalis (L.) Crantz Service Tree	54	Unidentified species, causing leaf pustules. Pamber.
Taxus baccata L. Yew	55*	Taxomyia taxi (Inchbald). Artichoke-shaped galls of buds. Whitchurch, Hardwick (see Leatherdale, 1961), Ewelme, Reading, Pangbourne, Wallingford, Tilehurst, Bracknell, Bradfield, Lower Basildon, Wokingham.
Thelycrania sanguinea (L.) Fourr. Dogwood	56	Craneiobia corni (Gir.). Leaf gall like truncated cone, mostly projecting from lower surface; green turning to purplish-red. Mapledurham.
Tilia cordata Mill. x platyphyllos Scop. Lime	57*	Contarinia tiliarum (Kieff.). Rounded galls on petioles and peduncles. Whitchurch, Tilehurst, Reading.
Trifolium medium L. Zigzag Clover	58	Dasyneura trifolii (F. Lw.). Midrib gall. Ewelme.
Ulmus procera Salisb. English Elm	59	Physemocecis ulmi (Kieff.). Leaf pustules. Hawthorn Hill.
Urtica dioica L. Stinging Nettle	60*	Dasyneura urticae (Perris). Galls at base of leaf, on petioles, and on flowers. Locally common throughout the district.
U. pilulifera L. Roman Nettle, grown experimentally (see Leatherdale, 1963).	61	D. urticae (see no.60). Whitchurch.
U. urens L. Small Nettle	62	D. urticae (see no.60). Whitchurch, Ewelme, Bracknell.
Veronica chamaedrys L. Germander Speedwell	63*	Jaapiella veronicae (Vallot). Terminal gall, with white felt. Bucklebury Common, Sulham, Pangbourne, Hawthorn Hill, Whitchurch, Hardwick, Ewelme.
Vicia cracca L. Tufted Vetch	64	Dasyneura viciae (Kieff.). Leaflet folded and swollen. Goring Heath.
Viola odorata L. Sweet Violet	65	D. affinis (Kieff.). Thickened leaf-roll. Whitchurch.

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Apple	66	D. mali (Kieff.). Curled leaf margin. Whitchurch, Bracknell.

Brussels Sprouts	67	Contarinia nasturtii (Kieff.). Symptoms variable, but terminal leaves often fail to develop. Whitchurch.
Pea	68	C. pisi (Winn.). White larvae in pods; flowers sometimes distorted. Whitchurch, Bracknell.
Pear	69*	C. pyrivora (Riley). Young fruits mis-shapen. Whitchurch, Woodcote, Pangbourne, Reading.
Raspberry	70	Thomasiniana theobaldi Barnes. Lives under bark, and had recently been shown to facilitate entry of die-back fungi (Nijveldt, 1963). Pangbourne.
Wheat	71	Mavetiola destructor (Say). Ears shrivelled and whitish. Bracknell.
	72	Contarinia tritici (Kirby). Bright yellow larvae in spikelets. Bracknell, Whitchurch Hill.
	73	Sitodiplosis mosellana (Gëhin). Orange larvae in spikelets. Jealott's Hill.

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SOME NOTES ON THE REPTILES AND AMPHIBIANS OF THE CROWTHORNE AREA

By John E. Cooper

The following notes are compiled from records taken during the last four years. They are intended as a rough guide to the species likely to be encountered in the Crowthorne area.

Reptiles

Common Lizard (Lacerta vivipara Jacquin)

This species is common throughout the area, possibly being most easily captured in the sandy heathlands round Wellington College. It is also found along the edges of the Forestry Commission and Crown Land rides. Large numbers of the lizards inhabit old piles of bricks (now partly hidden by grass) in the Owlsmoor and Broadmoor regions. The species appeared to suffer a slight setback in 1961 when the late frosts may have killed a fair number. It now appears to be on the increase, and this year (1963) there was little sign of any scarcity.

Sand Lizard (L. agilis L.)

I have no records of this species.

Slow-worm (Anguis fragilis L.)

This is another very common lizard in the area. It may be found on the heathland, in ditches and in gardens. In the garden (and on waste ground) it is most commonly found beneath sheets of corrugated iron or logs. As many as nineteen slow-worms have been found under a single piece of tin sheeting. Both 1962 and 1963 appear to have been good years for this species. The wet weather of 1963 may well have meant an increase in the slug population - an important item of the slow-worm's food.

Grass Snake (Natrix natrix (L.))

Despite the increased use of land for building purposes, this reptile continues to hold its own. There has been a definite decline in its numbers in some areas, however, and this may well be due to the increased availability of its habitats to the general public. This is particularly shown at Wellington College and at some of the woodland lakes near Finchampstead. In most other areas, however, the snake is still present in reasonable numbers. It is probably most common in the lower lying damp places (where amphibian food is undoubtedly more plentiful) but is also found on the higher heathland and along the verges of the pine woods. Very large specimens do not seem any too common, though a female

measuring 36½ inches was captured at Broadmoor Bottom in 1960. Piles of freshly cut grass along the Forestry Commission rides have been found to be popular localities for egg-laying and many batches of eggs have been found in them. The young snakes may often be found in spring in company with slow-worms under pieces of tin and logs. Adult snakes are frequently found crushed in the road, particularly on Broadmoor Estate and along the roads and lanes near Heath Lake.

Adder (Vipera berus (L.))

Despite the usual persecution, the adder is another reptile which flourishes in the area. It also is becoming scarce in some localities, but this is often due to "development" of land - with the resultant increase in hostile humans. The snake is still to be found on the verges of such areas, however, amongst which should be mentioned Edgcumbe Park and also Owlsmoor. Its main stronghold is, however, in the heath- and scrub-land especially on the East Berks. Golf Course and the Broadmoor Estate. Large numbers are to be seen along the pine-wood rides, basking in the sun. Each year the Forestry Commission reports large numbers of adders in the more open glades and rides of their Crowthorne plantation. The snake is also very common on the heathland (Crown property) sloping down to Sandhurst.

Smooth Snake (Coronella austriaca Laurenti)

This species has not been recorded near Crowthorne since one was captured at Wellington College some 25 years ago. This is despite intensive searching of suitable areas over the last three years. The nearest known locality is Lightwater (Surrey), six or seven miles away.

Amphibia

Common Frog (Rana temporaria L.)

There has been a definite decline in numbers of this species, though this year (1963) a possible slight increase was noted. Figures have been obtained each year for the numbers of adults and quantities of spawn produced in each pond or lake. The main areas studied have been Wellington College lakes, the Broadmoor reservoirs and Heath Lake. The common frog has spawned in each of these, to a greater or lesser extent, each year since 1958. The fluctuations in its numbers are at present a mystery. Adult frogs have also been captured later in the summer, particularly from suitable habitats on Broadmoor Estate.

Edible Frog (R. esculenta L.) and Marsh Frog (R. ridibunda Pallas)

I have no records of these species.

Common Toad (Bufo bufo (L.))

This amphibian remains well established and spawns each year in most of the local pools and lakes. Its annual migration to its breeding grounds in the spring has been studied. There are considerable mortalities on this journey, yet a reasonable number appear to survive and successfully breed. Some very old warty specimens have been seen later in the summer - including one fine old female, 4¾ in. long, found in the grounds of Broadmoor Hospital itself. Many of the grass snakes have brought up a toad soon after capture, indicating the possible importance of the snakes in this food chain.