

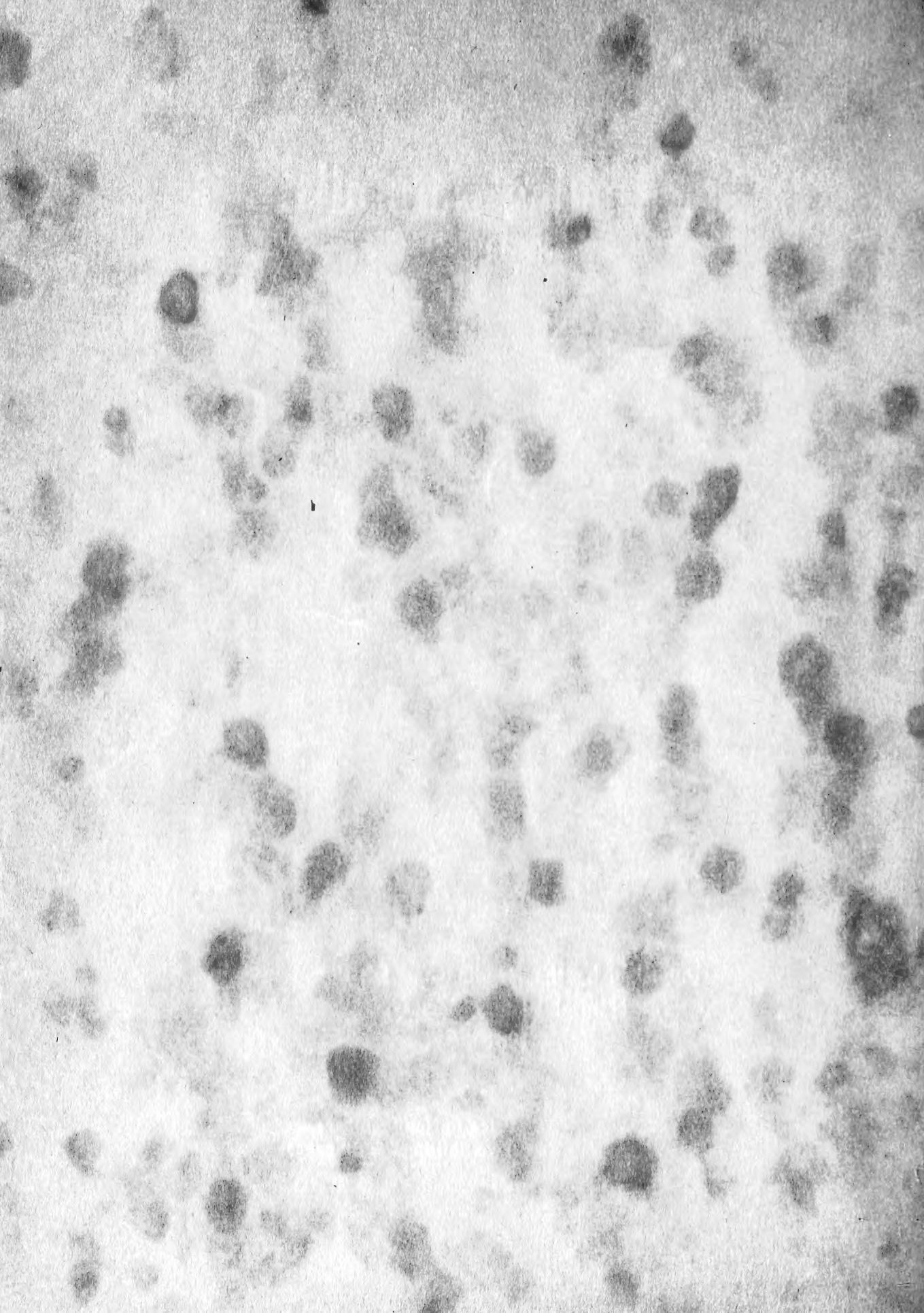
The Reading Naturalist

No. 13



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THE READING NATURALIST

No.13 for the Year 1959-60.

The Journal of
The Reading and District Natural History Society

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Editorial

The growing membership and wider activities of the Reading & District Natural History Society are reflected in the greater length of this part of its Journal, in which is represented the work of a complete cross-section of the Society, from some of the youngest in years, years of membership, or both, to some of the most senior. Several members have responded to our invitation to submit observations and papers, and we hope still more will do so for the next part.

In thanking all our contributors for their support, we take the opportunity of expressing our gratitude and appreciation to Mr. Parry, who, though not a member, has for ten years kindly provided us with meteorological data. This task has now been taken over by Mr. A. E. Moon, whom we welcome among our ranks. We also thank the Director of the Museum and Art Gallery, Mr. T. L. Gwatkin, for granting production facilities, the Cultural and Entertainments Committee of the Reading County Borough Council for a generous grant towards the cost of the Journal, and all who have helped with the work of publication.

A PRELIMINARY LIST OF BERKSHIRE MICRO-FUNGI.

By Harold Owen
(Department of Agricultural Botany, University of Reading)

This considerable paper, which was published at the end of 1960 as a supplement to "The Reading Naturalist" No.12 and occupies 30 pages, is available at 1s.3d. per copy to members and 2s.6d. to non-members.

Any members with observations of general or topical interest that do not, by their subject or nature, fall within the scope of the Recorders' Reports, are invited to submit accounts (typed, with double spacing, if anyhow possible, please) for consideration for the next part of the "Reading Naturalist" before 1st January 1962. Offers of longer articles would also be welcomed.

Meetings and Excursions 1959-60

The winter programme of evening meetings opened with the Annual General Meeting (attendance 37), and at the next meeting Professor H.L. Hawkins gave his Presidential Address on the subject of "Change and Decay" (40). Apart from two evenings set aside for Members' Exhibits (both with an attendance of 40), the remaining meetings were devoted to lectures. The speakers and their subjects were Dr. F. Baronyovits, "Desert plants and citrus orchards in California" (60), Dr. K.H. Mann, "Animal life in rivers" (27 - a snowy evening); Dr. Winifred Page, "The flora of a rabbit pellet" (34); Mr. D. Leatherdale, "The study of plant galls" (35); The Earl of Cranbrook, "Small British mammals" (76); Professor O.V.S. Heath, "Stomata" (41). Unfortunately, fog prevented Mr. Maxwell Knight from coming to give a promised talk, and his place was taken by Dr. J. Townrow, who spoke about "A trip to the Shetlands and the Faroes" (45).

An innovation this winter was a programme of outdoor meetings on the first Saturday of each month, which got off to a flying start in November, when 12 enthusiastic members walked from Dunsden Green to Emmer Green in thick fog. Other walks were to Aldermaston gravel pits in December (10); from Pangbourne through Sulham Woods to Tilehurst in January (8); to Aborfield in February (12); and to Coley Park heronry in March (22).

The summer excursions were as follows:- April 9th Beenham for spring flowers and birds (8); April 23rd, Stoke Row for cherry blossom; May 7th, Nuney Green for woodcraft (13); May 21st, Aldermaston Court, by kind permission (about 30); June 1st, Wokefield Common, for plants and freshwater biology (15); June 11th, Bix for orchids (29); June 25th, Wellington College, by kind permission of the Grand Master (35); June 29th, Reading University Agricultural Botanical Gardens (20); July 9th, Blewbury Hill, for chalk flora (11); July 13th, Dunsden Green (6); July 23rd, Pamber Forest, for plant galls; a meeting open to the Berkshire, Buckinghamshire and Oxfordshire Naturalists' Trust (31); August 6th, Heckfield Heath and Riseley Mill, for water plants (8); August 11th, Hazeley Heath, for Sphagnum bog (9); August 20th, Henley to Sonning Common (6); September 3rd, Swallowfield Park, by kind invitation of Sir Arthur Russell (17); September 17th, Bradfield (8); October 1st, Kingwood Common, Fungus Foray (morning 14, afternoon 32).

Publications Received

South-eastern Naturalist

Middle-Thames Naturalist

Journal of the North Gloucestershire Natural History Society

Bird Report of the North Gloucestershire Natural History Society

Report of Bradfield College Natural History Society

Report on the Young Naturalists' Evening held on 23rd March 1960

The Young Naturalists' Evening held in 1959 was such a success that it was decided worth while trying to make this an annual event. So on the 23rd March the Town Hall was well filled with Reading's Young Naturalists.

The first part of the programme again took the form of a Nature Brains Trust, with Mr. Maxwell Knight, Professor H.L. Hawkins, Mr. J. Ounsted and Mr. K.E.L. Simmons kindly serving on the panel and Mr. W.A. Smallcombe as Questionmaster.

The reponse of Reading school children to the request for questions was even greater than in 1959 for 511 questions were submitted. Unfortunately there was time to answer only 11 of these.

Two book prizes were given by Mr. Maxwell Knight and six by the Natural History Society. These were presented by the Right Worshipful the Mayor of Reading, Alderman A. Haslam as follows:-

Best question by a boy:

Ian Briggs, Norcot Primary School (10½ years).

Best question by a girl:

Christina Tozer, The Hill Primary School (11 years).

Other prizes:

Mary Belcher, Battle Junior School (11 years); Jennifer Curtis, Alfred Sutton Secondary Girls' School (13 years); Brian Woods, Redlands Primary School (8 years); Marian Davies, St. Michael's Primary School (11 years); Gillian Papworth, Kendrick School (13 years); Alison Johnson, Whitley Park Junior School (8 years); Janette Cameron, Westwood School (11 years, 11 months); and Roberta Foster, The Abbey Junior School (9 years).

The colour film "Journey into Spring", showing the natural history of Selbourne, was then screened.

It was again a very successful evening with everyone concerned determined to repeat the venture in 1961.

Shirley Y. Townend.

We congratulate one of our young members, Paul Reiter, on winning the Laffan Prize for Natural History (Junior Section) with a study on toad migration and a well-known member, John Hodgson, on being highly commended in the same section with a study of clovers in a small area in Tilehurst. We also congratulate Huw P. Thomas, a pupil at one of our member schools (Reading School) on winning the Prize in the Senior Section with a study of spiders of a suburban house and garden.

The Council for Nature

In 1960 our Society joined the Council for Nature, an organisation founded in July 1958, and by so doing we are now in the company of 47 national societies, 176 local societies, 11 county naturalists' trusts, 9 school and college societies and 13 museums. All these comprise the wide body of naturalists to which the Council for Nature extends its several services. It is in essence a central consultative body linking amateur, specialist and popular interest in natural history.

Among the aims of the Council for Nature we find:

"To provide a standing advisory service, available to member bodies and others. On appropriate occasions to organise public opinion and to make representations to Local Authorities and Government Departments, and if necessary to Parliament, in respect of any matters properly the concern of the Council or its member bodies. To assist the work and development of member bodies, and generally to arouse and stimulate public interest and to educate public opinion in natural history and the need for the conservation of nature and natural resources".

The Council also organises a Conservation Corps of some 700 young volunteers who devote short periods of their spare time to such work as scrub clearance, drainage, tree felling and planting, mainly on sites in which the County Naturalists' Trusts have an interest. Tasks lasting for a day or week-end to up to two weeks have been undertaken at such well known places as Wood-walton Fen and Askham Bog. The Carnegie United Kingdom Trust has made a generous grant enabling the organiser of the Conservation Corps to meet costs of accommodation and to help towards the fares of the working parties. Should work be required on sites with which our own Naturalists' Trust is associated then the Conservation Corps could rightly be approached to assist. The Intelligence Unit of the Council, under the directorship of Mr. R.S.R. Fitter, collects and indexes information on the work being undertaken by societies, groups and individuals in the whole field of natural history and conservation. Any members of our Society wishing information on a particular natural history topic can seek the aid of the Intelligence Unit. Taking one of the many requests published in "News for Naturalists" (copies of which we as a member society receive) as an example, we read - "The August Syrphid invasion of the South East Counties - R.A. French, Rothamsted Experimental Station, Harpenden, Herts, would like to know whether the purposive flight or presence of unusually large numbers of syrphids (wasp-like black and yellow flies) has been noted in other parts of the country than in the south east". We have fairly recently had a very full paper on syrphids published in our own Reading Naturalist and it is therefore easy to appreciate how such a request for information as the one mentioned above could have effective results from members of a natural history society who would not by any means be specialist entomologists.

Finally the Films Officer of the Council will give advice to those wishing to try their hand at cinematography, or what might, perhaps, be of more immediate use to us, a list of films which can be borrowed by societies for showing to their members.

The Berkshire, Buckinghamshire and Oxfordshire
Naturalists' Trust

The Trust has now been in existence for fifteen months and for most of this period its activities have been guided by a Provisional Executive Committee.

On January 22nd, 1961 the first meeting of the Council of the Incorporated Trust took place at Oxford and we now look forward to a year of increased activity during which it is hoped to commence a re-surveying of the many Sites of Special Scientific Interest (S.S.S.I's) which fall within our area.

During the first year we have had to consider what action might be taken on a number of sites scattered over a wide area, but members of this Society will doubtless be most interested in the activities of the Trust which have a bearing upon places within the Reading district.

For instance, some concern was felt by the residents in the Woodley area over the proposal to acquire land, consisting of gravel pits and surrounding woodland much frequented by birds, for use as refuse disposal sites. This natural bird sanctuary has been the subject of a report by the R.O.C. The Trust supported the Woodley Parish Council in their efforts to retain part of the land as a bird reserve, and an agreement was reached in November whereby about 10 acres of ground will be left undisturbed.

An agreement has also been made between the Trust and the owner of one of the two sites on the Berkshire Downs where the Pasque Flower grows. We have been granted permission to fence off a small area, enclosing the largest patch of the plants, in order to investigate the cause of lack of flowering of the Pasque Flower in this locality.

In the Crowthorne area the setting up of a bird sanctuary at a well-known lake is being investigated by one of our members, and in the Kennet Valley we hope it may be possible to lease a marshy area where, as recent work has shown, a number of very uncommon insects are known to breed.

We would welcome any reports from members of this Society of instances where important natural habitats or uncommon animals and plants are threatened by development.

Further bulletins will be issued to members during the year and any information on Trust matters may be obtained from the Hon. Local Secretary Berkshire (Mr. B.R. Baker), or from the Membership Secretary (Miss S.Y. Townend) both at Reading Museum.

The membership to date for the 3 counties is:- 351:

Berkshire	99
Buckinghamshire	111
Oxfordshire	141

NATURAL HISTORY OF THE CHILTERNNS

Arthur G. Bourne. Hon. Secretary
Chiltern Research Committee.

The Chiltern Research Committee was formed to encourage and co-ordinate research and field-work in the Chilterns, a large natural region, relatively unknown to, but of great interest to the naturalist.

The Committee, made up as it is of natural history societies in or adjoining the region, launched its first year with five research projects, each organised by an expert and designed to stimulate the interest of naturalists in the member societies.

Table 1. C.R.C. Projects launched in 1960

<u>Group</u>	<u>Project</u>	<u>Organiser</u>
Birds	Status of the woodlark and wood-warbler	Mr. R.A.F. Gillmor
Insects	Clifden blue butterfly, linked with its food plan, the horseshoe vetch	Mr. Ernest Taylor
Plants	<u>Vicia cracca</u> - aggregate distribution Juniper distribution	Mr. D.A. Jones Mr. R.S.R. Fitter
Geology	Drift Deposits over the Chalk	Professor H.L. Hawkins FRS.

In 1961, the Committee is introducing six more projects, bringing the total to eleven and thereby increasing the scope to suit the wide variety of interests of the members.

Table 2. C.R.C. Projects launched in 1961

<u>Group</u>	<u>Project</u>	<u>Organiser</u>
Mammals	Distribution and status of the muntjac	Mr. T.J. Pickvance
Birds	Distribution and status of the nuthatch	Mr. A.G. Bourne
Reptiles & Amphibians	Distribution and status of the reptiles and amphibians	Lt.Colonel Taylor
Molluscs	Distribution of colour forms of <u>Cepaea nemoralis</u>	Dr. A.J. Cain
Plants	Distribution of Candy-Tuft	Mrs. V. Paul
	Distribution of Fungi	Dr. S.B. Hora

The Chiltern Research Committee is a novel venture in joint research among natural history societies, and enables naturalists to join in a rewarding and worthwhile programme of research, thus enriching his own experience of the Chilterns and their natural history.

Congress of the South-Eastern Union of Scientific Societies,
1961

The next Congress of the S.E.U.S.S. will be held at Haslemere, Surrey, from 26th to 28th May 1961 and its theme will be "The changing Countryside". The Presidential Address, on "The land and Man in the Western Weald", will be given by Professor S.W. Wooldridge, C.B.E., D.Sc., F.R.S., at 8.15 p.m. on 26th May. The remaining programme of lectures and excursions is as follows:-

- | | | |
|----------|----------------------------------|--|
| 27th May | 10-11 a.m. | "Invertebrate life in south-east England",
by J.H.P. Sankey, B.Sc. |
| | 11.30-12.30 | "The changing flora of south-east England"
by J.E. Lousley. |
| | 2.15-6 p.m. | Excursions

Selborne - Natural History (chalk flora).
Leaders, Mr. J.E. Lousley and
Mr. C.R. Northcliffe.
- Archaeology and general. Leader,
Rev. G.E.C. Knapp.
Blackdown, Fernhurst, Woolbeding, Midhurst -
Wealden geomorphology. Leader, Prof.
Wooldridge. |
| | 9.15-10 p.m. | "Birds in a changing world", by Miss P.M. Bond |
| 28th May | 10 a.m. | "Problems of managing Nature Reserves", by
Dr. J.F.D. Frazer. |
| | 10.30 a.m. - 6 p.m.
(approx.) | Excursion to Juniper Hall Field Centre, Box
Hill. Leader, J.H.P. Sankey. |

Limited hotel accommodation, 27/6-30/- per night; private accommodation, £3 inclusive for whole period.

Further information can be obtained from the Society's Secretary, Mrs. A. Fishlock.

Weather Records in 1960

By A. E. Moon

The data refer to Reading University Meterological Station except for a period in April when there was an unavoidable break and for which figures for Sutton's Seed Trial ground (shown in brackets) have been used. A "rain-day" is a day on which rainfall exceeds 0.01 in. The averages for temperature refer to the period 1921-50, those for amount of precipitation to 1916-50, and those for number of rain-days to 1881-1915.

STATION - READING UNIVERSITY

HEIGHT ABOVE SEA LEVEL - 148 FT.

YEAR 1960

		JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	YEAR
MEAN DAILY TEMPERATURES OF	MAX.	43.8	45.7	50.3	(57.4)	64.9	71.9	68.1	68.1	64.5	57.3	52.0	44.4	57.4
	MIN.	35.2	34.9	39.3	(41.3)	48.3	53.3	53.3	52.8	50.2	46.5	40.3	35.9	44.3
	MEAN RANGE	39.5	40.3	44.8	(49.3)	56.6	62.6	60.7	60.5	57.3	51.9	46.1	40.1	50.9
	GRASS MIN.	8.6	10.8	11.0	(16.1)	16.6	18.6	14.8	15.3	14.3	10.8	11.7	8.5	13.1
EXTREME TEMPERATURES OF	E. MAX DATE	54 1,22	60 28,29	58 15	66 20	77 8	83 5	73 5,28	75 5	74 11	67 2	61 1	54 1,3	83 Jun.5
	E. MIN. DATE	24 14	24 18	32 9	32 18	40 3	45 1	46 1	45 13	44 24,25 27,28	31 13	31 8,19	29 13,14	24 Jan.1 Feb.1
	E. GRASS MIN. DATE	19 10	15 17,18	24 9	21 18	28 30	32 1	39 1	37 13,19	31 27	22 13	21 8	19 28,29	15 Feb.1 & 18
DAYS WITH	FROST	14	10	1	1	0	0	0	0	0	1	3	5	35
	GROUND FROST	18	18	8	13	4	0	0	0	0	3	7	17	88
SUNSHINE HOURS	SUM	40.8	81.7	78.9	(158.7)	180.9	257.3	143.6	161.0	134.2	75.7	75.5	54.3	1442
	% POSS.	16	28	22	38	38	52	29	36	35	23	28	22	32
	DAILY MEAN	1.32	2.82	2.55	(5.29)	5.83	8.57	4.63	5.19	4.47	2.44	2.52	1.75	3.9
PRECIPITATION INS.	AMOUNT	2.63	2.14	1.33	0.43	1.68	1.10	2.75	4.05	3.27	6.87	3.61	3.20	33.0
	RAIN DAYS	22	17	12	(13)	9	12	20	19	13	24	26	25	21
	MAX. RAIN IN 1 DAY	0.71	0.38	0.43	(0.12)	0.50	0.30	0.53	1.25	0.77	1.20	0.82	0.71	1.2
	DATE	23	12	28	(2)	19	22	22	11	6	26	25	3	Aug.
	LONGEST RUN OF CONSECUTIVE RAIN DAYS	8	5	7	(8)	3	4	8	6	3	11	21	14	
	LONGEST RUN OF CONSECUTIVE DRY DAYS	5	5	13	13	8	6	4	3	7	3	3	1	
	SNOW OR SLEET DAYS	5	3	0	0	0	0	0	0	0	0	0	0	10
DAYS SNOW LYING	7	1	0	0	0	0	0	0	0	0	0	0	8	
VISIBILITY	FOG AT 0900 G.M.T.	6	3	1	1	0	0	0	0	2	1	3	4	21
THUNDER-STORM ACTIVITY	DAYS OF THUNDER	0	0	0	0	2	2	5	6	0	2	2	0	19
	DAYS OF HAIL	0	0	0	1	1	1	1	1	0	0	0	1	6
AVERAGES MEAN DAILY TEMPERATURE OF	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
	MIN.	34.3	34.5	36.1	40.1	44.8	50.5	54.1	53.4	49.9	43.8	38.3	36.3	42
	MEAN	39.8	40.4	41.0	48.5	54.3	59.9	63.2	62.5	58.3	51.3	44.3	40.5	50
PRECIPI-TATION	AMOUNT	2.41	1.78	1.69	1.9	1.86	1.61	2.53	2.2	2.1	2.6	2.74	2.3	25
	RAIN DAYS	15	13	13	12	10	10	12	13	11	15	15	15	15

Change and Decay

(Being a summary of the Presidential address, November, 1959)

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

In the early days of philosophy our ancestors, with child-like egotism, believed that the world (and indeed the Universe) was constructed solely for the convenience of mankind. Faced with phenomena that were too large and too durable for comprehension by the trivial and transient human mind, they concluded that everything around them had been created once and for all time and that (supernatural intervention apart) all was stereotyped and everlasting. We, their descendants, have gradually become conscious of our limitations; and, although the pageant of Nature is still awesomely beyond our comprehension, we realise that no part of the physical universe is static, and that creation and recreation is a perpetual process.

Although the hills seem "everlasting" to minds with a span of observation limited to less than a century, we can actually watch their destruction in progress - usually slow and piecemeal, but occasionally catastrophic. Every shower of rain, even the passage of a cloud over the sun, disrupts and dislodges fragments of the rocks, and every river is a one-way conveyor-belt transporting the debris from the land to the sea. The fate that befalls a sandcastle when the tide comes in is, on a minute scale, the same as that under which even the proudest mountains must yield. The effect of the weather destroys the form of the land, but does not destroy its substance. The minerals broken from the rocks may undergo chemical change, but their material still persists, in a new texture and in a new location. These transported relics are sorted and collected, usually on the floor of the sea, and accumulate as the raw material for a new set of rocks. Subterranean forces may cause upheaval of new land to replace the old, but the materials of which this is composed have already been used in previous rounds of the recurrent cycles of change. Decay of the land is an essential preliminary to its reconstruction - there is nothing permanent in Geography.

Similar cycles are manifest in the organic world, and here some of them are speedy enough to be evident to all. Perhaps the most familiar case is that of the foliage of plants, where the growths of one season wither and decay to provide nourishment for those of future seasons. In all living creatures death and decay is a prerequisite of growth and regeneration. Worn-out tissues must die and be discarded to make room for new ones, which are themselves constructed from the decayed relics of others. It may seem a somewhat nauseating thought that our bodies are built from the decayed (or digested) carcasses of animals and plants, but that is the way of things. And if our bodies were not perpetually dying and discarding surplus matter the effect would be even more disconcerting. All through life, from cradle to grave, perpetual changes occur; and these changes are brought about by the replacement of worn-out tissues by fresh ones that are not quite identical. Life includes death - we stop dying only when we are dead.

The processes of decay and change that determine individual life are an illustration in miniature of those in the longer cycles of racial history. New generations are never exact replicas of their parents; but unless the parents die to leave room for their descendants there will be neither space nor material for the offspring to develop. Medical science, by reducing infant mortality and in-

creasing longevity, contributes disastrously to problems of population that threaten the very existence of our species. This may sound a harsh and unsympathetic statement; but the fact remains that there is only a certain amount of potential organic matter in the world, and unless this is kept in constant circulation, no healthy life is possible. Each new generation must climb over the dead bodies of the past; thus and thus only can the changes that it brings come to full development.

It is the same on the more extended scale of specific and generic changes. Evolution (which is another name for Life) needs extinction of the effete quite as surely as inception of the new. There was little chance of success for the Mammals until the Reptiles had relinquished their monopoly. The record of Palaeontology is one of the old order dying out, giving place to new.

In fine, the whole Universe, and all its parts, is in a state of perpetual flux. In that respect it may be said to be "alive", for change is one of the attributes of life. It seems to be an everlasting law of Nature that no thing can last for ever. And so we can close this painfully morbid essay on a note of confidence. Though the hills may melt, and the stream of time may bear everything away, behind all the change and decay the eternal verities endure.

The Recorder's Report for Entomology,

1959 - 60

By B. R. Baker.

The entomological report is, of necessity, very much a summary of the field observations of a number of keen workers. As the Recorder's own observations for the period under review are almost entirely confined to those made in the Kennet reed-bed area at Woolhampton, he acknowledges with grateful thanks assistance from J.E. Cooper, Mr. A. Price, Miss L.E.Cobb, Miss E.M.Nelmes and Mrs. A.M.Simmonds. The Director of Reading Museum has again kindly made available the relevant insect records kept at the Museum.

Early Appearance of Hibernators

- 21st February Wormsley Valley, Stokenchurch. In this Chiltern valley numbers of Seven-Spot Ladybirds, Coccinella 7-punctata L., were observed together with Hive Bees, Apis mellifera L., a Mirid tentatively identified as Stenodema calcaratum (Fall.) and numerous unidentified Diptera.
- 28th February Bramshill. Wood Ants, Formica sp., actively working.
Crowthorne. Small Tortoiseshell Butterfly, Aglais (Vanessa) urticae (L).
- 7th April Caversham. Peacock butterfly, Nymphalis io (L.), observed in a garden in Hemdean Road.

19th April Lower Warren. Brimstone butterflies, Gonepteryx rhamni (L)., and Small Tortoiseshells flying on a warm, sunny day.

Notes on Individual Insect Orders

Order Plecoptera (Stone-flies)

During the course of a seven-month survey of certain nocturnal insects made at Woolhampton, Berkshire, it was very apparent that an attractant such as a mercury-vapour light-trap could not be used to assess the relative abundance of such insects as stone-flies. These are but weakly flying creatures and of many thousands of insects examined over the seven months from April to October only 2 stone-flies were noted in the light-trap, viz:

Night of

9th/10th April Nemurella inconspicua (Pict.) 1 female
 4th/5th May Isoperla grammatica (Poda) (Yellow Sally) 1 female

Examination after dark of a wooden bridge over the river Kennet revealed, however, that stone-flies were to be found if searched for close to the water. The large species Perlodes microcephala (in which the male has much reduced wings) was recorded as follows:-

<u>Night of</u>	<u>No.</u>	<u>Male</u>	<u>Female</u>	<u>Notes</u>
6th/7th April	12	(not recorded)		At 00.25 hrs. a male specimen commenced to emerge from its nymphal skin. Complete release took 10 minutes. This newly emerged stone-fly was bright yellow in colour - this would change to a subdued brown, with orange and black as the cuticle hardened.
9th/10th April	15	11	4	
13th/14th "	2	1	1	
16th/17th "	3	2	1	
20th/21st "	1	1	-	
23rd/24th "	2	1	1	
30th/1st May	1	-	1	
4th/5th "	1	1	-	
7th/8th "	1	1	-	
No others observed after this date	26	18	8	

I. grammatica, another fairly large species, was also regularly found after dark on the same bridge:

4th/5th May 3 These specimens were emerging at 22.30 hours and were bright green in colour on leaving the nymphal skin.

<u>Night of</u>	<u>Time</u>	<u>Nos. of Isoperla grammatica</u>
7th/8th May	-	6
11th/12th "	23.30 hrs.	1
14th/15th "	23.30 "	1
18th/19th "	22.30 "	-
21st/22nd "	02.00 "	1
25th/26th "	01.45 "	1

No further specimens observed after this date.

Order Odonata (Dragon-flies)

Agrion splendens (Harris), Banded Agrion.

A nymph of this very common species was observed on the bridge at Woolhampton, It had crawled up the woodwork until about 3 feet above water level, and was ready for the final change into the winged adult dragon-fly. Close by was an empty skin (by its condition very recently tenanted), - these observations were made at 01.45 hrs. on the night of 25th/26th May. Late May and throughout June is the usual time to see these beautiful dragon-flies in swarms on the banks of slow flowing rivers. I was therefore very surprised to observe a female A. splendens on the river bank at Woolhampton on 4th September - surely a very late date.

Cordulegaster boltoni (Donovan), golden-ringed Dragonfly.

A specimen was captured in a woodland ride near Broadmoor reservoirs on 21st July.

Aeshna grandis (L.), the Brown Aeshna, and A. cyanea (Muell.), the Southern Aeshna.

These were both observed on 11th September at Wokefield Common - both are common in our district and may be seen on the wing from mid-summer to early autumn.

Order Trichoptera (Caddis-flies)

New to our county list is Hydroptila forcipata (Eaton), one of the smallest of the British caddis. This specimen was recorded at Woolhampton on 7th/8th May. Also from Woolhampton, and not previously recorded there:~

Limnephilus luridus Curt., (29th/30th June, 2nd/3rd & 9th/10th July)

Melampophylax mucoreus (Hag) (19th/20th: 26th/27th October)

A very large number of caddis-flies taken at Woolhampton still await naming

Order Lepidoptera (Butterflies and Moths)

Migrant Species

Apart from Red Admiral butterflies, Vanessa atalanta (L.), a species which became fairly numerous with us in late summer, there is little to report on migrant butterflies. However, on the 11th September a solitary Clouded Yellow, Colias croceus (Fourc.), was observed along the Icknield Way at Watlington, Oxfordshire.

By comparison, migrant moths were more in evidence:

Herse convolvuli (L.) Convolvulus Hawkmoth
1 Female, High Street, Reading 25th August
1 Male, Baynes Timber Yard,
Berkeley Avenue, Reading 20th September
1 Female Woolhampton 2nd October.

Plusia gamma (L.) Silver Y moth, was generally common in the Reading area.

Nycterosea (Nyctosia) obstipata (F.), The Gem. A single specimen 26th/27th October, Woolhampton.

Margaronia unionalis (Hb.), Scarce Olive-Tree Pearl. A single specimen 24th/25th September, Woolhampton.

Resident Species

The Comma butterfly, Polygonia c-album (L.), was noted in Pamber Forest on 24th July - this species was subsequently seen on a number of occasions during the autumn in town gardens.

The Holly Blue butterfly, Celastrina argiolus (L.), seems to have had a good year. On 29th July a female was seen in a garden at Northcourt Avenue, and specimens were noted in other gardens in the town during May and August. It was also recorded as abundant in Garrick Wood, Crowthorne.

A larva of the Death's Head Hawk-moth, Acherontia atropos (L.) was found on an allotment at Woodley on 13th September.

The Sallow Clearwing moth Aegeria flaviventris Staud. Larvae of this most recently discovered of the British clearwing moths live within sallow stems for 2 years, the only visible sign of a tenanted stem being a pear-shaped gall which is produced during the second winter. It is interesting that these galls are only to be found in odd/even winters. From Owlsmoor, near Crowthorne, a dozen or so stems were cut on 19th March. From these a single moth resulted on 2nd July, ample evidence that this species, suffers badly from parasitization, as does the whole family.

Waved Black moth, Parascotia fuliginaria L. Larvae were found in some numbers at Sindlesham on 7th May feeding upon fungi which were growing on a fallen trunk. The adult moths were bred through and emerged from 22nd June to 4th July.

This Sindlesham record is very interesting - Sindlesham is well away from the celebrated localities for this moth in our district, such as Crowthorne, Sandhurst and Camberley.

Order Coleoptera (Beetles)

- 20th January Anisandrus dryographus (Ratz.) (Scolytidae)
Several specimens found in West African timber, Abura (Mitragyna ciliata), in the woodwork shop at Redlands Senior School.
- 21st February Dorcus paralelelipedus (L.) (Lucanidae)
Abundant in a decaying oak log at Little John's Farm, Reading. The dimorphism of the male and female was very marked. (In the same log some 24 queens of Vespa sp. were hibernating in the old feeding holes of Dorcus larvae.)
- 6th March Rantus grapii (Gyll.) (Hydradephaga)
A single example (male) found at Earley Power Station.
- 6th March Cychrus caraboides var. rostratus (L.) (Carabidae)
Four specimens found in cells beneath the loose bark of an elm log at Sonning.
- 20th March Xestobium rufovillosum (Deg.) Death-watch beetle (Anobiidae)
Dead adults and living larvae were found in an infested beam which had been thrown on to a rubbish dump at Tilehurst.
- 21st March Nacerdes melanura (L.) The Wharf Borer (Oedemeridae)
A single specimen found in a cubicle at the heated Arthur Hill swimming bath. The normal time of emergence of this beetle is from July to September.
- 29th April Pyrochroa serraticornis (Scop.) (Pyrochroidae)
A single example bred from a pupa found in wood at Redlands School.
- 12th June Coelambus confluens (F.) (Hydradephaga)
Six examples found in a gravel pit near the Newbury Sewage Works at Thatcham.
- 10th July Oreodytes rivalis (Gyll.) (Hydradephaga)
Twenty four (in teneral condition) found in the Sul stream at Sulham.
- 25th September Necrodes littoralis (L.) (Silphidae)
As the specific name suggests, this beetle is normally found on the sea shore, though known from riversides at inland localities. A male and female were taken in a light-trap at the Museum Field Station, Woolhampton.

1960 was reported to have been a very good year for Melolontha melolontha (L.), the Cockchafer, (Melolonthinae) at Crowthorne, where the leaves of oak trees were eaten bare.

Class Crustacea

14th February Niphargus aquilex The Well Shrimp. A single specimen found in a gravel pit near the Oval Pond, Padworth.

Hirudinea Leeches

1st May Trocheta bykowskii An example of this uncommon leach was found beneath a brick at the water's edge in Earley Power Station swamp. This species is normally found in or near running water - the river Thames is not far distant from this swamp.

The Recorder's Report for Ornithology,
1959-60

By E. V. Watson

I propose this year not to draw on records already published in the R.O.C. Report for 1959 (obtainable from Hon.Sec. Reading Ornithological Club, price 2/6d.), but to confine myself to notes sent in by members, together with my own observations and some records kindly supplied by Mr. Robert Gillmor. The method adopted will be to pass the year in review, season by season.

The winter period, November 1959 - February 1960 inclusive, furnished few records. Mr. Gillmor, however, reported a pair of Gadwall at Theale gravel pit on January 10th, 1960. All references to Theale are to the 'new' pit (now about seven years old), unless otherwise stated. The same observer saw three Sheld-duck at Burghfield gravel pit on 7th February and on the same date a drake Ferruginous duck at Theale. These are three rare duck for the Reading area.

The most outstanding winter record among other birds to come in was that of a female Black Redstart, seen by Mrs. Skinner in her garden at Upper Basildon on February 29th. It stayed for four days and the identification was corroborated by Miss Wigan. There are a few notes of our more ordinary winter residents. The Skylark population in a large arable field at Cleeve (Goring) was estimated by me at about 250 birds on January 10th. Mrs. Simmonds wrote of two Gold-finches feeding among lavender bushes, Hemdean Road, Caversham, on February 5th.

They are always attractive birds to see, especially when one comes on them by surprise at close quarters in a town setting. Mr. Gillmor was fortunate to see the much more elusive Hawfinch in Northcourt Avenue on February 24th. Bullfinches, sometimes up to ten together, were prominent in and about my garden at home, but I can report a much larger apple crop than usual. Admittedly they were seen mainly near mid-winter, whilst the heaviest depredations on fruit buds are a spring event. Mr. K.E.L. Simmons reports a Greater Spotted Woodpecker frequenting his bird table at Roslyn Road, Woodley, during late autumn, 1959. It ate varied 'scraps' and visited the coconut. Miss Nelmes commented on the great size of Woodpigeon flocks during February - amounting to several hundred together on each occasion - in the Burghfield, Stokenchurch and Wokingham areas. A Grey Wagtail frequented the tiny pond on Senior Common Room lawn, University of Reading, more or less regularly from early December until the end of January.

On suitably mild days, song began to be noticeable very early in the year, especially of course the Missel Thrush which is always conspicuous vocally in January. I noticed a cock Linnet singing well on Streatley golf course on January 5th. A Blackbird, individually recognisable to me because of its peculiar phrasing of the song, began to sing outside the University Botany Department on January 28th. On March 3rd, I heard a Starling giving a remarkably good 'imitation' of a Lapwing outside my University window.

A Natural History Society visit to Coley Park Heronry (March 5th) was reported by Mrs. Simmons and by Miss J.M. Watson. Seventeen nests were found to be occupied and nearly thirty birds were seen. Mrs. Simmons records eight Rooks' nests in Forbury Gardens, which she believes to be a new Rookery site. On March 11th, a Carrion Crow was revisiting its own old nest at the top of a large Platanus in the University. On February 24th, I noticed two Goldcrests in the University grounds chasing one another from bush to bush in an excited state. Short "tinkling" notes were uttered all the while but never the true song. The crests were not seen to be fanned, as sometimes happens in Goldcrest courtship. A record by Miss Nelmes of two Cirl Buntings in a chalk pit near Newbury is of interest. Although present for most of the year at Cleeve (Goring), the species is very local in the district as a whole.

The earliest Spring arrival record is that of a Chiffchaff seen by Miss Nelmes on March 13th. Mr. Brian Baker reported Nightingale and Grasshopper Warbler, both on April 7th, and Cuckoo on April 8th, from the reed beds at Woolhampton. These are early dates and illustrate what can be done when one is called upon (as Mr. Baker is with his entomology) to spend much time in a favoured spot; especially if some of that time is in the early hours of the morning. My own first dates for some other species were: Swallow, April 14th (Aldermaston), Yellow Wagtail and Sedge Warbler, April 16th (Theale) and Lesser Whitethroat, April 22nd (Cleeve). Mrs. Fishlock saw the first Swifts on May 4th; it is astonishing how, year after year, the main influx of this species is within the same few days in early May. On May 5th, the first Turtle Dove had arrived at Cleeve. On May 11th, I saw my first Spotted Flycatcher, although Sir John Wolfenden noted it a couple of days earlier in his garden in Upper Redlands Road. My last "arrival" was Garden Warbler, singing at Cleeve on May 15th.

Visits to gravel pits can be productive in April and May for, although most non-breeding duck have gone by the end of March, there are breeding populations to study and sometimes birds of passage, waders and others, to be seen. On April 16th at Theale, I noted three Pochard, about sixteen pairs of Tufted Duck and some six to ten pairs of Great Crested Grebe. A further visit to Theale, May 14th, showed two pairs of Pochard and eight to ten pairs of Tufted Duck were estimated. On May 27th at least one pair of Great Crested Grebes had well-grown young (in stripey plumage). Meanwhile, a visit to Sonning Eye gravel pit on May 11th had revealed a pair of Canada Geese with six fair-sized goslings. No important spring passage waders were reported but Black Terns were noted by me (two) at Sonning Eye on May 11th, by Mr. Gillmor (five) at Burghfield on May 12th, and again at Sonning I saw a single one on May 13th. This one narrowly escaped being "run-over" by a speed-boat with water-skier in train! On May 12th, Mr. Gillmor also saw five Common Terns and one Little Tern at Burghfield. Little Ringed Plovers were again to be seen on certain of the pits in May. I noted a passage Lesser Black-backed Gull at Theale on May 27th. On the same day both Yellow and Grey Wagtails appeared to be in territory there, the latter a pair attracted to the weir on the canal behind the gravel pit.

High summer saw the outstanding event of the ornithological year in our area. This was the single Red-necked Phalarope which frequented a small village pond at Marsh Baldon, near Newnham Courtenay, for fully a week at the end of June. I saw it on the evening of June 28th and it had certainly been in the area since the 25th. It was tame, or perhaps one should say indifferent to the presence of observers, to the extent that Phalaropes are reputed to be; and hence it allowed all who visited it (and they were many) to approach as close as the water made possible, to sketch and to photograph. A full account will no doubt appear elsewhere and it will suffice here to stress that a Red-necked Phalarope is a rarity at any time in such a site in southern England, and at this mid-summer season probably without precedent.

August was marked by three remarkable days, August 19th - 21st, for Mr. Gillmor. On each of these days he visited Englefield Park (Cranemoor Lake) and each time he saw the following four waders (the numbers seen are given in brackets after each species):- Greenshank (3,2,3); Wood Sandpiper (2,5,3); Green Sandpiper (14+,13,7); Common Sandpiper (12,2,1). The mud at the east end of this lake is always an attraction, but a record such as this is quite exceptional. On September 5th, I noted a Common Sandpiper at Burghfield, and on September 24th, Mr. Gillmor heard a Curlew flying over Northcourt Avenue at 10.55 p.m. Mrs. Fishlock comments on about a hundred Canada Geese at Heckfield Place on August 23rd.

According to a recent report in "British Birds", many summer species tended to stay late this past autumn. No outstanding date has come to my notice for our own area, but on October 3rd I noticed that Sand Martin, Swallow and Chiffchaff were all still present at Aldermaston, and October 4th, a rather misty morning, produced a Wheatear on the fringe of cultivated fields on the outskirts of Caversham. On October 24th, Mr. Brian Baker wrote to report the massing of considerable numbers of Pied Wagtails in the reed beds at Woolhampton.

By this time the numbers of duck on the pits and other inland waters were beginning to push up again, and on October 5th I counted twenty Pochard at Theale

and about sixty Teal at Englefield. At Theale at least one pair of Great Crested Grebes still had stripey-headed young that were being fed by the parents on the above date. In early November passage Lesser Black-backed Gulls began to mingle with Black-heads and Common Gulls (and an occasional Herring Gull) in Christchurch Meadow, just west of Reading Bridge. I recorded ten to fifteen on November 11th, but by November 28th the remarkable total of about sixty Lesser Black-backed Gulls was registered.

This Report can scarcely close without mention of a signal event, the holding of a fairly comprehensive exhibition of contemporary bird art in the Reading Art Gallery, from November 26th until December 24th, 1960. The Exhibition owed its inception to Mr. Robert Gillmor; its success to him, and to many others, not least to Mr. T.L. Gwatkin, Director of the Museum and Art Gallery. The Opening by Field-Marshal Lord Alanbrooke will remain a memorable occasion for all who were privileged to attend it.

The Recorder's Report for Botany,
1959-60

By K. I. Butler

The nomenclature followed is mainly that of Clapham, Tutin and Warburg, in "The Flora of the British Isles", supplemented by J.E. Dandy's "List of British Vascular Plants". As last year, the radius of the area covered is a rough twenty miles from Reading.

During the past year, botanical observations have been carried out over a wide area. From within the borough itself, where Mrs. A. M. Simmonds recorded over 200 species of flowers and grasses and one fern, to as far afield as the West Woodhay Downs, just within the Berkshire boundary, where Mrs. Simmonds found Herminium monorchis (L.) R.Br. (Musk Orchid), and Coeloglossum viride (L.) Hartm. (Frog Orchid).

Many of the Society's Field Excursions during the year proved of great interest to the botanists.

BEENHAM, April 9th. Chrysosplenium oppositifolium L. (Opposite-leaved Golden Saxifrage); Adoxa moschatellina L. (Moschatel); Equisetum telmateia Ehrh. (Great Horsetail). All have been recorded here for several years.

NUNEY GREEN, May 7th. A large patch of well grown specimens of Orchis mascula L. (Early purple Orchid) was seen in the woods.

ALDERMASTON COURT, May 21st. Scrophularia vernalis L. (Yellow Figwort). It will be remembered that this was previously recorded in 1955, between Woolhampton and Bucklebury, on the occasion of one of the Society's Field Excursions.

BIX BOTTOM, June 11th. After reading Mrs. V. Paul's "A Three Kilometre Square" in "The Reading Naturalist" No. II, it was a treat for members to see so many of the plants recorded by her for Bix Bottom, including many fine specimens of Ophrys insectifera L. (Fly Orchid) and Platanthera chlorantha (Cust.) Rchb. (Greater Butterfly Orchid), 2 plants of the much rarer P. bifolia (L.) L.C. Rich (Lesser Butterfly Orchid), O. apifera Huds. (Bee Orchid), Listera ovata (L.) R. Br. (Twayblade), Cephalanthera damasonium (Mill.) Druce (White Helleborine), Alchemilla vulgaris agg. (Ladies Mantle), growing plentifully on the edge of a road, a small amount of Helleborus viridis L. (Green Hellebore), and great quantities of Paris quadrifolia L. (Herb Paris), near which Mrs. Paul was pleased to find the leaves of one plant of Aquilegia vulgaris L. (Columbine), this being a second site for this area.

WELLINGTON COLLEGE, June 25th. Typha latifolia L. and T. angustifolia L. (Great and Lesser Reedmace); Potamogeton polygonifolius Pourr. (Bog Pondweed); Juncus bulbosus L. (Bulbous Rush); Eleogiton fluitans (L.) Link. (Floating Scirpus); Geranium phaeum L. (Dusky Cranesbill), well established in a wood. On a previous visit, Mrs. Simmonds saw Potentilla argentea L. (Hoary Cinquefoil) growing in the spot recorded by Druce.

BLEWBURTON HILL, July 9th. Thesium humifusum DC. (Bastard Toadflax); at the edge of a cornfield, Lithospermum arvense L. (Corn Gromwell) and Avena fatua L. (Wild Oat).

SPAN HILL and DUNSDEN GREEN, July 13th. Avena ludoviciana Dur. (Wild Oat), distinguished from A. fatua by the tufts of hairs extending up two-thirds of the lemma instead of only one third; Melandrium noctiflorum (L.) Fr. (Night-flowering Campion) at edge of cornfield, a new record; Picris ecboides L. (Bristly Ox-Tongue), recorded some years ago and persisting even after ploughing.

RISELEY MILL, August 8th. A most successful excursion. Plants found included Pulicaria vulgaris Gaertn. (Small Fleabane), which was located by Mrs. Simmonds growing plentifully around a pond at Springwater Farm, Branshill and may well constitute a new record for Hants; Silene anglica L. (Small-flowered Catchfly), found by Miss J. Tobias at the edge of a cornfield; Anthemis nobilis L. (Chamomile), on wayside between Springwater Farm and Riseley Mill; Chenopodium rubrum L. (Red Goosefoot), by edge of arable field; and Alopecurus aequalis Sobol. (Orange Fox tail), with orange stamens, which was last recorded in 1953 by Dr. L. Williams from a pond at the top of Sulham Hill, that occasion being the first on which it was recorded for Berkshire.

HAZELEY HEATH, August 10th. Genista anglica L. (Needle Furze).

BRADFIELD to YATTENDON, September 17th. Geranium columbinum L. (Long-stalked Cranesbill), near Stanford Dingley; Solidago virgaurea L. (Golden-rod), near reservoir in Great House Wood.

HOOK COMMON was visited by some members on September 10th, when nine flowers of Gentiana pneumonanthe L. (Marsh Gentian) were seen, also Serratula tinctoria L. (Saw-wort) and Silaum silaus (L.) Schinz & Thell. (Pepper Saxifrage).

FUNGUS FORAY. 102 species were found, including 33 not represented in the Society's previous list from Kingwood Common.

MEMBERS' RECORDS

Ceterach officinatum DC. (Rusty-back Fern). On a wall between Goring and South Stoke, Sept. 18th (Mrs. Simmonds and Miss L. Cobb); doing well in its old haunt at Kingwood Common on the wall along the road to "Brackenfell"; just surviving on a wall at Bix Bottom - one plant only.

Ophioglossum vulgatum L. (Adder's Tongue) Abundant on football field at Stoneham School (J. Hodgson); barren fronds only, in hawthorn scrub off the footpath from Henley to Lower Hermes Farm, (Miss Cobb); Watlington Hill on May 22nd (Mrs. Simmonds); Bix Bottom.

Myosurus minimus L. (Mousetail). Two or three Small specimens in field at Lower Earley - an old locality; many more specimens this year in Mr. Smallcombe's garden in Reading.

Arabis hirsuta (L.) Scop. (Hairy Rock-cress). Watlington Hill, May 22nd. (Mrs. Simmonds).

Minuartia tenuifolia (L.) Hiern (Fine-leaved Sandwort). Wantage Fair Mile (Mrs. Hodgson).

Arenaria serpyllifolia L. (Thymed-leaved Sandwort). Watlington Hill, May 22nd (Mrs. Simmonds).

A. leptoclados (Rchb.) Guss. (Lesser Thyme-leaved Sandwort). Watlington Hill, May 22nd. (Mrs. Simmonds).

Montia fontana ssp. chondrosperma (Fenzl) Walters. Several plants on Heckfield Heath (John Hodgson).

Atriplex hortensis L. Several plants at Wargrave (Mrs. Hodgson).

Geranium lucidum L. (Shining Cranesbill). One plant by roadside near Stonor (J. Hodgson).

Genista anglica L. (Petty Whin) with Ulex minor Roth (Dwarf Furze). Abundant in field at Sulham (J. Hodgson).

Alchemilla vulgaris agg. (Lady's Mantle). Wormsley Valley, June 6th. (Miss Cobb).

Peplis portula L. (Water Purslane). Bramshill, July 10th. (Miss Cobb).

Moenchia erecta (L.) Gaertn., Mey., Scherb. (Upright Chickweed). Sandy heath at Padworth (Mrs. Paul).

Polygala calcarea F. Schultz (Chalk Milkwort). Aston Upthorpe Downs (Mrs. Simmonds).

Senecio integrifolius (L.) Clairv. (Field Fleawort). Aston Upthorpe Downs (Mrs. Simmonds).

Linaria repens (L.) Mill (Purple Toadflax). Growing freely on railway bank near Little John's Farm, off Oxford Road, Reading (Mrs. Simmonds).

Iberis amara L. (Wild Candytuft). Bald Hill, near Watlington, August 20th (Miss E. Nelmes).

Gentianella germanica (Willd.) E.F. Warburg. Between Shirburn and Bald Hall, near Watlington, September 11th (Miss Nelmes).

Stachys arvensis L. (Field Woundwort). Abundant in arable field at Padworth (Mrs. and J. Hodgson); two plants in field by Nunehide Lane (J. Hodgson).

Hottonia palustris L. (Water Violet). Persisting at Waltham St. Lawrence (Miss L. Cobb); flourishing at Grazely (Miss Cobb).

Taraxacum laevigatum agg. (Lesser Dandelion). The chalk form of T. officinale (outer ray-florets brown, and achenes toothed $\frac{1}{4}$ way from tip) Watlington Hill (Mrs. Simmonds).

Torilis nodosa (L.) Gaertn. (Knotted Hedge-parsley). Several plants on roadside bank near Caversham Bridge (Mrs. Hodgson).

Hypericum montanum L. (Mountain St. John's Wort). Three plants at Tilehurst; two plants near Lower Basildon (J. Hodgson).

Astragalus glycyphyllos L. (Milk Vetch). Mrs. Simmonds reports that the site of the Old Bath Road near Twyford - one of Druce's localities - has been destroyed in consequence of the construction of a footpath. The plant is maintaining itself on the piece of waste land on the opposite side of the road.

Neottia nidus-avis (L.) L.C. Rich, (Bird's Nest Orchid). Maiden's Grove Scrubb (Mrs. Simmonds).

Platanthera chlorantha (Cust.) Rchb. (Greater Butterfly Orchid). Near Pamber Forest, June 12th. (Mrs. Simmonds).

Ophrys insectifera L. (Fly Orchid). A small number at Hardwick, June 4th. (Miss Cobb).

Orchis militaris L. (Soldier Orchid). Was visited on June 3rd by Mrs. Simmonds, who reports that a certain amount of clearing has been done in the woods. Fewer plants were counted in flower, but one or two new plants were noted.

Orchis simia Lam. (Monkey Orchid). Miss Nelmes and Miss Cobb found one specimen, nearly 9" high, on the original chalk slope on May 21st. This was good news, as the site was destroyed by the plough in 1949, and with one possible exception had not been seen there since. The Recorder saw the flower and photographed it on May 26th, but when Mrs. Simmonds visited the slope on June 4th, it had been picked. The Orchid has not been recorded from the newer site this year.

O. ustulata L. (Dark-winged Orchid). Twenty plants seen in flower, Aston Upthorpe Downs (Mrs. Simmonds).

O. morio L. (Green-winged Orchid). Miss Cobb reports seeing it at Aborfield on May 8th - she noticed that several had evidently been picked by children and thrown on a path by the Whitewater near Riseley. A search of neighbouring meadows failed to reveal growing plants, although the flowers found were fresh and probably from quite close at hand.

O. strictifolia Opiz. and O. praetermissa Druce. These two Marsh Orchids were seen in a field near Nunehide Lane by Miss K. Watson and the Recorder.

Gymnadenia conopsea (L.) R.Br. (Fragrant Orchid). Wormsley Valley, June 6th (Miss Cobb).

Coeloglossum viride (L.) Hartm. (Frog Orchid). Two plants, Watlington Hill, August 27th (Miss Nelmes).

Epipactis helleborine (L.) Crantz (Broad Helleborine). Wood near Fair Mile on October 10th (Mrs. Simmonds); a large number of flowering plants were seen at the edge of a wood near Harpsden by Andrew Isherwood, one of our junior members, to whom credit is due for not picking a single specimen, but reporting his find to Mrs. Simmonds and showing her the locality.

INTRODUCED PLANTS

Impatiens glandulifera Royle (Policeman's Helmet). Riseley Mill, August 6th (Miss Cobb); near junction of River Enborne and River Kennet, Woolhampton (Mr. B. Baker); seen growing freely at edge of wood near Kingwood Common, on the occasion of the Fungus Foray.

Galingsoga parvifolia Cav. (Gallant Soldier). Still a troublesome weed at Suttons Trial Ground (Mrs. Simmonds); Elisha Hicks Rose Gardens (Mr. Bowden and the Recorder); Elm Road Nurseries, Reading (the Recorder).

G. ciliata (Raf.) Blake. One plant outside yard at Harpsden, August 15th (Mrs. Simmonds); in a garden, Southampton Street, Reading, growing with G. parvifolia (Mrs. Simmonds).

Euphorbia virgata Waldst. & Kit. After a lapse of years has reappeared inside the railings of the Southern Region Goods Yard (Mrs. Simmonds).

Barbarea intermedia Bor. (Intermediate Yellow Rocket). Riseley (J. Hodgson); growing plentifully by the side of a track at Grey's (Mrs. Paul); about six plants on rubbish tip at Woodcote (Mrs. Paul); on side of road from Woodcote to Wallingford (Mrs. Paul).

B. verna (Mill.) Aschers (Early-flowering Yellow Rocket). In quantity at Whitchurch (Mrs. Hodgson); a very fine specimen on the bank of Mrs. Paul's house at Peppard.

Sisymbrium orientale L. (Eastern Rocket). Waste ground at Woodley, where it was first observed in 1945 by Mrs. Simmonds.

Melissa officinalis L. (Balm). Well established along river bank between Earley Power Station and Sonning Lock (Mrs. Simmonds).

Tragopogon porrifolius L. (Salsify). One plant at Cockney Hill (J.Hodgson)

Allium paradoxum (M.Bieb.) G.Don. Established itself on a piece of land at Peppard Common (Mrs. Paul).

Tetragonolobus maritimus (L.) Roth. Plentiful by roadside, Hanover Hill, Fingest, flowering between August 12th and September 17th. Locality first found in 1956 (Miss Nelmes).

Erigeron annuus (L.) Pers. A native of N. America was found by Mrs. Simmonds in Reading, and identified by Dr. Warburg - see separate note by Mrs. Simmonds.

Mrs. Hodgson and John Hodgson have been particularly interested in alien plants, with special reference to some local rubbish tips, on which they have recorded the following:-

HAZELEY HEATH.

Sisymbrium altissimum L. (Tall Rocket); Onopordum acanthium L. (Scotch Thistle, Cotton Thistle), many plants; Solanum sarrachoides Sendtn.; Chenopodium polyspermum L. (Allseed).

PANGBOURNE

Hyoscyamus niger L. (Henbane), one plant; Amaranthus retroflexus L., one plant.

THEALE

Datura stramonium L. (Thornapple), one big plant.

THAMES-SIDE,
READING

Lolium temulentum L. (Darnel); Sisymbrium altissimum L. (Tall Rocket); S. orientale L. (Eastern Rocket); Coriander sativum L. (Coriander), one plant; Cannabis sativa L. (Hemp), one plant about 9 ft.; Linum usitatissimum L. (Cultivated Flax), several plants; Echinochloa crus-galli (L.) Beauv. (Cockspur); Setaria viridis (L.) Beauv. (Green-Bristlegrass).

Some plants occurring as garden weeds have also been recorded by Mrs. and John Hodgson:-

Fumaria capreolata var. babington determined by Kew, one plant, Tilehurst; Rorripa islandica (Oeder) Borbas (Marsh Yellow-cress), pavement, Tilehurst; Chenopodium polyspermum L. (Allseed), abundant in flower beds on Reading Promenade; Lamium hybridum Vill. (Cut-leaved Deadnettle), pavement weed, Tilehurst; Mercurialis annua L. (Annual Mercury), male and female plants abundant in a garden in London Street, Reading; Stachys arvensis L. (Field Woundwort), several plants in a garden, Tilehurst.

The Recorder wishes to thank all those who contributed to this Report.

Fungi at Kingwood Common

(Supplementary List)

At the Society's Foray in 1960, which was honoured by the presence of both Dr. F. B. Hora and Dr. J. Ramsbottom, over 100 species were collected and identified by them, including those recorded below, which did not figure in the list of species found in 1945-57 published in No.12 of the Reading Naturalist.

Bispora (moniloides)

Cantherellus cinereus

Clavaria funosa
stricta

Collybia erythropus

Coprinus cinereus

Cortinarius albo violaceus
bolandis

Coryne sarcoides

Dacrymyces deliquescens

Entoloma sp.

Fomes annosus

Inocybe asterophora

Lycoperdon hyemalis
saccatum

Marasmius erythropus

Mycena amoniaca
galopus

Nectria sp.

Nolanea sp.

Panus stipticus

Peziza badia

Polyporus fragilis
giganteus

Psathyra gossypina

Psathyrella disseminata

Russula densifolia

Schizophyllum commune

Stereum purpureum
rugosum

Stropharia semiglobata
squarrosa

Trichoderma (viride)

OBSERVATIONS

A Rare Alien in Berkshire

Erigeron annuus (L.) Pers. is of such rare occurrence in Britain that it would be more correct to designate it a casual. Seven plants appeared and flowered in a small area of sown grass-land near Reading in June 1960. Presumably the seeds were among the mixture of imported grasses and clovers which had been sown in 1959. The plants survived mowing and flowered again in August. Unfortunately, the land was ploughed in early September before any seeds could develop.

E. annuus resembles E. acris L. (Blue Fleabane) to the extent that its generic relationship is unmistakable but the ray-florets are white and the leaves a very fresh green. The plant is a native of northern U.S.A. and Canada where it is most frequent in the eastern states, and occurs as a widespread weed in moist ground and waste places.

As far as can be ascertained there is no previous record for either Berks or Oxon. It is not recorded in the County Floras of adjoining counties, although there may be subsequent records.

A. M. Simmonds.

Crown Galls on Daphne and Bramble

On 18th February 1960 I received from Mr. B.R. Baker, Reading Museum, a specimen of mezereon (Daphne mezereum L.) that had been sent in by Suttons, the seedsmen, for identification of the galls upon it. The specimen came from a garden in Reading.

The stems bore nearly spherical, woody galls ranging in diameter from 2 mm. to 12 mm., and as many as 14 were present on a piece of stem 15 cm. in length. A tentative identification of crown gall was made, but attempts to confirm that by isolating the bacterium on potato agar were unsuccessful, for only woody tissues were available and green tissue is recommended for such work.

Subsequent reference to the literature confirmed that the crown-gall organism, Agrobacterium tumefaciens (Smith & Townsend) Conn., does gall D. mezereum (Stapp, 1956, Bakterielle Krankheiten. Handb. Pflkrankh. 2. (2): 342-343, 6 Aufl.). Dowson (1949, Manual of bacterial plant diseases. London) does not list daphne as a host-plant, and it is probable that the only previously published record of crown gall on D. mezereum is that of Stapp (1940, Der Pflanzenkrebs und sein Erreger Pseudomonas tumefaciens. IX Mitt. Daphne mezereum L. als weitere neue Wirtspflanze. Zbl. Bakt. (Abt. II) 102:295-300), who found it in the late autumn of 1938 in north-western Germany. In Stapp's material, the galls were restricted to the lower parts of the plant, particularly the collar.

A number of larger crown galls, about 2 cm. in diameter and rougher on the surface, were found on a bramble (Rubus sp.) at Pamber Forest during the Society's field meeting on 23rd July 1960. They occurred on arched stems, some four feet

above the ground, at intervals of about two inches. Although the occurrence of A. tumefaciens on bramble is not rare, it is sufficiently unusual to warrant recording.

D. Leatherdale.

Crematogaster scutellaris - an unusual record

This species has been recorded many times from the British Isles, where it usually arrives with a consignment of cork. It has also been known to establish itself and breed indoors in hot-houses and similar places.

The ants which form the subject of this note are therefore unusual in nesting out of doors in an unprotected site.

My attention was first drawn to them on June 2nd. of this year (1960), when they were running busily to and fro on the hand-rail of the wooden bridge crossing the mill-leaf of Caversham Mill. In the bright sunlight the red head and thorax, contrasting with the black abdomen, caught my eye and I captured three for closer examination later on. Some of the ants were carrying aphids which they had found on the willow trees that overhang the end of the bridge. These were evidently homeward bound and I was able to trace them to their nest in the crevices of the wood-work at the foot of a supporting post. Under the microscope, my captives refused to be identified as any British species. Accordingly I went back to the nest for more live specimens, which were identified by Dr. Yarrow at the British Museum as Crematogaster scutellaris Olivier, an ant which is common in the Mediterranean area. Presumably the founders of the colony were imported by the cork factory which now occupies the buildings of Caversham Mill.

Some weeks later, and quite by chance, I came across a reference to the genus Crematogaster in a work on African insects, from which I learned that they have the English name of "Cocktail Ants." This is apparently an allusion, not to their in-temperate habits, but to the fact that when disturbed they tilt their abdomens upwards and emit a foul-smelling secretion. At the time when I read this, I had not myself observed this behaviour, but on a later visit to the nest, which had now been removed to more commodious quarters at the top of the post, I attracted the attention of two interested small children. Before I could stop her, the younger of the two began to stir up the inmates with a grass stalk, and they at once responded in the proper manner. The smell was not perceptible in the open air, but the paired glands which produce it were visibly extruded at the tip of the abdomen.

At the time of writing the colony still flourishes, in spite of the discouraging weather they have experienced. † It remains to be seen whether they will survive the winter.

H. Carter.

† The ants remained active until the end of October, but on 7th November had not been seen again.

SMALL MAMMALS OF THE READING AREA

By H.H. Carter and C.H. Johnson

This paper records the results of investigations into the small mammal populations of three localities near Reading, carried out by the authors during the summer of 1960.

AREAS WORKED

Area I - Woolhampton. This is a part of the proposed Nature Reserve in the Kennet valley near the village of Woolhampton. It comprises the narrow strip of land between the River Kennet and the Western Region main railway line from Reading to Newbury, and extends from Wickham Knight's Bridge upstream to the brook which comes in from the village, a distance of 400 yards.

The ground here is very wet and intersected by numerous drainage ditches, and the vegetation varies from willow and alder at the western end of the strip to reed bed at the eastern end. The Reading Museum field station is situated here, on the tow-path 100 yards west of Wickham Knight's Bridge.

Area II - Mapledurham. This in effect falls into two sub-areas lying close together on Gravel Hill, north of the Warren and 150 yards east of the edge of Chazey Wood. Here the soil is dry and well-drained, with a strong slope to the south, and the vegetation is mainly close-cropped pasture. This proved to be so exposed that it was impossible to set traps without running the risk of disturbance by passers-by, so trapping was concentrated in the two sub-areas mentioned. A small copse of mixed deciduous trees, with a patch of dense brambles and nettles to the north of it, formed the northern sub-area. The southern was 100 yards to the south on the rim of an old chalk pit and including part of a conifer plantation on the steepest part of the slope.

Area III - Playhatch. It was decided to conduct a trapping survey on the agricultural site of Mr. E.W. Low, of 31 Anglefield Road, Reading, which he has taken over as a smallholding of $2\frac{1}{2}$ acres. This lies north of the Henley Road and east of the road to Playhatch, and is roughly 100 yards square. Two cottage gardens abut on to the centre of it. It borders on a barley field to the north, has thick bushes along the eastern edge, and across a gravel track to the west are gardens of five more houses. It is divided into three strips. There is a small haystack in the centre piece, a well and some iron sheds. The natural vegetation consists of nettle, dock and thistle, with dandelions and couch grass which are due to be sprayed and cultivated for humus. When Mr. Low took over the land, the weeds were over three feet high and it was "Over-run with vermin." It is now well manured and the woods sprayed. The middle strip is a rough pig ley and the other two are cultivated for hay and swedes. Mr. Low, along with the keeper, poisoned rats with "Warfarin" last year, and the second author was interested to see how this had affected the various species, especially rats.

Some traps were later moved across the Henley Road and set along the side of Berry Brook, between Marsh Lane and Sonning Old Gravel Pit.

Fig.3. WOOLHAMPTON.

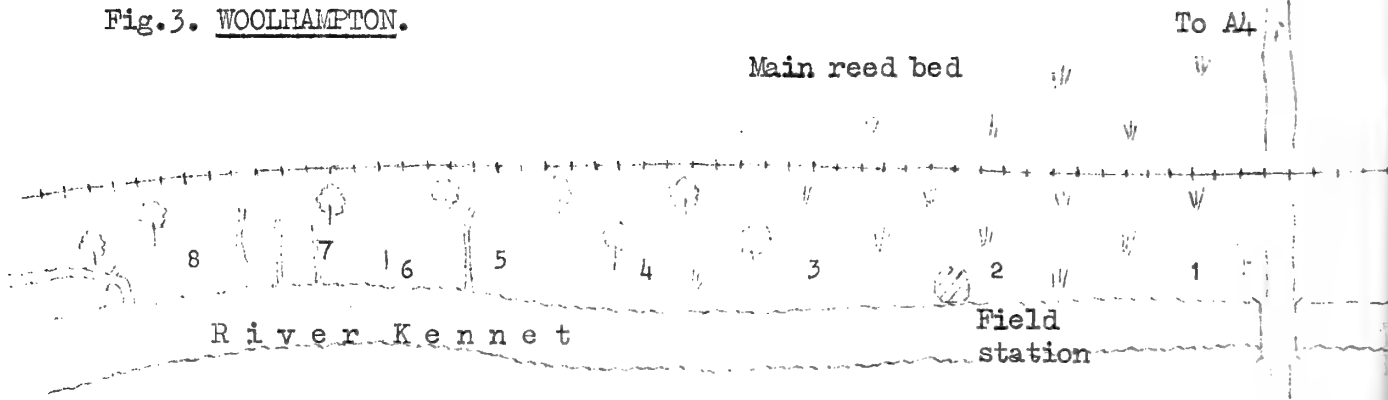


Fig.4. MAPLEDURHAM.

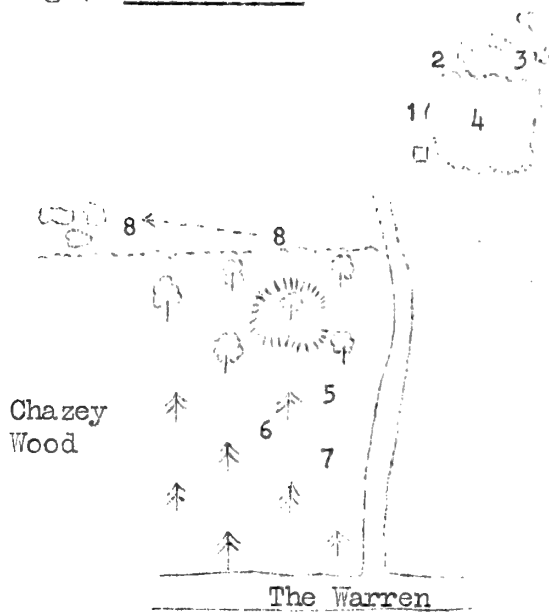


Fig.5. PLAYHATCH.

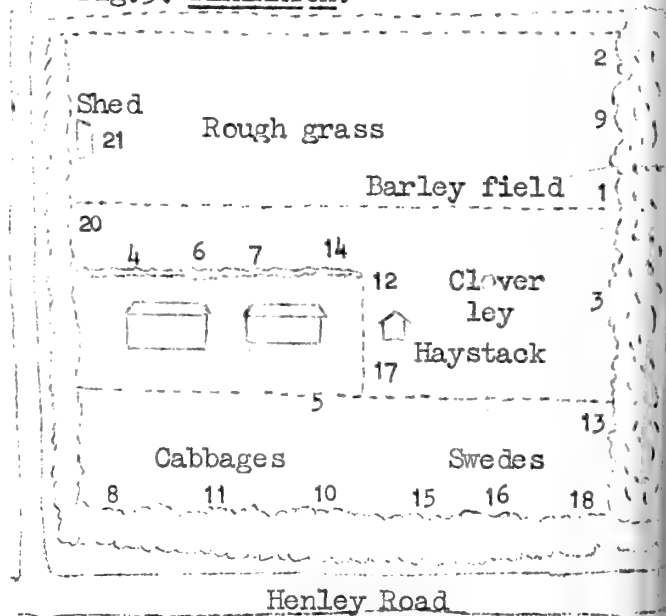


Fig.6. BERRY BROOK.

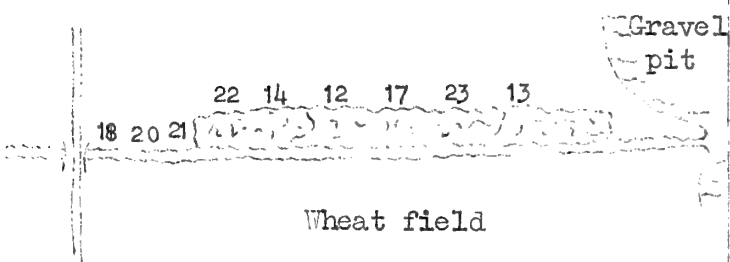
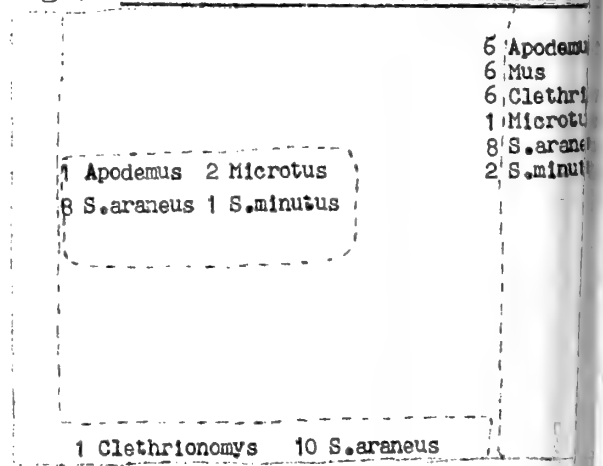


Fig.7. TRAPPING RESULTS at PLAYHATCH



Figs.3-6. Disposition of traps in the areas.

PURPOSE, METHODS and EQUIPMENT

At Woolhampton our object was to find out as much as possible about the small mammals in the area, especially what species were present and in approximately what numbers. The area was chosen as being part of a prospective Nature Reserve and the trapping formed part of a general survey of its natural history which is being carried out by the Museum. Some trapping on a small scale during March 1960, not recorded in detail, established the feasibility of a more extensive programme. On 29/3/60 two Longworth traps, which catch small mammals up to the size of Long-tailed Field Mice (Apodemus sylvaticus) without injury, were set, and four more were put down on 5/4/60. For the first week these were pre-baited to accustom the animals to their presence. Bait and bedding were supplied and the door fastened up so that they could go in and out freely. On 10/4/60 all the traps were set, and they remained in position until 24/4/60 when they were all removed. Each small mammal when caught for the first time was marked with a water-proof dye and immediately released. If a marked mammal was recaptured it was released without marking again.

The species, date, mark and trap site of every capture and recapture were recorded in the field. From these data the total population can be estimated. It is assumed that the proportion of marked to unmarked animals in each day's catch is representative of the population at large. The total number of marked animals is known from the records. If on any one day a third, say, of the catch, is already marked, the known number of marked animals is taken to be a third of the whole population. In this unrefined form, the technique takes no account of changes due to births and deaths, and when only small numbers are concerned, as in the present survey, the results are not accurate. Even a rough numerical estimate, however, conveys more information than such phrases as "Abundant" or "Not very common."

The eight traps available were spread out at roughly 50-yard intervals along the 400-yard front. Each one was sited in or alongside a well defined runway, and whenever the ground allowed it was set on a slope with the doorway facing downhill as a safeguard against flooding or rainwater. Runs were usually to be found under a swathe of wind-laid reeds or a fallen branch, or alongside a log or other obstruction. Such features offered protection to the traps as well as to the animals. Each site was marked unobtrusively by a stick stuck upright in the ground, a bunch of dead reeds lodged in an overhanging tree, or some similar device, and as far as possible the making of tracks to and from the site was avoided. Bedding in the form of dried vegetation was supplied in the nest boxes of each trap and changed at frequent intervals. It was noticeable that in wet weather, when dry bedding was unobtainable and many animals must already have been wet when caught, the death rate in the traps was high.

Food was provided in the form of sunflower seeds and peanuts. Although this is customarily referred to as bait, its purpose is not so much to attract animals into the traps as to keep them alive after capture.

The trap line was visited daily to release the catch and renew bedding and bait where necessary.

Shrews (Sorex Spp.), which feed mainly on live food, cannot survive for more than about two hours in a box trap. It was therefore desirable to avoid catching them, both in the interests of the shrews themselves and because they occupied traps to the exclusion of other animals which could be marked and released alive, so contributing more to the information gained. By adjusting the tension of the treadle spring, it could be made so stiff that a shrew's weight was not enough to depress it and release the door. Tests were carried out in the Museum with a captive Bank Vole (Clethrionomys glareolus) to ensure that the traps were still effective against this species.

On a number of occasions it was found that a trap had been sprung and the door was closed and barred, but nothing was inside. Nothing could be proved as to the cause of this. Suspicion fell on Field-mice, which in theory could be touching the treadle while their tails still obstructed the descent of the door.

Again tests were carried out in the Museum with a captive specimen, but this individual was so shy of the trap that it stepped over the treadle without ever touching it, and presumably could have returned in the same way. This may account for the small proportion of Field-mice caught at Woolhampton and Mapledurham, where Longworth traps were used. Another suggestion, due to Mr. Owen of Colchester Museum, was that Weasels (Mustela nivalis) might be entering the traps in search of prey, with the same result that the door could not close until the animal had departed.

At Mapledurham the same equipment and methods were used as at Woolhampton. The area was chosen as a contrast to Woolhampton, topographically, and therefore likely to yield a different fauna.

Before the operations here recorded, an attempt was made nearby at Jackson's Lane to catch small mammals in pitfall traps, mainly large glass jars. This met with no success. Some baits were taken, but the catch consisted of one spider (Dysdera crocata ♀) and four queen bumble bees.

Another disappointing piece of equipment was a large wire catch-alive rat trap, set in the northern sub-area along with the Longworths. This caught a hen Chaffinch (Fringilla coelebs) and a cock and hen Blackbird (Turdus merula). The chaffinch was marked, and returned to the trap on two further occasions, on the last of which it shared the cage with the cock Blackbird.

The runs were located chiefly in the fringe of long grass and other herbage surrounding thickets of hawthorn and bramble (northern sub-area) and in the ground cover of ivy at the foot of the conifers (southern sub-area). The ground cover between the beech trees in and above the chalk pit was too scanty to shelter a trap, and two sites on the edge of the wood proved entirely barren. Baiting was done entirely with peanuts.

The marking system was modified here, each trap site being given its own colour code to show the extent of any movements from one part of the area to another. Mortality in the traps was lower than at Woolhampton, and this was probably due to a combination of finer weather and the dry situation. Trapping began on 6/5/60 and ended on 4/6/60.

The Playhatch area was selected as a contrast to Mapledurham in that it was "Man-made" for agriculture, was very flat and had been "Warfarined", and as a contrast to Woolhampton in that it was dry, agricultural and tended.

The purpose of the trapping was primarily to see what kinds of small mammals were there and to compare this with the other two areas; secondarily, for experience in trapping small mammals and as a means by which specimens could be obtained and studied. The types of traps used were as follows:-

- 4 "Little Nipper" break-back mouse traps with treadle plate;
- 4 "Victory" break-back mouse traps with bait on tongue;
- 3 "Selfset" break-back rat traps (modified);
- 5 "B" four-way break-back rat traps;
- 5 catch-alive box mouse traps, made by one of the authors;
- 1 catch-alive box rat trap, made by one of the authors;
- 1 Young's "Auto" multiple-catch cage mouse-trap.

The "B" four-way trap will catch anything from rats and stoats down to pygmy shrews. It is not selective, but very humane and kills instantly.

The "Self-set" trap is designed for forward action and is wrong in the respect that rodents only pull bait backwards. Thus, if the action is reversed (i.e. made like that of an ordinary mouse trap) it will catch and kill humanely. It is stated by the makers that the action has been changed for easy setting in the dark. But if it will not kill this is of no use! This will catch the same animals as the "B" trap.

The "Victory" trap, the original type of mouse trap, kills more effectively if a notch is filed at the tip of the tang and the bar slightly bent down.

The plate or platform trap is the same as the above, but with a plate set off by the animal's weight as in the old gin trap (now illegal). This is not so effective as the "Victory" trap. Both these traps can catch shrews as well as mice.

The author's own box trap is illustrated. It catches voles, mice and shrews. The box contains nesting material and is baited with about a dozen peanuts.

The live-box rat-trap is the same as above but for rats, etc., and is usually baited with flesh or fish. When setting these traps, care must be taken to see that the action of the door is not obstructed by vegetation.

The Young's "Auto" trap is a box with perforated zinc sides and a hinged lid, all of which have funnel-shaped entrances of the same material. It will catch all small mammals, but can be made to catch only certain animals by adapting the size of the entrances. It can be well baited and provisioned and left for several days, but this is not very desirable from the inmates' point of view.

The box traps are if possible placed in well-worn runs. This is not essential if plenty of mammals are about, but the best results are obtained if this is attended to. When the traps are of the break-back type they are put in

Fig.1. LONGWORTH LIVE MOUSE TRAP.

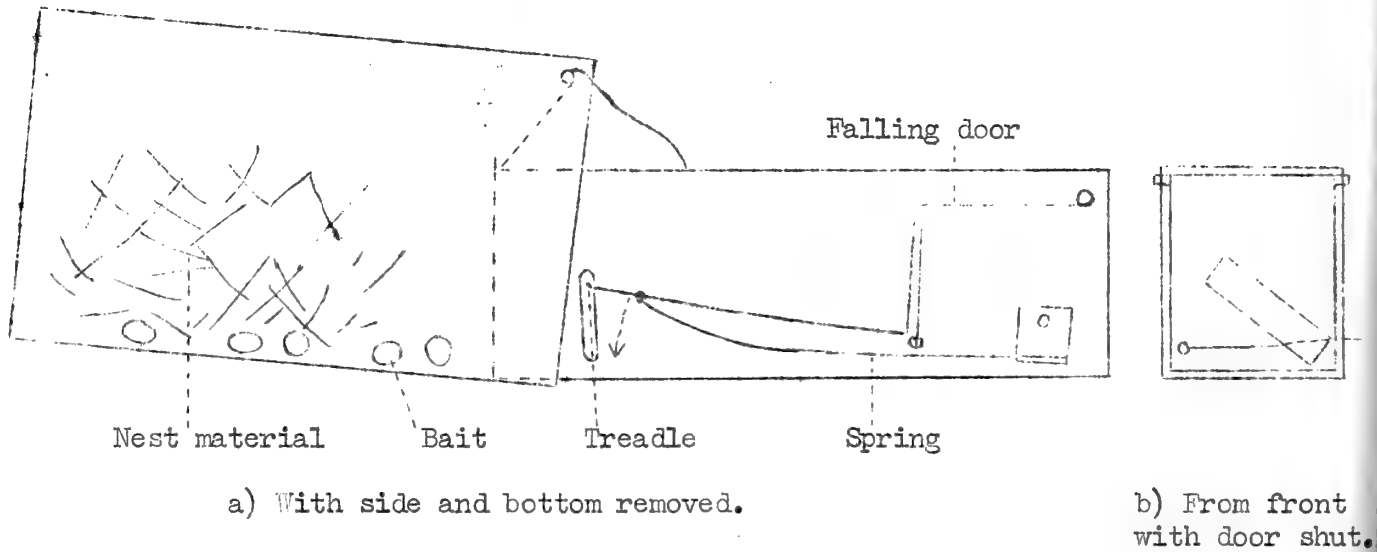
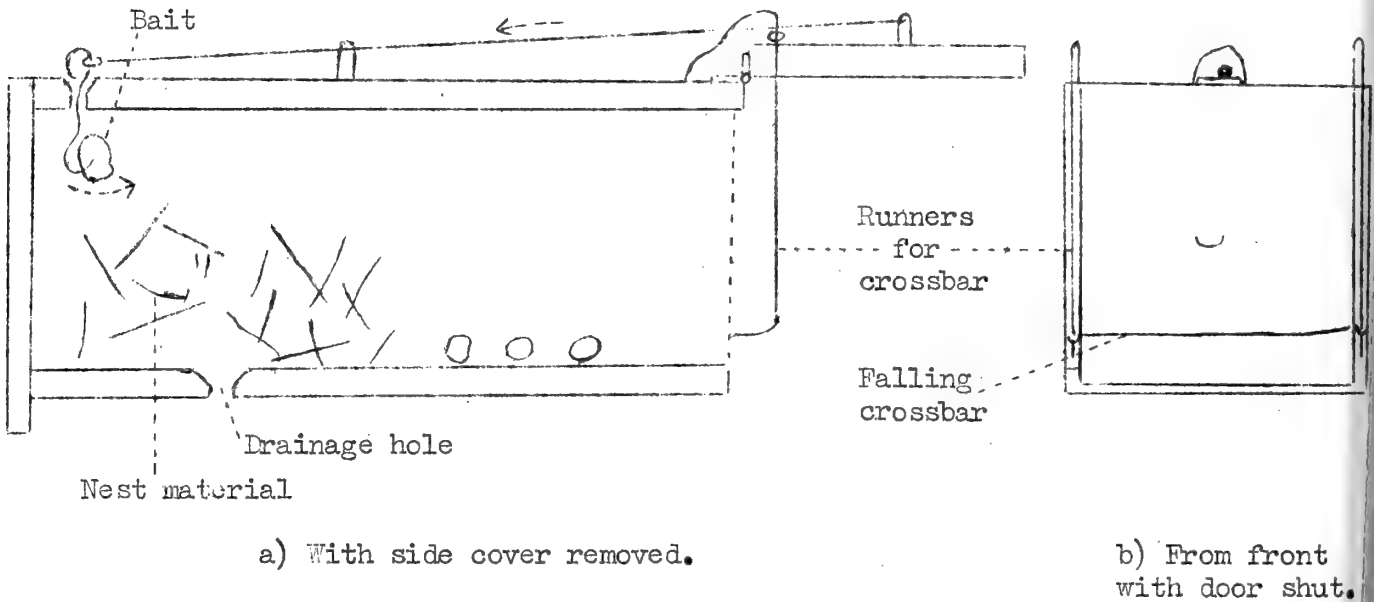


Fig.2. AUTHOR'S BOX RAT TRAP.



a tunnel as a protection against small birds and also to keep the dead animals dry for specimens.

When using Longworth traps one can set them "hard" against shrews, for it is a matter of weight, but with hook-baited traps one cannot easily control the capture of shrews as they have just as tenacious a pull as voles or mice, perhaps even more so.

Peanuts were used as bait, being a hygienic and convenient food which small mammals like, due to its oil nature. Other baits were tried but with less success.

Here and at Mapledurham the traps were visited usually at about 7 p.m. The results were recorded on a temporary log and put into permanent form in a diary. The recorded trapping lasted from 28/7/60 to 27/8/60.

RESULTS

<u>Species seen or taken</u>		<u>Woolhampton</u>	<u>Mapledurham</u>		<u>Playhatch</u>			<u>Berry Brook</u>		
			(N)	(S)						
<u>Oryctolagus cuniculus</u>	Rabbit	-	present		present			-	-	-
<u>Rattus norvegicus</u>	Brown Rat	-	-	-	present			-	-	-
<u>Apodemus sylvaticus</u>	Wood Mouse	1	1	6	4	♂♂	2	♀♀	1?	2
<u>Mus musculus</u>	House Mouse	-	-	-	5	1	-	1	1	-
<u>Microtus agrestis</u>	Field Vole	-	1	-	2	1	-	-	-	-
<u>Clethrionomys glareolus</u>	Bank Vole	46	43	41	3	2	2	-	-	1
<u>Arvicola amphibius</u>	Water Vole	present	-	-	-	-	-	-	-	-
<u>Talpa europea</u>	Mole	present	-	-	present			-	-	-
<u>Sorex araneus</u>	Common Shrew	present	3	4	13	13	-	2	2	-
<u>Sorex minutus</u>	Pygmy Shrew	-	-	1	1	1	-	-	1	-
Estimates of population	- Bank Voles.		daily av. to est. date	daily av. to est. date		daily est.		average to date		
	13 April	126	126							
	22nd	70	98							
	23rd.	66	87							
	24th.	47	77							
	9 May			15	15					
	10			7	11					
	11			14	12					
	12			27	16					
	13			11	15					
	14			17	15					
								NO CENSUS		

(See next page)

(Cont. from previous page)

15	16	15
16	22	16
17	32	18
18	64	23
19	18	22
20	27	23
21	38	24
22	21	23
24	46	25
25	24	25
26	24	25
27	38	25
28	26	25
29	26	25
30	26	25
31	25	25
1 June	39	25
2	81	27
3	29	27
4	58	28

Average daily catch of all species	3.2	2.9	2.1
species	in 8 traps	in 7 traps	in 20 traps

Movements at Mapledurhan

0 yards (Same trap)	41 times
30 (Trap 1 to Trap 4)	1
45 (" 6 to " 7)	1
55 (" 5 to " 7)	2
60 (" 1 to " 2)	4
more than 60	0

Interpretation of results.

Woolhampton

Unfortunately time ran out at this site just as results were beginning to come in. The full number of traps were in use only for nine days, and subsequent experience at Mapledurhan showed that consistent results did not appear for at least a fortnight, by which time most of the population was marked. The higher rate of trapping at Woolhampton might have shortened the process a little, but the figures had obviously not settled down when trapping ended.

The rapid falls in the estimates, compared with the gradual climb at Mapledurhan, may reflect a real drop in the population, confirmed in part by the heavy mortality in the traps and the smaller numbers caught towards the end of the period

6 days April 5 - 10	12 catches in 2 traps (100%)	0 deaths.
6 " " 11 - 14, 20-21	37 " " 8 " (77%)	4 "
3 " " 22 - 24	15 " " 8 " (33%)	10 "

Mapledurham

The numbers here apparently built up in successive stages, about 15 voles being present until May 15th. By May 24th, there were 25, and at the beginning of June the numbers again began to rise and were still doing so when trapping ceased. The southern area, which is continuous with Chazey Wood, showed a slightly lower proportion of Bank Voles to the other species, and Wood Mice were much commoner there, while the only Field Vole came from the northern area which is surrounded by pasture. Movements recorded seem to reflect the idiosyncrasies of certain individuals.

Playhatch

No census was taken here. Many observations of ecological interest were made, and these are discussed under their appropriate headings in the following section of the paper.

BIOLOGICAL NOTES

Rattus norvegicus - Brown Rat

This species was still present at Playhatch despite the use of poison last year. This was used only over a small area, and rats may have moved in from outside during the earlier part of the year.

Rats were probably responsible for the gnawing of carcasses in the break-back traps.

Apodemus sylvaticus - Wood Mouse (Long-tailed Field Mouse.)

Widely distributed but nowhere abundant, though this species may well be less vulnerable to trapping than others, owing to its ability to enter a Longworth trap without operating the mechanism. At Playhatch, where other types of trap were in use, the proportion of Apodemus was noticeably higher.

The strongly nocturnal habits of this mouse in the wild state may also have some bearing on the results. Mr. B. Baker, of Reading Museum, trapping at Woolhampton in October during the hours of darkness only, took this species regularly to the exclusion of all others - a complete contrast to the results of trapping earlier in the year, when the traps remained in position for 24 hours at a time. It seems possible that Apodemus, appearing on the scene after midnight, may find the most attractive sites already occupied by other species. In this case the much greater number of traps set at Playhatch would account for the larger number of Apodemus taken there. These were all caught in the hedgerow adjoining the barley field.

A wide range of size and colour was observed, but none came within the limits assigned to A. flavicollis wintoni, the Yellow-necked Mouse.

In captivity, Apodemus rapidly becomes tame and is frequently active during the day. It loses no opportunity of escaping, and as it can climb with agility, jump vertically upwards at least 18", and readily throws itself down from a height of 20' or so without injury, it is not easy to recapture.

Mus musculus - House Mouse.

Like the Brown Rat, this was found only at Playhatch, not near the houses and gardens as might be expected, but along with the Wood Mice in the eastern

hedgerow. Both mice also occurred at Berry Brook.

House Mice were attracted by both animal and vegetable baits. As with some of the other small rodents, males were much more often caught than females. Possibly the latter, with litters of young to look after, were less inclined to wander far afield, or they may have been less bold in entering traps. A very sandy-coloured variant occurred at Playhatch.

Microtus agrestis - Short-tailed Field Vole.

This is much less common at Mapledurham than we expected, only one being found. This was in the northern sub-area, where all traps were on the edge of open grassland. Possibly more would have been taken if it had been possible to set traps safely in the middle of the grassy area. Its absence from Woolhampton was less surprising. At Playhatch, two of the three caught were living in the boundary hedges of cottage gardens, and the species is commonly taken in pitfall traps sunk in the grounds of the school at Cholsey. Is Microtus a garden animal in the Reading area?

One of these voles is kept in Reading Museum in the same cage with a Bank Vole. A number of upright twigs and stems are provided to demonstrate the Bank Vole's climbing ability, and are set in a perforated wooden base. Any which have edible bark or berries are felled within 24 hours by the Field Vole, which gnaws through them at any distance up to about 3" above "Ground" level. Some of the felled material is used for nest building.

Clethrionomys glareolus - Bank Vole.

At Woolhampton and Mapledurham, where shrews were not trapped, this was far and away the commonest small mammal. At Playhatch, it took second place to Apodemus among Rodents. As with the two mice, the most productive area was the eastern boundary hedge. The disproportion between the sexes was not detected here, but although the animals taken alive at Woolhampton and Mapledurham were not sexed, the casualties which were preserved as specimens were predominantly male. One of these was subjected to a post-mortem examination by the Veterinary Investigation Department of the Ministry of Agriculture. It appeared to have died from congestion of the lungs caused by infection with Pasteurella haemolytica, a bacterium often found in the blood of small mammals. Two voles were caught with a tick (Ixodes ricinus) attached in each case between the right eye and ear. The first was kept, but died soon after removal of the parasite.

Sorex araneus - Common Shrew

During the preliminary trapping at Woolhampton, Common Shrews were about as frequent as Bank Voles. Since it was impossible to catch them without causing their death by starvation, the traps were later adjusted to catch voles only. These traps were used again at Mapledurham, and despite the stiff setting seven Common Shrews were taken; they were probably abundant. At Playhatch they were easily the commonest small mammal, occurring in numbers all over the area. In contrast to the rodents, the numbers of male and female were equal, but juveniles outnumbered adults by about 5 to 1. One of the Playhatch shrews was found to have swallowed a peanut, and another had a piece of tallow in its mouth, but neither had been able to survive on this diet. Crowcroft (The Life of the Shrew, p.27) found that captive shrews need some vegetable food if they are to

remain healthy. His shrews refused to touch "high" meat but would attempt to eat it if it were no longer smelling. In this state they could not digest it, however.

The anatomy of this animal clearly indicates its reliance on the senses of touch and smell, as the following comparison indicates.

Cat (full-grown).	Common Shrew (full-grown)	
Body length	c. 6000 mm	c. 60 mm.
Diameter of orbit	125 mm	1.5
Length of nasal bones	125 mm	7 mm
Eye : nose	1 : 1	1 : 4.7
Whiskers (both sides)	70	
do. (Kitten)	30	180 (Juvenile)

The eye : nose ratio in the Fox, which also relies on scent, is 1 : 4.5

S. minutus - Pigmy Shrew.

Although much less common than its larger relative, this species was taken at both Mapledurham and Playhatch, where two were caught in the northern boundary hedge and one near the haystack. Another turned up at Berry Brook.

Weather.

Weather records were not kept at Woolhampton. At Mapledurham it appeared that there were more species about on fine days and that after a wet day it took several days for them to re-establish. However there were "bad days" here even in fine weather. At Playhatch the average day's catch under various weather conditions is shown below:

1st. day of wet weather	1.6
2nd. and later wet days	1.3
1st. dry day after rain	1.9
2nd. dry day	2.0
3rd. and later dry days	2.3
Last dry day before rain	3.7

The last figure is mainly due to shrews. During the month's recorded trapping there were six wet spells and the six dry days which immediately preceded them accounted for 14 of the 30 shrews caught, almost half the total catch.

Harvesting.

There was a marked increase in the numbers caught after the start of harvesting in the adjoining fields. After the normal fine-weather increase has been accounted for, there is still evidence of a movement of animals into the less disturbed areas where trapping was going on.

Flooding.

Since the wet weather (and subsequent flooding of the low marshy ground on the south side of the Henley Road) it has been seen, as recorded by the game-

keeper in other years, that the furred population comes north to higher ground in the autumn. This movement accounts for the large number of rat and mouse carcasses on the road at this time.

Acknowledgements.

We would like to acknowledge our indebtedness to the owners and occupiers of the land on which we worked for giving us permission to do so, and for much valuable help and information.

Woolhampton	Tenant: Mr. S.J. Anglis	Head Keeper: Mr. T. Evans
Mapledurham	Tenant: Mr. Maunders	Head Keeper: Mr. R. Bushel.
Playhatch	Tenant: Mr. E. Low	

Summary.

An account is given of investigations into the number and composition of the small mammal population of three areas near Reading. The methods used are described and the results tabulated and discussed. Biological observations made in the course of the work on the different species are recorded.

Notes on the Microlepidoptera of the Reading district

I. Hints on Collecting for young Entomologists

By H. L. Dolton.

It is a strange and interesting fact in human nature that among the thousands of people who do not take the slightest interest in anything pertaining to what is commonly called "Natural History", there are here and there, at all events among all cultivated nations, some few to whom it is an all-absorbing passion. Very often it is only a passing phase, affecting young people chiefly between the ages of, say 12 to 16 and then dying away, but with some it persists through life materially affecting the whole course of their existence. As to Natural History as a regular occupation or means of living, I can say little that is favourable, as it is one of the worst paid and least appreciated of all professions. The only thing that I can say is that prospects are brightening, surely, if slowly. It is, I firmly believe, a profession of the future. To those who have the spare time on their hands to take up the study of Natural History, even those mainly engaged in the most absorbing of money-making pursuits, the refreshment of an occasional excursion into the realms of nature need not be insisted upon. It is perfectly obvious to all who have had the opportunity of observing it.

With an early love of Natural History is almost always associated a love of collecting, and probably there is no better way of becoming familiar with a subject than by making a collection of objects illustrating it. The value of making a collection of any kind of specimens about which one wishes to know more is that one has to spend time and thought on them, look at them carefully, prepare and compare them, arrange and name them. In proportion to which all this has been

done, so will be the value of the collection. That a museum depends for its utility not upon its contents, but upon their mode of arrangement is now a trite saying. An ill-arranged museum has been well compared to the letters of the alphabet tossed indiscriminately about, meaning nothing; one well arranged, in orderly sequence, produces words of counsel and instruction. Far more, however, than the intrinsic value of the collection, is its value as a means of education to the owner, especially to the beginner. The arrangement of a collection teaches not only the nature and properties of the objects contained in it, but also of those to be found in other and larger collections. Still more important as an educator, it calls out many valuable and practical qualities, such as originality, order, neatness, perseverance, taste, and the power of discerning small differences and resemblances, all of which will be found useful in other spheres of life.

It matters less what the contents of the collection are than that there should be some definite object in bringing them together. Suppose, for instance, that our young beginner were to set himself the task of collecting all the species of butterflies and moths to be found in his own locality in a radius of, say, 15 miles. What a wealth of knowledge he would acquire, not only of the appearance of the individual specimens, but also of their natural surroundings and habits, and what delightful rambles in the open air he would enjoy, with eyes intently appreciative of the lovely world in which we live, and which is lost, unfortunately, to so many who pass through it without any of these interests or pleasures. I wonder how many people know that within a radius of 15 miles of Reading there are 42 species of butterflies, to say nothing of the moths? I think you will agree that that is a good percentage of the total for Britain of 68, which includes seven, namely the Milkweed, the Camberwell Beauty, the Long-tailed Blue, the Short-tailed Blue, the Mazarine Blue, the Large Copper and the Bath White that are very rare, or turn up only after long intervals.

Entomology is an intensely interesting hobby, collecting is all very well, and collections have a very real value. If, however, one collects insects for the mere sake of accumulating specimens, one might just as well collect buttons, cigar labels or match-box tops, for one would know after ten to fifteen years as much about true Natural History as one did before one started. This brings me to the point where I wish to say a little regarding the breeding of insects. To my mind the most interesting aspects of Entomology are rearing insects from ova, larvae, or pupae. Females of the various species adopt different methods of oviposition, some depositing their eggs whilst in flight, others looking for the exact plant on which to lay them. Breeding reveals the different ways of feeding adopted by the larvae, some feeding by day, others by night, and the methods of pupation, some larvae spinning cocoons or forming other shelters, some going into the ground to pupate. Lastly, there is the emergency of the imago or perfect insect. If one has never seen a butterfly emerge from the pupa, or chrysalis as it is sometimes called, and then crawl up to some convenient place, there to hang down and expand its wings until dry, one has indeed missed a wonderful sight. Another great advantage of breeding insects is that, if one wishes to make as complete a collection as possible, one will find that bred specimens are always preferred when making an exchange with an entomologist in another part of the country. Some species are so variable, with varieties of one overlapping those of another, that individuals even from the same egg-batch might be regarded as different species if their common parentage were not known. By breeding them, one not only obtains perfect specimens for one's own collection or for exchange, but also saves hours of study in trying to identify them.

Without exchange it is almost impossible to get together anything like a complete collection. Certain magazines publish monthly lists of duplicates and desiderata, and as these publications circulate among thousands of entomologists in all parts of the country, one can often make an exchange even of some of the common species, for some northern forms differ from the southern ones so greatly that they can almost be taken for different species. One may be asked, not for the inago, but for egg, larva, or pupa, and if one has never seen these one cannot make an exchange.

Collectors of Lepidoptera probably outnumber those of all other orders of insects. Nor is this to be wondered at, for the Lepidoptera are the most attractive of all insects, and the most conspicuous of them are, perhaps, more readily distinguished than the species of any other order.

Any hints that will put the new collector on the right track, lead him to adopt good methods, and suggest lines of work that will tend to make his observations of service to science, must be useful in advancing the study of Lepidoptera. Without the collector no really scientific work on certain branches of lepidopterological study can be written, and the man who collects his own insects, makes observations, and records them is a most valuable addition to the ranks of those who study the order. The entomologist's collection should show, wherever possible, data such as the locality and date of capture, relating to the specimens that he has so carefully brought together. A collection which is not studied is of as little use as books which are not read. One piece of advice to collectors of Lepidoptera - collect all Lepidoptera. The large species are often called Macro-Lepidoptera and the small Micro-Lepidoptera, but modern scientific methods have taught us that this subdivision is, on the whole, unsound and unnatural and gives no idea of the real relationship, the actual goal aimed at by all systems of classification. The ardent collector will find much virgin ground in the Micro-Lepidoptera and a careful specialisation of his studies in one of these groups will give him a great reward.

Biological Notes on Some Trypetids (Diptera) in
South Oxfordshire and Central Berkshire.

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

The Trypetidae constitute one of the more conspicuous families of Diptera, for their wings are marked with distinctive patterns and the bodies of many species are attractively coloured (at least, when alive: as pinned specimens they soon lose their attraction). Most of them are little larger than the house-fly, and they are often encountered during the summer months as members of the interesting complexes of insects attracted to the flower-heads of Composites and Umbellifers.

Life-histories in the Trypetidae are somewhat varied. Some of the species are gall-causers, particularly in the flower-heads of Composites; others inhabit

flower-heads without causing appreciable distortion; some of them are leaf-miners; and others again live in fruits, and in warmer countries than Britain; some species can be serious pests of such fruits as the cherry, walnut, olive and orange. Two of these fruit-flies, Ceratitis capitata (Wied.) and Rhagoletis parasi (L.), have now and again been recorded in Britain.

In the following notes, which relate only to Trypetids found in the Reading area in the last two or three years, Collin's (1947) nomenclature has been followed, and Dandy (1958) has been taken as the authority for the names of plants.

Trypetinae

Phagocarpus permundus (Harr.). Larvae were found in many fruits of Crataegus monogyna Jacq. at Pangbourne on 24th August 1959. They pupated in the soil of jars in which specimens were held on 7th-18th November, and adults emerged on 19th-29th May 1960. When the larvae were discovered, many other fruits of C. monogyna and C. oxyacanthoides Thuill. in adjacent localities were examined without success, and none was found in 1960 at the original site.

Philophylla heraclei (L.). Leaf-mines inhabited by larvae of this ubiquitous pest of cultivated celery were noted at Whitchurch on 10th June 1960. The larvae pupate in the soil, and adults were seen on 1st-5th August. This species was also common in previous years, but its mines were not seen in the locality on other known food-plants, such as Heracleum sphondylium L. and Pastinaca sativa L.

Acidia cognata Wied. Larvae were found in leaf-mines on Petasites japonicus (Sieb. & Zucc.) F. Schmidt at Clifton Hampden on 18th September 1959. This is believed to be a new host record, although A. cognata is known from P. hybridus (L.) Gaertn., Mey. & Scherb. The larvae pupate in the soil and give rise to adults in the following year.

Spilographa zoë (Mg.). Larvae were present in leaf-mines on Chrysanthemum maximum Ramond and C. uliginosum (horticultural varieties) at Whitchurch on 18th-24th June 1959. They pupated in soil in glass jars on about 24th August, and adults (12 ♀♀, 3 ♂♂) emerged by 8th September of the same year. A number of Chalcidoids also emerged then and later, up to 23rd October. Although 1959 was such an exceptionally fine year, the emergence of S. zoë was late according to Niblett's (1952) experience. No mined leaves were seen in 1960.

Goniglossum wiedemanni (Mg.). The yellow larvae of this species were found in fruits of Bryonia dioica Jacq. at Goring on 27th August 1959 and at Mapledurham on 17th September 1960. Only one larva occurred in each fruit. This species pupates in the soil, and adults emerge in the early summer of the second year. Fruits examined at Bradfield, Pangbourne, Sulham, Tidmarsh and Whitchurch in 1959 and at Pangbourne and Whitchurch in 1960 were uninfested.

Chaetostomella onotrophes Lw. Three adult females of this species, which lives in the flower-heads of many Composites (Niblett, 1939), were bred on 12th

June - 3rd July 1960 from heads of Centaurea nigra L. collected at Whitchurch in November 1959 for the galls of Urophora jaceana (Hering) they contained. Niblett (1953a) has pointed out that C. onotrophes is double-brooded, adults from over-wintered larvae emerging in April - June and giving rise to the second brood in July - August. He has also shown (1953b) that emergence is sometimes delayed until the following June, and it is not clear in which category the specimens bred at Whitchurch should be placed.

Ceriocera cornuta (F.). From flower-heads of Centaurea scabiosa L. collected at Hardwick in the autumn of 1959 for presumed galls of Urophora cuspidata (Mg.) 2 ♀♀ and 1 ♂ of C. cornuta emerged on 12th June 1960. The flies are pale green when alive. As their presence in the material was unsuspected, no note was made as to whether pupation occurred in the flower-heads or in the soil in the jar containing them. This information would have been of interest, for Niblett (1946) believes that the paucity of records of this species may be attributable to its habit of pupating in the soil.

C. microceras Hering. Larvae, believed to be of this species, were found in stems of Centaurea scabiosa at Hardwick on 12th June 1960. Material was collected, but no adults have emerged to date.

Trypsia colon Mg. 1 ♀ and 1 ♂ emerged on 28th June 1960 from flower-heads of Centaurea scabiosa collected in the autumn of 1959 at Hardwick for presumed galls of Urophora cuspidata. The faintly yellow larvae pupate in cocoons formed of pappus hairs. This species has been shown by Niblett (1942) to be double-brooded.

T. tussilaginis (F.). Having taken several adults at Whitchurch in July 1959, seed-heads of Arctium lappa L. in the vicinity were collected on 18th September 1959 and placed in glass jars. On 6th October 1959, 3 ♀♀ emerged, and a further 3 ♀♀ and 2 ♂♂ appeared during the period 24th May - 17th June 1960.

Xyphosia miliaria (Schrank). Unidentified larvae were found in flower-heads of Cirsium arvense (L.) Scop. at Whitchurch on 18th August 1959. Infested heads were collected in the late autumn from which adults of X. miliaris emerged between the beginning of April and 25th May 1960. The same species was also bred from heads of C. arvense collected at Pangbourne and Tidmarsh in the same autumn, the adults emerging 18th June - 3rd July 1960.

Urophora cardui (L.). This species, the presence of which is easily discerned from the large stem-galls it induces on Cirsium arvense, occurs sporadically. Galls were noted in the autumn of 1959 at Gatehampton, Goring Heath, Henley and Mapledurhan, but in no large numbers at any one locality. No material was collected for breeding, but adults usually emerge in June - July of the following year.

U. jaceana (Hering). The woody galls of this species are quickly detected in seed-heads of Centaurea nigra by squeezing the head between the fingers. They were plentiful at Whitchurch (cf. Leatherdale, 1957) in the autumn of 1959 and again in 1960. The larvae pupate within the galls, and adults emerge in May - August of the following year. For many years this species

was erroneously recorded in Britain as U. solstitialis L., which has species of Carduus and Cirsium as its food-plants.

U. stylata (F.). This is not an uncommon species, yet its galls in heads of Cirsium vulgare (Savi) Ten. have been observed once only in the past two years; that was at Tilehurst on 19th September 1959. Adults emerged on 17th June - 2nd July 1960.

Ensina sonchi (L.). Larvae, believed to be of this species, were found in flower-heads of Hypochoeris radicata L. near Pangbourne on 5th August 1960, but they died in situ within three days of the specimens having been gathered. E. sonchi was first recorded from this food-plant in 1934, but its host range is very wide amongst the Compositae (cf. Niblett, 1934, 1939).

Ditrichinae

Ditricha guttularis (Mg.). During the past five years many hundreds of plants of Achillea millefolium L. have been examined without success for the galls of D. guttularis on the roots or at the base of the stem.

Tephritinae

Oxya flavipennis (Lw.). This species also galls the roots and stem-base of Achillea millefolium, and the same remarks apply to it as to D. guttularis.

Sphenella marginata (Fln.). Many larvae of this species were present in flower-heads of Senecio squalidus L. at Pangbourne, in mid-summer 1957, but none has been found there in subsequent years. S. squalidus may be a new host record for this species: it was not listed by Niblett (1939), but is known to occur on many species of Senecio.

Tephritis vespertina (Lw.). This has been said by Hamm (1918) to be the commonest species of Trypetid. Distorted heads of Hypochoeris radicata at Gatehampton containing pupae on 17th July 1959 yielded adults five days later. These were of the second brood, Niblett (1953b) having shown that there is an earlier one in May.

References

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| Collin (J.E.) | 1947 | The British genera of Trypetidae (Diptera), with notes on a few species.
<u>Ent. Rec.</u> 59 (suppl.): 1-14. |
| Dandy (J.E.) | 1958 | List of British Vascular Plants. |
| Leatherdale (D.) | 1957 | The incidence of some gall-causing insects and mites in South Oxfordshire and central Berkshire in 1956. <u>Ent. mon. Mag.</u> 93: 26-29 |

- Niblett (M.) 1934 Some notes on British Trypetidae. Ent. Rec. 46
66-69.
- 1939 Notes on food-plants of the larvae of British
Trypetidae. Ent. Rec. 51: 69-73.
- 1942 Emergences of Trypetidae. Ent. Rec. 54: 66-69.
- 1946 Diptera bred from flower-heads of Compositae. Ent. Rec.
58: 121-123
- 1952 Notes on some Surrey Trypetidae. Ent. Rec. 64:
27-28.
- 1953a The distribution of Trypetidae (Diptera). Lond. Nat.
1952: 48-51.
- 1953b Diptera. Notes on the emergences of Trypetidae.
Ent. Rec. 65: 231-233

A Study of the Heathland Flora of the Reading
Area

by John G. Hodgson.

A shortened version of a winning entry for the Laffan Prize for
Natural History (Junior Section) 1959.

Heathland accounts for a great deal of Britain's natural vegetation. This is because it is of very little agricultural use. Its very poor soil is almost useless for growing grain and the natural grasses are very coarse and unsuitable for grazing. Therefore it is left more or less alone. It has, however, one major disadvantage in dry spells. The heath may, either through a natural cause or through man's carelessness, catch fire and considerable damage may be done. This is often a decisive factor limiting the growth of trees in certain areas. Man has, however, found a way of making money out of heathland by planting stands of conifers in many places.

The heathlands in the Reading area can be grouped under two main headings, "Dry Heathland" and "Bogs, Marshes and Pools".

Dry Heathland.

This is found where drainage is good and the soil poor and mainly sandy.

It is of little use but for the planting of conifers, but on "grass heaths" a limited amount of grazing may take place. The plants of this type of heathland are very limited and are usually dominant where they are found. The chief dominant is Calluna vulgaris (Heather) but co-dominant are also Erica cinerea (Bell Heather), Ulex minor (Dwarf Gorse) and Betula (Silver Birch). In other places, usually in more fertile spots, Ulex europaeus (Gorse) is dominant or co-dominant with Sarothamnus scoparius (Broom). Pteridium aquilinum (Bracken) is very commonly dominant. These are the main, but by no means the only, plants of dry heathland, for Chamaenerion angustifolium (Rosebay Willow-herb) after a fire becomes temporarily abundant. There are few grasses but Agrostis (Bent), Molinia caerulea (Purple Moor Grass) and to a lesser extent, Sieglingia decumbens (Heath Grass) can become dominant. Urtica dioica (Nettle) and Rubus spp. (Brambles) are often abundant, but usually in slightly damper and more fertile spots.

Ulex minor is a semi-prostrate under-shrub with shorter, more yellow-green spines and smaller, paler flowers than U. europaeus. It is in bloom from July to September and its flowers are never prolific. It is not uncommon on heathland but is not usually in such quantity as U. europaeus. P. aquilinum is the commonest and tallest British fern. It was originally a fern of woodland but it has increased considerably and is now very common in dry heathy situations. It has, however, two dislikes: late frosts and water-logged soil, and the latter quickly destroys it. Its fronds can suppress nearly all other plant growth because where it grows it is usually abundant and when well established may reach a height of 8 ft. The spore cases are found all round the edge of the leaflets which are turned back to protect them. The spores ripen in July or August. The only other characteristic dry heathland fern is Blechnum spicant (Hard Fern) which is found fairly commonly on banks at the edges of woods at Silchester, Pamber and Crowthorne. Vaccinium myrtillus (Bilberry) is not uncommon on acid heaths with heather and in woods at Bucklebury, Crowthorne and Pamber. Another member of the same family, Ericaceae, is Calluna vulgaris which is dominant on nearly all dry heathland. A variety of this hardy evergreen perennial, covered with grey hairs and called var. hirsuta, is not uncommon. E. cinerea, an evergreen shrub seldom exceeding $1\frac{1}{2}$ ft., is a very common associate of the last species and is often abundant in small areas. Genista anglica (Petty Whin), although not common, deserves mention as it has the same habitat as the last two species. It is a spiny undershrub with yellow gorse-like flowers and small pointed oval leaves falling in winter. Its pods are inflated and it blooms from May to July. A few plants are found on nearly every heath locally. Luzula multiflora (Heath Woodrush) is often found on heaths and is very typical.

These are some of the interesting plants in the dry heathland zone. There are, however, two other associated zones in this area. They are "Heathland Woods" and "Dry Sand".

Heathland Woods.

These have usually at some time been planted and the dominant trees are Pinus sylvestris (Scots Pine), Quercus petraea (Sessile Oak) and Q. cerris (Turkey Oak), and Castanea sativa (Sweet Chestnut). The shrub layer is often covered by bracken and brambles. In some places Melampyrum pratense

(Yellow Cow-wheat), Holcus mollis (Soft-grass) and Convallaria majalis (Lily of the Valley) are present in some quantity. This is so in Pamber Forest which is the most interesting piece of heathland wood locally. Here too is a grass heath. Other plants found plentifully in the wood are V. myrtillus, Stachys officinalis (Betony), Teucrium scorodonia (Wood Sage) and Lathyrus montanus (Bitter Vetch). Betula usually forms very open woods, so open that Calluna vulgaris usually forms the shrub layer. S. officinalis, an unbranched perennial with toothed leaves and deep bright purple flowers produced from June to September, grows mainly in the Silchester, Pamber and Crowthorne areas. It is typical of open woodland (often woods by oaks). T. scorodonia is a herb with wrinkled leaves that often appears shrubby and is easily recognised by the absence of any upper lip in the flower. It is very common in shady situations and on heathland and it blooms from June to September.

Dry Sand.

This is usually found on paths, in car parks, where there are very poor soils or where there has been wind erosion. Because of constant trampling, poor soil or both the plants are very small and often annuals. Typical plants are Carex ovalis (Oval-headed Sedge), Juncus squarrosus (Heath Rush), J. tenuis (Slender Rush), Filago germanica (Common Cudweed), F. minima (Lesser Cudweed), Aira caryophyllea (Silver Hairgrass), A. praecox (Early Hairgrass), Deschampsia caespitosa (Tufted Hairgrass), Agrostis, etc., and plants like Rumex acetosella agg. (Sheeps Sorrel) and Cerastium spp. (Mouse-ear Chickweed). The commonest Cerastium is C. glomeratum (Sticky Mouse-ear), which flowers fairly early and is usually over before its habitat becomes too dry. It is very stickily hairy and has many more flowers than C. vulgatum (Common Mouse-ear), which is occasionally found in the same situation. C. glomeratum is very common in dry sandy places not always on stable sand. Aphanes microcarpa (Parsley Piert) is found in slightly more stable sandy soils and is seldom more than 1 in. high with greyish, downy three-lobed leaves. The flowers are very small, green and petal-less. It is fairly frequent and blooms from April to October.

Grass Heath.

Grass heath is not usually grazed on and is found on slightly better soils than a Callunetum heath, but the soil is too poor to support trees like oaks. The main plants are Molinia caerulea, Sieglingia decumbens, Potentilla recta (Tormentil), Galium hercynicum (Heath Bedstraw), Festuca spp. (Fescues), Agrostis and Lotus uliginosus (Greater Birdsfoot Trefoil). P. recta is very common on heathland, often in grassy places. G. hercynicum resembles a rather small procumbent G. mollugo (Hedge Bedstraw) with 4-6 short leaves in a whorl. The buds are a pinkish colour and the white flowers form whorls but the flowers are not nearly so abundantly produced as they are in G. mollugo. This is a common plant of heathland, especially grass heath, and may be found in flower from May to August.

Bogs, Pools, Marshes and Fens.

These sorts of situations are gradually decreasing owing to drainage. However, many such places still exist, the best bog being on Hazeley Heath.

Bogs and Marshes are very similar in many ways and are difficult to define. Marshes have a mineral soil whereas bogs have a vegetable soil (peat). Marshes also have fairly good drainage.

Bogs.

These are found at Crowthorne, Silchester, Hazeley Heath etc. and are formed mainly of Sphagnum moss on an acid soil. Bogs may be divided into three main areas: Sphagnum, Bare Peat and Wet Grass Heath.

Sphagnum

A Sphagnum bog usually floats on water or on very wet mud. Plants of this community are Eriophorum angustifolium (Cotton grass), Drosera rotundifolia (Round-leaved Sundew), Eleocharis spp. (Spike Rushes), Erica tetralix (Cross-leaved Heath) and Narthecium ossifragum (Bog Asphodel). E. angustifolium, whose cottony heads make it the most distinctive local plant in the sedge family, is the only species of Eriophorum found in the area. N. ossifragum is found mainly in Sphagnum. It is a hairless, creeping plant up to about 9 in. high with a tuft of leaves at the base of its stem, which holds a long spike of golden-yellow flowers. It is fairly frequent at Silchester, Hazeley Heath and Crowthorne and flowers from July to August. D. rotundifolia is widely distributed but local, although frequent in some areas. It has rounded, reddish stalked leaves that form a rosette and catch flies and other small insects. It produces a spike of white flowers, which are usually self-pollinated, in June-August. The other two insectivorous plants in the Reading area are Utricularia vulgaris (Bladderwort), which is found at Little John's Farm and Burghfield Gravel Pits, and D. intermedia (Long-leaved Sundew), which is found on Hazeley Heath. I have noticed a few Spike Rushes in this area. They are Eleocharis palustris (Common Spike Rush), E. multicaulis (Many-stalked Spike Rush), Trichophorum caespitosum (Deer Grass) and Eleogiton fluitans (Floating Club Rush) mainly on Sphagnum or Wet Grass Heath.

Bare Peaty Patches.

This habitat is found locally only on Hazeley Heath. Although it forms a rather small percentage of the bog, it has quite a wide range of plants, mostly small perennials or annuals. The main plants are D. intermedia, D. rotundifolia, Angallis tenella (Bog Pimpernel) and Lycopodium inundatum (Marsh Clubmoss). L. inundatum is the only local clubmoss and is found in small quantity. It has a prostrate stem which withstands the winter but its erect stems wither quickly. These stems bear a cone from June onwards and then die off. It is found in the moist, bare, peaty places on Hazeley Heath. D. intermedia grows mainly in bare peaty places that are not usually as damp as those where D. rotundifolia grows. It has smaller narrower leaves and is smaller in its appearance. It has a spike of white flowers which appear from June to August. A. tenella grows on Hazeley Heath and Coleman's Moor. It is a prostrate perennial rooting at the nodes and has very small opposite leaves. Its pale pink flowers are about $\frac{1}{2}$ in. across and may be found from June to August.

Wet Grass Heath

This is found at Hazeley Heath quite abundantly and has numerous plants growing on it, including Scutellaria minor (Lesser Skull-cap), Pedicularis

sylvatica (Lousewort), Rhynchospora alba (White Beak-Sedge), D. rotundifolia, Thelypteris palustris (Marsh Fern), Erica tetralix and Succisa pratensis (Devil's-bit Scabious). T. palustris is a very rare fern in this area. I have only seen it on the grass heath on Hazeley Heath. It is really a plant of fens and peat bogs. The spore cases are in clusters near the edges of the leaves. The spores may be seen from July to August. S. pratensis is a hairy plant, 18-36 in. high, with simple obovate-lanceolate leaves. Its rounded, purple-blue heads are two-thirds of an inch to an inch across. Its root is very short and is supposed to have been bitten off by the Devil, hence its name of Devil's-bit Scabious.

Pools.

The main plants in pools are Eleogiton fluitans, Ranunculus hederaceus (Ivy-leaved Crowfoot), Potamogeton polygonifolius (Bog Pondweed) and Hypericum elodes (Marsh St. John's-wort). These pools are at Hazeley Heath and are gradually draining away. P. polygonifolius does not appear to flower at Hazeley Heath, but its fairly narrow submerged leaves signify its presence clearly. R. hederaceus has ivy-shaped leaves and roots in mud or floats in ponds or pools. It has white flowers and hairless fruits which appear in summer and autumn. It flowers from May to July. H. elodes is a greyish mat-forming perennial with downy roundish leaves and a few bright yellow flowers. It blooms from May to September. Damp patches, and sometimes little pools are formed on woodland paths. The pools often contain Lemna minor (Lesser Duckweed) and Callitriche stagnalis (Water Starwort). The typical plants growing on the damp patches are Peplis portula (Water Purslane), C. stagnalis, J. bufonius (Toad Rush), and Lysimachia nemorum (Yellow Pimpernel). L. nemorum is a creeping plant with yellow-green, oval, pointed leaves and solitary yellow flowers about $\frac{1}{2}$ in. across. It is not uncommon on damp woodland rides and flowers from May to September. At Pamber, on a woodland ride, Viola palustris (Marsh Violet) and Equisetum sylvaticum (Wood Horsetail) also occur.

Marshes

The best marsh in this area is at the "Three Firs" on Burghfield Common. It has a stream running through it and thereby draining it. The vegetation consists of Myosotis secunda (Water Forget-me-Not), V. palustris, Carex laevigata (Smooth Sedge), Callitriche stagnalis, J. articulatus (Jointed Rush), J. kochii, etc. M. secunda is found on acid soils and is easily mistaken for the other, commoner, water forget-me-not, M. palustris, from which it differs in its numerous leafy runners and longer fruit stalks (3-5 times as long as the calyx). It flowers from June to October. V. palustris is abundant at Burghfield. It has almost kidney-shaped leaves, which are hairless, and small pale-pinkish flowers with a very short spur. It flowers from April to June. J. kochii is bigger and more robust than J. bulbosus (Bulbous Rush) and has six instead of three stamens. It is found at the "Three Firs".

Fens

We have only one fen in Berkshire. It is at Cothill and is a nature reserve. Fens differ from bogs in having basic neutral soils. Typical plants there are Parnassia palustris (Grass of Parnassus) and Schoenus nigricans (Black

Bog-rush). P. palustris is a small plant with cordate leaves. Its flowers are white and quite conspicuous. It is probably the prettiest fenland plant and blooms from July to September.

I have dealt very briefly with the local areas of heathland which I know, but there are many others still to be explored and many nice plants which determined searching could find; for heathland is a refuge for animal and plant life undisturbed by man and will, I hope, continue to be so for many years.

Grasses, Sedges and Rushes

Grasses, Sedges and Rushes are very underworked species in this area so I have allotted space for the names and local distribution of the species more typical of heathland. Rushes have more or less rounded stems, usually solid. Sedges have triangular stems, and Grasses roundish hollow stems.

Rushes

- Juncus squarrosus (Heath Rush). Dry acid soils, mainly with little vegetation - common.
- J. tenuis (Slender Rush). Dry or damp, usually sandy, places - very locally abundant, but increasing.
- J. bufonius (Toad Rush). Damp places - very common.
- J. effusus (Soft Rush). Damp and marshy places. Var. compactus is frequent.
- J. articulatus (Jointed Rush). Damp and marshy places - fairly uncommon.
- J. acutiflorus (Sharp-flowered Rush). Damp and marshy places - common.
- J. bulbosus (Bulbous Rush). Wet heathy places - frequent.
- J. kochii. Wet heathy places - overlooked but probably quite frequent.
- Luzula campestris (Field Wood-rush). Grassy places - frequent.
- L. multiflora (Heath Woodrush) Dry acid heathland - frequent.

Sedges

- Eriophorum angustifolium (Common Cotton-grass). Boggy places - uncommon, but locally abundant.

- Trichophorum caespitosum (Deer-grass). Boggy places - very rare.
- Eleocharis multicaulis (Many-stalked Spike-rush). Boggy places - rare.
- E. palustris (Common Spike-rush). Boggy and marshy places - common.
- Eleogiton fluitans (Floating Scirpus). Ponds and pools - uncommon.
- Rhynchospora alba (White Beak Sedge). Boggy grassland - locally abundant on Hazeley Heath.
- Carex binervis (Moor Sedge). Dry acid heathland - frequent.
- C. demissa (Common Yellow Sedge). Damp acid places.
- C. laevigata (Smooth Sedge). Only in a marsh at the Three Firs, Burghfield.
- C. pilulifera (Pill-headed Sedge). Dry acid places - not uncommon.
- C. nigra (Common Sedge). Wet acid places - quite common.
- C. panicea (Carnation Sedge). Wet but mildly acid places - common.
- C. achinata (Star-headed Sedge). Damp and dry acid situations - frequent.
- C. ovalis (Oval-headed Sedge). Dry and wet acid soils - frequent.
- Grasses
- Molinia caerulea (Purple Moor-grass). Damp acid soils - common.
- Sieglingia decumbens (Heath Grass). Damp acid soils - common.
- Festuca ovina ssp. tenuifolia (Fine-leaved Fescue). Dry heathland - often abundant.
- F. ovina (Sheep's Fescue). Dry heathland - common.
- F. rubra (Red Fescue). Dry heathland - often abundant.
- Deschampsia caespitosa (Tufted Hair-grass). Woods, grassland and roadsides - very common.
- D. flexuosa (Wavy Hair-grass). Dry sandy places - very common.
- Aira praecox (Small Hair-grass). Dry sandy places - very common.

A. caryophyllea (Silver Hair-grass).

Dry sandy places - frequent.

Agrostis spp. (Brown Bent).

This is a very difficult group, but many species seem to be very common, including A. tenuis (Common Bent-grass).

UNNATURAL HISTORY

An address to our members
On a lawn in Swallowfield Park

by

Thomas Vear.

Many natural objects suffer from stupid, misleading or objectional names. Among these are animals, birds, insects and plants, and even man. To take one of the oldest and least happy examples, there is the cameleopard, a combination of leopard and camel. But what similarity is there between the sleek, graceful and perpendicular giraffe and the shaggy, lumpy, horizontal camel? Hippopotamus (river horse) is not much better. Where is the likeness to a horse? True, they both have four legs; so has a hedgehog or a weasel: there the resemblance ends. Rhinoceros (horny nose) and warthog are much better. They are at any rate descriptive.

The birds of paradise were so named by the ornithologists who received the prepared skins from New Guinea and what is now Indonesia. The natives who prepared the skins for export used to cut off the feet. This made the scientists of Europe think the birds had no feet and spent their lives in the air, being unable to perch, so they named them apoda (without feet). The turkey did not come from Turkey, but from North America. The yellowhammer has nothing to do with the familiar tool: ammer is German for finch. Moorhens are oftener seen on lakes than on moors and I imagine that some of the moor-hens must be cocks. The night-jar got its name of goatsucker when it was seen jumping up to the udders of goats and cattle to catch the flies on which it lives. Of course it does not suck milk.

The pineapple was so called because it faintly resembles a cone, and the "apple" part of the name is used for many different fruits and other things, such as oak-apples, potato-apples (the poisonous fruit of the potato plant) and the French poemes de terre and the Dutch aardappelen, earth apples. Graysfruit is an absurd name for a fruit which already has a good name of its own - pomelo. The glow-worm and the wireworm are not worms, the glow-worm is a beetle. The silkworm is the caterpillar of a moth, and woodworms are the larvae of beetles, such as the death watch, which owes its sinister name to the fears of superstitious old women.

Popular books on trees still give "sycamore or false plane". The only false thing about the tree is the name. Sycamore, too, is really an Asiatic figtree; our tree ought to be called the great maple. The Robinia is called the false acacia. Again the only falsity is in the name. The rowan is called mountain ash although it has no particular liking for mountains and no connection with ash. Pencil cedar is a juniper and ground ivy has no affinity with ivy.

It was the herbalists of four or five hundred years ago who gave to our common plants the uncomely names that many of them still bear - such as rotgrass, sheepsbane and scrophularia and scabious, which continue to remind us of scrofula and scabs. They cared nothing for the beauty of a plant but only for its supposed virtues or possible uses and so we get fleabane and lousewort.

The Jerusalem artichoke is not an artichoke and has nothing whatever to do with Jerusalem. It is a sunflower and the Italian name was girasole (turning to the sun), yet it is used to make Palestine soup. Could absurdity further go?

London Pride is not named from the city of London. About 100 years ago there was a well-known firm of nurserymen who laid out and maintained the gardens of the nobility and gentry. The name of the firm was London & Wise. When they introduced this little saxifrage they called it, after one of the members of the firm, London's Pride. In the same way Messrs. Sutton & Sons might produce a flower and call it Sutton's Glory. In after years all the numerous towns and villages named Sutton might think it was their own particular glory.

I am reminded of another "London" story, with local connection. The Bishop of London received a parcel from the Duke of Wellington containing a pair of breeches with a note saying they were the actual pair he wore at Waterloo. He returned them with a very cool note which caused the Duke to look more closely at the original letter. He found it was signed J.C. LOUDON, who was a well-known writer on trees. His chief work, Arboretum et Fruticetum Britannicum (in 8 volumes), was published in 1838. The writer said he would be glad of permission to inspect His Grace's famous BEECHES. I have a profound disbelief in the authenticity of this story for several reasons. Over the years I have personally inspected many hundreds, if not thousands, of trees on the ducal estates (admittedly some eighty years after the date required by the story), but I cannot recollect seeing any beech. Neither of the Iron Duke's successors would be at all likely to fell trees that had become famous. I have talked with the estate foresters about their rare or remarkable trees and have been shown the trees. If there were any famous beeches I am sure I should have heard of them, but I never did. Finally the soil is unsuitable for growing beech. The story is evidently an ingenious and amusing fiction.

"Dog" and "horse" prefixed to names of plants are always depreciatory, as dog violet because it is scentless, dog's mercury because it is a poisonous and troublesome weed, horse chestnut because it is uneatable. I suppose many people know the derivation of the term "chestnut" for an oft-told tale. If so, the following is one! Early last century a play was running in New York in which one of the characters had just returned from Spain, accompanied by a Spaniard. He was fond of telling a story about a tree and he began - "It was a cork tree". "No, no", said the Spaniard, "I have heard you tell that tale twenty-seven times and it was always a CHESTNUT". The word evidently supplied a long-felt want.

The chief sufferers from ill names are men and women. There may have been a certain appropriateness in the bestowal of nicknames such as Fright, Wether-head or Sheepshanks on the first person to be called by these names, but it is very hard that all down the centuries their thousands of descendants, many of them ladies of perfect face and form should be saddled with such nicknames. There is the historic case of a gentleman named Bugg who naturally wished to change his name. This word has been applied to the insect only in quite modern times. In Shakespeare's day it meant spectre or apparition. It survives in bogey, bogle and bugbear. A dictionary of 1747 brackets bug and bugbear and says "An imaginary monster used to frighten children with". As changing ones name legally is an expensive affair, Mr. Bugg decided to have his money's worth and chose the aristocratic-sounding Norfolk Howard, with the result that the insects were called "Norfolk Howards" for some time.

The briar pipe is not made from briar. About a hundred years ago a French pipemaker went to Corsica for a holiday. He had the misfortune to break his only pipe, a meerschaum. This last word is another absurd designation. It is German for sea foam and is applied to a fine white clay which, when it was first discovered, was thought to be petrified sea foam. About seventy years ago there was a fashion for smoking meerschaum pipes until they acquired a rich brown colour that was highly prized. A friend of mine, a mate on one of the great liners to Australia, was walking down a street in Melbourne smoking a well-coloured pipe, when an Australian offered him a couple of pounds for it, but it was his favourite pipe so he declined the offer. A few days later he dropped it on the pavement and it broke into a thousand pieces. Well he said a thousand but I don't suppose he counted them. (That may have been only an estimate). The same thing happened to the Frenchman, so he sought out a wood-turner and asked him to turn a pipe from the hardest wood he could find. This was done and he was so pleased with the pipe that he enquired what wood it was and was told it was from the root of bruyère, a large heath. He secured a quantity of it and on returning home made it into pipes. These soon became popular, especially in England, where they became English Briars, being neither English nor briar. There is a village or small town in the south of France, whose name I have forgotten, where most of these pipes are made. During the war the Germans looted the whole stock of pipewood, which the owners had counted on to keep them supplied for two or three years. I understand that most of the workmen there are English.

Stilton Cheese has never been made at Stilton, which is a village on the Great North Road. In stage-coach days it was a busy place: horses were changed there and the coach passengers dined at the great inn. One of the landlords had a sister, a farmer's wife in Leicestershire, who made a good cheese and she sent some to her brother. The passengers liked it so much that he had to arrange for a continuous supply. As it could be got only at Stilton it was called the Stilton cheese. If there was any local sale round the farm where it was made, it would no doubt be called Mrs. Lester's cheese, or whatever the lady's name was.

Bath bricks are not made at Bath but at Bridgwater from the silt brought down by the River Parret. Bath being the nearest big town they would be sent thither and distributed from Bath. Bridgwater is a misnomer, too. The name has nothing to do with either bridge or water. It was the Burgh of Walter de Douay, who came over with the Conqueror.

These last examples are of course not Un-natural History, but simply, not natural history.

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Schools

Abbey School, Kendrick Road, Reading, Berks. (Miss S. M. Hardcastle, M.Sc.,
Headmistress)
Alfred Sutton Girls' School, Cumberland Road, Reading, Berks.
Bradfield College Natural History Society, House on the Hill, Bradfield College,
Berks. (H. Evans, Hon.Secretary)
E.P. Collier Central School, York Road, Reading, Berks.
Forest School, (The Biology Society), Robinhood Lane, Winnersh, Berks.
(Mr. M. C. Hayes Allen).
The Grove School, Surley Row, Emmer Green, Reading, Berks.
Henley Grammar School, Henley-on-Thames, Oxon. (The Principal).
Kendrick School, London Road, Reading, Berks.

Ranelagh School, Bracknell, Berks. (Mr. D.G.R. Martin).

Reading School, Erleigh Road, Reading, Berks. (The Bursar).

St. Joseph's Convent, Broad Oak, Reading, Berks.

St. Peter's Hill School, Caversham, Reading, Berks. (Mr. & Mrs. T. W. Ratliffe).

Southlands Girls' School, Basingstoke Road, Reading, Berks. (Miss W. Page,
Senior Science Mistress).

Whitley Park Junior School, Basingstoke Road, Reading, Berks. (Mr. D. W. Croker).



