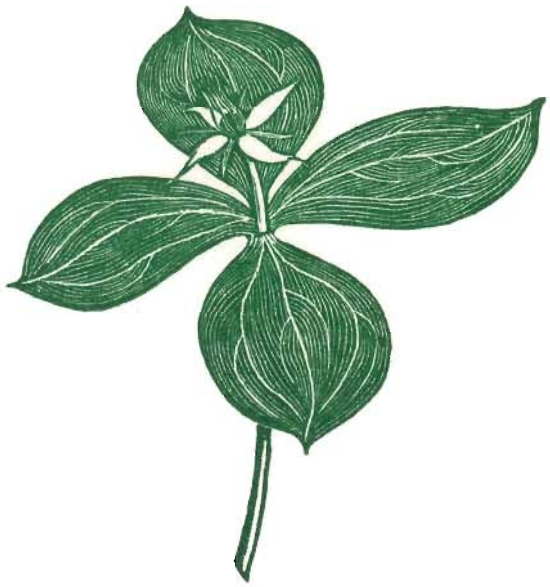
The Reading Naturalist

No. 31



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THE READING NATURALIST

No. 31 for the year 1977-78

The Journal of

The Reading and District Natural History Society

Contents

Meetings and Excursions 1977-78

After the Annual General Meeting on 13th October 1977 (attendance 57), Miss S. Y. Townend delivered her Presidential Address entitled 'You should be in a Museum'. Other lectures during the winter were 'Gulls', by Dr. Gillian Thompson (56); 'Invertebrate Life of Shore and Shallow Seas around Britain', by Dr. V. George (53); 'Small British Mammals', by Mr. T. Healing (59); 'Sent to Siberia' (search for the beginning of the Cambrian period), by Dr. A. W. Rushton (43); 'A Botanist in Scandinavia', by Dr. Francis Rose (47); 'Ecological Aspects of Countryside Management', by Miss Wendy Rees (33); 'Orthoptera of the Reading Area', by Mr. Nigel Phillips (35); and 'Plant Life of Tenerife', by Dr. E. V. Watson (40). Members' Evenings of Films, Talks and Exhibits, at which coffee and biscuits were served, were held on 8th December (62) and 16th March (45).

There were winter walks to College Wood, Goring Heath, for mosses on 12th November (16); around Reading, for trees, on 10th December; to the Pangbourne area, for general interest, on 7th January; and to Burghfield and Ufton Nervet, to study lichens, on 4th March (21). On 4th February, a wet and misty day, a party of eight went to Pagham Harbour to watch birds.

The summer field excursions were to the Checkendon area, for spring flowers, on 22nd April (27); Wellington Country Park, Stratfield Saye, for general interest, and Stratfield Saye Park and Stanford End, for bats, on the evening of 4th May (18); the Lambourn Valley, for fish and other river life, on 6th May (10); Kent's Hill, for birds, on the evening of 18th May (12); Woodwalton Fen, Huntingdon, by coach on 27th May (39); Aston Rowant National Nature Reserve on 3rd June (13); Bucklebury area for flora and a barbecue, on 17th June (31); Hartslock (BBONT Reserve) on the evening of 24th June (24); White Horse Hill (joint excursion with Abingdon N.H.S.) for downland flora, on 1st July (24); Hurley Chalk Pit, for orchids and other chalk flora, on 8th July (15); Well Barn Farm on the Berkshire Downs, for moths, on the evening of 14th July (25); Ashampstead area for flora and general interest, on 15th July (22); Warren Bank, Ipsden (BBONT Reserve) for grasshoppers, on the evening of 26th July (17); Padworth area, for general interest, on 29th July (23); the Basingstoke Canal in the Aldershot-Fleet area, on 12th August (6); Heath Pool, Finchampstead, for flora, on 19th August (16); and Swyncombe Downs for chalk flora and general interest, with Abingdon N.H.S., on 9th September (21); fungus forays were held in the Chinnor area on 26th August (13) and at the Warburg BBONT Reserve at Bix on 23rd September.

You should be in a Museum

Abstract of Presidential Address delivered
to the Reading & District Natural History Society
on 13th October 1977

by Shirley Y. Townend, B.Sc.,
School Liaison Officer, Reading Museum & Art Gallery

As the President did not feel that her address was suitable for reproduction in its entirety in the Society's journal, it is presented here in precis form.

Miss Townend first gave something of a personal history of her early life, training and work, making references to the very occasional contacts with museums and ending with the suggestion by a friend that she "ought to be in a museum".

It was important to give some explanation of the national picture in relation to museum education services before talking specifically about local aspects. She had read that "John Amos Comenius (1592-1670) produced the first educational visual aid. His Orbis Sensualium Pictus was the first educational text book to attempt teaching through illustration and it remained a standard teaching work throughout Europe for many, many years. An expatriate Czech, he influenced the formation of the Royal Society. He was a great teacher who always encouraged a broad general education and the teaching of experimental science".

The first museum loan service was established by Liverpool in 1884. Now many museums provide facilities for both visiting groups and for loans. A wide variety of intra-mural services and activities was provided, primarily of benefit to urban areas. Loan services might offer the only opportunity of contact with the museum to schools in rural areas. The material, largely, could be handled, an experience for which there was no substitute.

The Survey of Provincial Museums and Art Galleries, by the Standing Commission (The Rosse Report), 1963, stated: "It seems to us impossible to over-estimate the importance to future generations of teaching children the use and significance of museum objects, and we urge those local authorities which have not yet developed, or assisted museums in their areas to develop, a school service to do so without delay; and especially to provide a loan service to all rural areas."

Also, the Report of the Department of Education and Science, 1973, recommended that "Local education authorities and teachers should be more aware of the part museums can play in the educational process."

Written records of an organised loan service run by the Superintendent of Reading Museum dated from 1911. The foundations of the present service were laid down in 1930. The first Museum Loans Officer was appointed in 1946, and Miss Townend was appointed to this post in 1952.

Following a few comments on her early years, she endeavoured to build up a picture of what she had been doing for the last twenty-five years - supplying real objects supplemented by facsimiles, replicas, copies, models, illustrative material, maps and notes - to any educational establishment and any organisation or individual requiring educational resources in Berkshire - administering the Reading Audio-Visual Aids Library, including films - and a few other things. Her survey of procedure was necessarily superficial, and time allowed her to give only a few examples.

First it was necessary to find out what was required, i.e. to engage in market research, by making visits to schools, teachers' centres and other establishments, by talking with visiting teachers, by drawing on their own experiences and learning from other museum services. Priorities were difficult to sort out as possibilities were unlimited. An optimum of about 20,000 loans per year covering a wide range of subjects was aimed at. This proved to be a serious underestimate. Suitable material had to be acquired from the Museum, as gifts, or by purchase. Sources were widespread and numerous. Preparation, presentation and packaging of the very wide variety of subjects for transport followed.

A catalogue, produced in alternate years, and a termly newsletter were sent to all educational establishments from nursery to university. In administration of bookings, the key word was 'flexibility'. Collections were available for two-week periods, the Audio-visual Aid material for one week, and framed pictures for a term. Transport was part of the service, the county being covered by ten routes and the town by four.

Every single thing was checked on return and demanded cleaning and maintenance to different degrees. Miss Townend's own sphere was largely fur, feathers and fabrics. Up-dating and replacement of damaged, worn or missing items was a continuing process. Borrowers were given advice on handling and display but requested not to attempt repairs should accidents happen. Stock-taking was done at the end of each term. The eleven staff handled nearly 20,000 loans in 1976-77, which came near to a viable service for Berkshire.

Classes visiting the Museum and Art Gallery might receive short, introductory talks from the curatorial staff. School Service received groups of teachers, students in training, etc. and staff might participate in courses, conferences, talks and exhibitions. An annual Pottery Project results in an exhibition of selected items in the Art Gallery. Also,

the Laffan Prize for Natural History was administered by the School Service Section.

Contacts with other bodies were vital, especially with other museums. Miss Townend had been fortunate to attend twenty-one conferences of the Group for Educational Services in Museums and was privileged, with four education officers from other museums, to tour selected museums in Belgium as the guest of the Belgian Government.

Professional staff tried to keep abreast of current trends in museum education and, especially, educational practice, such as Environmental Studies. There was increased emphasis on the importance of using the primary resources offered by the Section. There had been no need to advertise the service as demand could never be met. In 1976-77 there were over 9,000 recorded refusals.

Mr. W. A. Smallcombe, the first Director under whom Miss Townend served, had introduced her to the verse:

"I have five senses you must reach
If I'm to learn, and you're to teach;
With taste, touch, smell and sight so clear,
Must I receive all sense by ear?"

There was no end to the possibilities for museum services to meet this plea by both their intra- and extra-mural programmes.

Miss Townend concluded by saying that her audience should now have some idea of why she was a 'museum piece'.

As an epilogue, she said that her talk was based on the situation pertaining prior to April, 1977. Drastic cuts in finance by the Berkshire Education Committee resulted in such staff reduction that the Museum and Art Gallery could, subsequently, offer only a minimal loan service and no transport.

The Fishlock Prize

At the Society's Annual General Meeting on 12th October 1978, the Fishlock Prize was presented to Nicholas Verge, aged twelve, for interest in geology.

A Biological Record Centre

by H. H. Carter

Change is the keynote of our times, no less conspicuous in our environment than in our society. On the geological time-scale, the Quaternary epoch in which we live is exceptional for its rapid climatic fluctuations from cold to hot and from wet to dry, changes so sudden that measurable differences can be detected within the span of a single human lifetime, bringing in their train many obvious shifts in distribution especially of migratory animal species. Superimposed on these are the changes brought about by human agencies at rates several orders of magnitude faster. Mechanised man can fell a wood in a week or plough out a pasture in a day, so far outpacing the speed of natural evolution that only the least specialised, most adaptable plant and animal species can survive.

Out of the need to monitor these changes and to identify the species and habitats which are at risk was born the National Biological Record Centre at Monkswood. This in turn proliferated a chain of regional centres, of which there is now one in practically every English county. Most of these are housed in county museums, which already held a mass of information in the form of collections, written records and published reports, and had professional naturalists on their staff who could handle and evaluate it.

In the interest of easy exchange of information, Monkswood encouraged the adoption of a standard system of recording. Each centre has a species index, a geographical index and a set of marked maps.

The species index contains a card or set of cards for every plant and animal species in the county on which information is available, naming every site from which the species has been recorded, usually with some indication of how up-to-date the record is, and stating whether the species is abundant or rare, of regular or casual occurrence.

The geographical index consists of a set of files covering the whole area of the county, usually on the basis of one file for each 10Km or 5Km square of the National Grid, containing information on the entire fauna and flora of each site within the square so far as it is known, together with general information as to habitat type and land use, ownership, importance for conservation and so on.

The maps simply serve to establish the location and extent of the sites named in the files; there is not room on a map to show more than a fraction of the available information. It may be possible to indicate the position of a few very rare or important species on a map, but these are just the sites whose existence may be widely known but whose exact

location may need to be kept confidential, so that a map is not the best way to record them.

Collectors are an intensely territorial species, returning annually to well-defined small areas as faithfully as migrant swallows to their nesting places, but few indeed are the collectors who record grid references for all their captures or observations. In the interests of brevity and often of security they give their favourite locality the name of a district or nearby village, often the nearest bus stop or car park or pub. It is then the business of the biological recorder to secure more precise information, ideally by accompanying his informant on a collecting trip. His bugbear is the collector who, well aware of the danger of over-collecting a rare or local species, cannot resist the temptation to obtain a long series for his own cabinet but then feels in duty bound to make amends by concealing the site from all other potential collectors.

This brings us on to sources of information. Faced with an area of several thousands of square kilometres, and armed with personal knowledge of only a few plant or animal groups, the biological recorder is heavily dependent on outside sources, of which local natural history societies are the most important. Collectively or as individuals, at first hand or through the medium of county recorders, they supply 90% of his raw materials. Let me emphasise at this point that although some records are more exciting and interesting than others this has no bearing on their importance. In fact the occurrence of a rare vagrant bird or casual alien plant is of less importance in building up a picture of the biological resources of a county than the knowledge that sparrows nest or daisies grow in village X. True, there are good records and bad ones, but badness consists in dubious identifications or vague localities, which present the conscientious recorder with his severest problems. All naturalists know the temptation, when in doubt, to "upgrade" their record by referring it to the rarer of two species, and the collection of a specimen to authenticate the identification is not always possible or desirable. Still more frustrating is the remark "Common everywhere" or "Widespread in the Reading area". All this really means is that the observer has seen the species at sites A, B, C and D but did not note down and cannot now remember the details, and feels sure that if somebody were to look for it at site E he would find it. The most a recorder can do with this is to make an equally vague entry on his species card and leave a blank on his geographical lists. Thus the observer has in fact contributed less information than if they had named one definite locality for the species.

Perhaps the ideal observer from the recorder's point of view is the one who finds a site that nobody else has looked at and visits it once a fortnight for three years, recording everything he can identify and submitting specimens of everything he cannot. The site need not be outstanding. A

stretch of overgrown hedge along the side of a field, offering shelter from cold winds and exposure to the sun, can produce an impressive list of invertebrates when worked by this method. But a much less intensive survey than this can be of value for identifying sites that deserve conservation, provided that detailed and specific information is forthcoming. It is easy to say "This is a nice piece of woodland and should not be destroyed", but a much better case can be made for its preservation if one can say instead "This wood contains one hundred and twenty species of flowering plants, twenty species of nesting birds and fifteen species of butterflies". Single observations also have their value, though of course it takes a lot of them to add up to a systematic survey.

In Berkshire there is no county museum, and the biological record centre has therefore been established at Reading. Records sent to the Society's recorders (other than the Recorder for Vertebrates!) will not necessarily reach the record centre unless they are selected for publication in the Reading Naturalist, but I will undertake to pass on to the appropriate Society or County Recorder any records sent to me from Berkshire or elsewhere.

ANNOUNCEMENT

'A List of the Diptera of the Reading Area' by H. H. Carter was published in 1978 as a supplement to the Reading Naturalist no. 30. It is obtainable, price £1.80, on application to the author at Reading Museum, Blagrave Street, Reading.

Common Bird Census

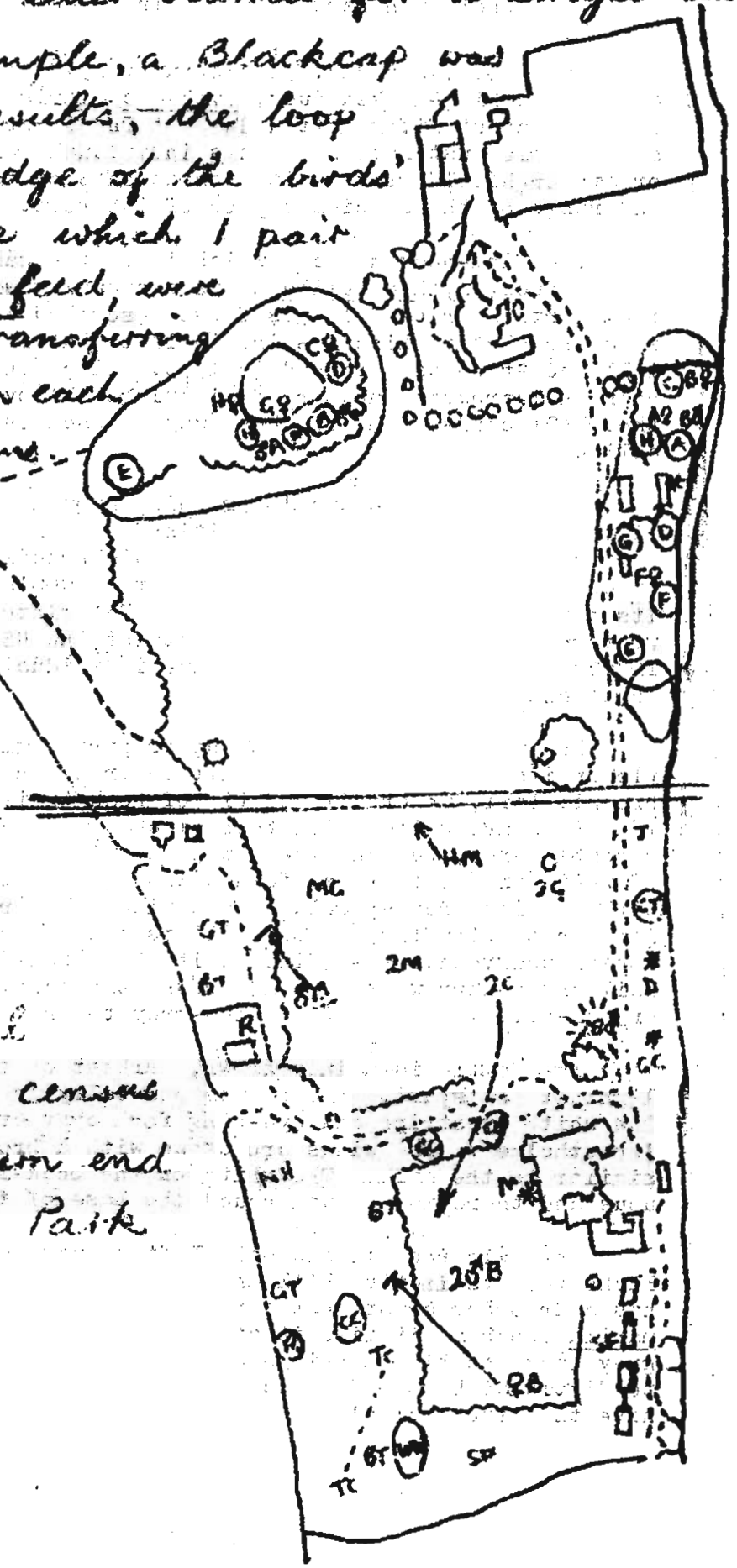
by David Jenkins
(Leighton Park School, Bird Group)

Making regular censuses is an easier way of finding how many birds are breeding in a certain area than locating their nests, which, apart from disturbing the nesting birds, may also lead Corvids to the nest which they will then plunder. A census is done by walking round an area and marking on a map all the birds heard singing or seen in that area. For this a wide knowledge of bird songs and calls is essential. After making regular censuses throughout the breeding season, you can superimpose all the records of a certain species either singing or seen in a small area, and then by drawing a line round them you find a bird's territory and you can be almost certain that that bird has a nest within that territory.

KEY TO MAP

HM	HOUSE MARTIN	NH	NUTHATCH	CC	CHIFFCHAFF
MG	MAGPIE	TC	TREE CREEPER	GC	GOLDCREST
J	JAY	M	MISTLE THRUSH	SF	SPOTTED FLYCATCHER
GT	GREAT TIT	B	BLACKBIRD	D	DUNNOCK
BT	BLUE TIT	R	ROBIN	GO	GOLDFINCH
CT	COAL TIT	WW	WILLOW WARBLER	CH	CHAFFINCH
				C	CROW
♂	MALE	B →	FLEW	B	ALARM CALL
♀	FEMALE	B →	FLEW AND PERCHED	(B)	SANG, FLEW, PERCHED AND SANG AGAIN
*	NEST				
BB	FIGHTING	(B)	2 DIFFERENT BIRDS SINGING		
(B)	SINGING	(B)			

A hypothetical result from 8 common bird censuses. Each letter stands for a single census when, for example, a Blackcap was seen. These results, the loop marking the edge of the birds' territory inside which 1 pair will nest and feed, were obtained by transferring the results from each individual census.



A hypothetical common bird census of the southern end of Leighton Park

A Ring-necked duck in Berkshire

by Richard Hewitt
(Leighton Park School, Bird Group)

On a cold, wet day, 5th February 1978, I watched an adult male Ring-necked duck, Aythya collaris, amongst a flock of about fifty Tufted duck at Theale gravel pit. As many people must have seen this individual, either at Theale or at Burghfield gravel pits, an account of the appearance and range of the species may be of interest.

The Ring-necked duck, which is of the same genus as the Tufted duck, Aythya fuligula, is a casual visitor to Europe from North America. It was first described in Europe from a specimen shot in Lincolnshire in 1801, but it was only officially accepted as a record in 1955. Since then there has been an increasing number of sightings all over Europe, though of course some of these may be escapes from private collections.

The Ring-necked duck's breeding ground is the interior of the west of America from British Columbia south to Washington and New York, with sporadic breeding further south in western and eastern USA. Since the 1940's it has extended its range east of the Great Lakes. The wintering areas are western, eastern and southern parts of the USA, the West Indies, Mexico and Guatemala, some individuals reaching Venezuela and Trinidad.

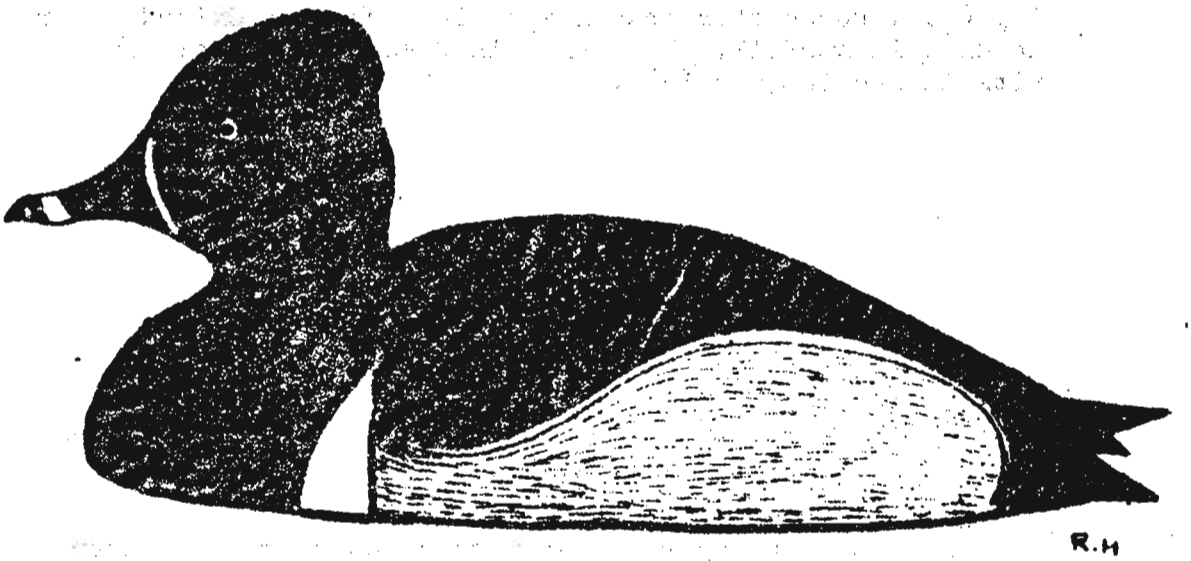
The male is black on its upper parts, glossed with purple on its peaked head and a little green on its back. The breast, tail, undertail and tip of beak (nail) are also black. The sides are white, with thin black lines making them resemble grey, but outlined in pure white with a broad 'spur' of white in front of the folded wing. The wing is black with a faint grey speculum and a wide pale grey stripe along its length, in flight. The bill is a dark grey-blue with a conspicuous, sharply-defined white band behind the black nail and a narrow white band around the base. The eyes are orange-yellow and the feet blue-grey to grey.

The female is mainly brown, darkest on the crown and lightest on 'spur'. The flanks and belly are a mottled brown. The white eyestripe and eye-ring form characteristic 'spectacles'. The wings are brown with a broad grey stripe similar to the male. The white on the beak is less conspicuous and there is no band round the base of the bill.

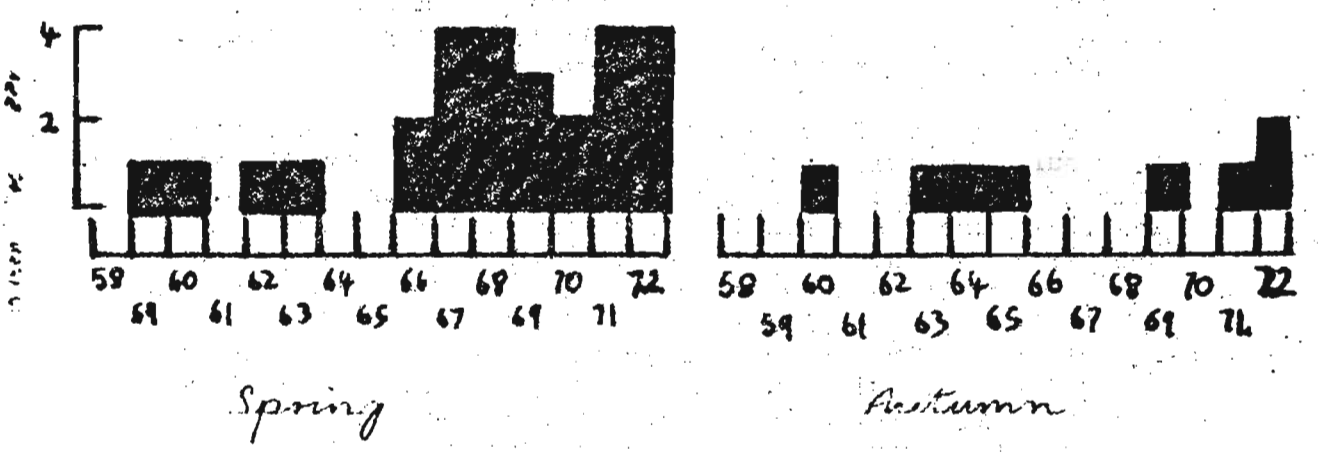
The male resembles a male Tufted duck but the Tufted lacks the distinctive bill and white 'spur'. The Tufted also has a drooping crest, not a peak. The male Scaup Aythya marila looks a bit like it at first glance, but has a pale grey back, no bill markings or 'spur'. The female is hard to distinguish at a distance from other females but does have the 'spectacles'.

Ring-necked Duck in Yorkshire

Richard Hewett.



Sightings of Ring-necked Duck



In the period 1958-1972, thirty-five Ring-necked ducks were recorded in Britain. There were probably at most thirteen individuals, however. Many have stayed for long periods, but it is noteworthy that over a quarter have appeared in January.

Apart from a series of records in Armagh, where one or two birds stayed for eight winters, most occurred on lakes and flooded gravel pits in southern England. Here also, individuals returned for successive years to the same locality (e.g. Dorchester gravel pits in Berkshire/Oxford, near Reedham in Norfolk, Slaptonley in Devon and Marlow gravel pits in Buckinghamshire).

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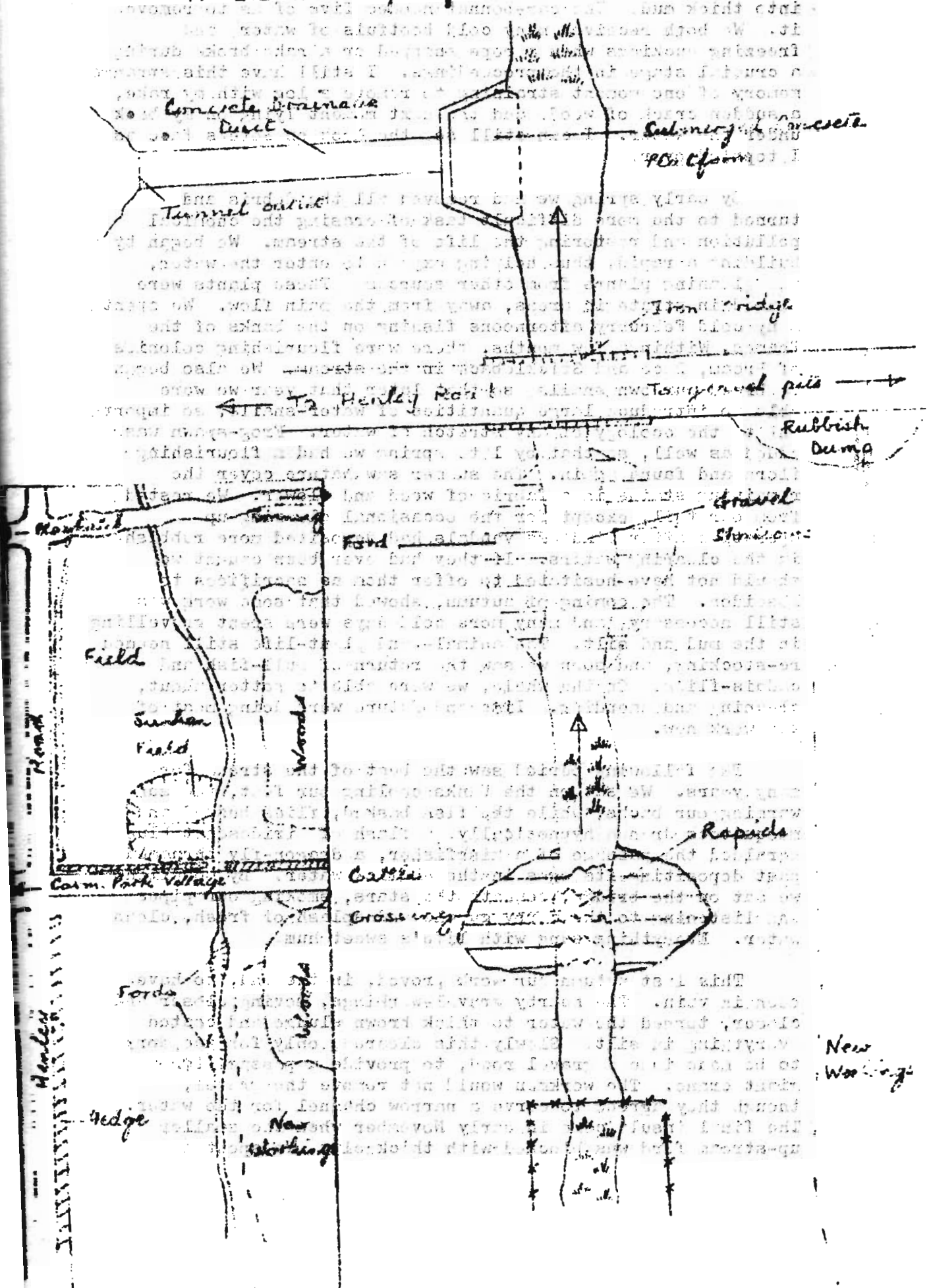
The Stream; An Epitaph

by P. A. Hooper

Many of you may remember that a few years ago Peter Cuss and myself gave a talk on the conservation work we had been doing on 'the stream'. Those familiar with the local topography will know it better as Berry Brook, a small brook flowing from Lower Caversham, along the Thames valley and parallel to the Henley Road, eventually joining the Thames at Shiplake. The area we worked on can be reached by walking a hundred yards along a small lane opposite the entrance to Caversham Park Village (see map). The talk we gave was a celebration of the stream's renaissance; this article is, I am sorry to say, an obituary. The encroaching gravel-workings have not only eaten tree and ryde, wood and field, but now the final insult, the stream has been blocked up so that the bed is dry and barren, a haven for rabbits and birds. The dying leaves rustle and whisper sadly amongst themsleves, lamenting lost life and growth.

One Sunday afternoon, some five years ago, Pete and I took our bi-weekly stroll down to the stream. For the first time we noticed that things were amiss with the stream. It was being used as a rubbish-dump and we decided upon the spot that something had to be done. The next weekend we set out, armed with spades and ropes, rakes and boots; our task was to keep us occupied for many years. The physical objects came first under our wrath; a car was towed out by the Council and with our bare hands we removed a washing-machine, tin bath, spin-dryer, pram, cash-register, car-bonnet, tyres and enough brick, concrete and wood to build a semi-detached house! Many of these had sunk deep

A Sketch-map of the Stream and Environs



into thick mud. The car-bonnet needed five of us to remove it. We both received many cold bootfuls of water, and freezing duckings when a rope snapped or a rake broke during a crucial stage in the proceedings. I still have this strange memory of one moment straining to remove a log with my rake, a sudden crack of wood, and the next moment lying on my back under the water. I can still see the look on Pete's face as I toppled over.

By early spring we had removed all the debris and turned to the more difficult task of erasing the chemical pollution and restoring the life of the stream. We began by building a rapid, thus helping oxygen to enter the water, and gleaning plants from other sources. These plants were placed in strategic areas, away from the main flow. We spent many cold February afternoons fishing on the banks of the Thames. Within a few months, there were flourishing colonies of Bream, Dace and Stickleback in the stream. We also began to breed our own snails, so that later that year we were able to introduce large quantities of water-snails, so important to the ecology of any stretch of water. Frog-spawn was added as well, so that by late spring we had a flourishing flora and fauna again. The summer saw Nature cover the remaining stains in a fabric of weed and flower. We rested from our toil, except for the occasional clearing-up operation after mindless vandals had deposited more rubbish in the clearing waters. If they had ever been caught we should not have hesitated to offer them as sacrifices to Poseidon. The coming of autumn, showed that some work was still necessary, and many more cold days were spent grovelling in the mud and silt. The animal- and plant-life still needed re-stocking, and soon we saw the return of Bull-fish and caddis-flies. On the whole, we were able to potter about, cleaning and amending. Time and Nature were doing most of the work now.

The following period saw the best of the stream for many years. We sat on the banks cooling our feet, the sun warming our backs, while the fish basked, flies buzzed and mosquitoes droned hypnotically, a flash of iridescent blue heralded the passage of a kingfisher, a dragon-fly thrummed past depositing its eggs in the shallow water. By moonlight we sat on the bridge, beneath the stars, smoking our pipes and listening to the merry gurgle and splash of fresh, clean water. Everything sang with life's sweet hum.

This last autumn our work proved, in the end, to have been in vain. The nearby gravel-workings, moving closer and closer, turned the water to thick brown sludge and coated everything in silt. Slowly this cleared, only for the ford to be made into a gravel road, to provide a passage for a giant crane. The workmen would not remove the gravel, though they agreed to carve a narrow channel for the water. The final insult came in early November when the smaller up-stream ford was blocked with thick clay. We spent a

Saturday morning attempting to carve a channel through this and succeeded in getting a small flow, but the clay has unfortunately become a thick sludge and we could remove only a small amount. Where once there was water and life, there are now only damp bed and dying plants.

How much more irrevocable damage will be done to our green and pleasant land, by what some call 'progress', before the powers-that-be realise there must be an end to this madness? Those who complain at the loss of pond, hedge and wood are branded as eccentric and crackpot. We should not only be striving to save areas of outstanding beauty from the avaricious, but also the more common and local countryside. How long before we wake up and find this typical countryside has become atypical? The gravel-workings are only a beginning. Soon will come factories and housing-estates where birds sang and rabbits played. I wish to remain close to nature, not estranged from it.

Electric Fishing

by H. H. Carter

In November 1978 I received word from Dr. Bernard Levy that the Thames Water Authority intended to fish electrically a 1Km. stretch of the River Pang between the BBONT reserve at Moor Copse and the Water Authority's own property in Pangbourne. As this was an ideal opportunity to study the fish fauna of the river adjacent to, though not actually in, a site which is the only BBONT reserve in the Trust's Mid-Berkshire region and a Site of Special Scientific Interest, I presented myself on 9th November at the place appointed, where I met BBONT's Conservation Officer, Michael Horwood, Mr. Tudor Davies and three other members of the syndicate who own the fishing rights and at whose request the operation was carried out, and a team of four from the Thames Water Authority to do the actual work. Dr. Levy joined us later.

The object was to remove all so-called "Coarse Fish", i.e. the summer-breeding species including all non-Salmonids and Grayling, which were to be transported to other waters, leaving the remaining Salmonids for the benefit of the anglers.

I was told that when the electric fishing programme was started two years ago, Grayling were found to be very numerous (a figure of 1500 was quoted but I treat all anglers' estimates with caution) and Dace were non-existent. At some

time Rainbow Trout and more recently Salmon parr had been introduced to supplement the existing native Brown Trout. No Salmon were seen on this occasion, but parr-sized fish would be unaffected by the fishing gear and are easily confused with young trout.

The equipment used was a fibreglass boat containing a portable petrol generator supplying current at 110 volts to a control unit which emitted it as a pulsed DC potential to two positive electrodes in the form of 200mm. square grids mounted on insulated poles. The negative electrode was a length of copper braid towed behind the boat. The pulse rate was adjusted by trial and error (depending on the conductivity of the water) so as to stun the more susceptible fish while causing only temporary disorientation to the less susceptible. Large fish and fish with a low metabolic rate are more susceptible. The winter-breeding Salmonids have a high metabolic rate, whence their habit of breeding in winter when the oxygen content of the water is high. Only the largest trout were at all seriously affected, whereas most of the Grayling and all the other coarse fish of 150mm. (6") and upwards were temporarily paralysed. The team of two electrode-wielders and two net-men donned chest-length waders and towed the boat upstream, catching the stunned fish and dumping them into a polytheme bathtub in the boat. At intervals the current was switched off while the bathtub was emptied into a land-borne trailer carrying three large storage tanks and a cylinder of oxygen which was bubbled through them. Here the fish rapidly revived.

By noting down all fish as they appeared, I obtained the following estimate of population. (Note that all small fish such as sticklebacks, bullheads and minnows, and the fry of larger species, remained uncaught.)

Brown Trout Salmo trutta L.	132	
Rainbow Trout Salmo irideus Gibb.	8	(Quite a few of these probably passed as Brown Trout poorly seen.)
Grayling Thymallus thymallus (L.)	96	
Dace Leuciscus leuciscus (L.)	283	
Chub L. cephalus (L.)	12	
Pike Esox lucius L.	1	of about 4Kg (8 lb.), thought to be a recent introduction.

The two most numerous species, Dace and Brown Trout, were noticeably concentrated in a few favoured spots, particularly the Dace which were in shoals of ten to thirty. It was evident that removal of large numbers of Grayling in previous years had led to recolonisation from Moor Copse upstream and immigration of Dace (probably from the Thames) from downstream, so that prior to this day's fishing a population gradient existed along this stretch of river, with Grayling dominant at the south (Moor Copse) end and Dace dominant throughout the northern (Pangbourne) half. No doubt this gradient will soon re-establish itself.

One Crayfish was also seen, and this animal (which does not respond to electric fishing) is known to be abundant in the lower Pang.

National Grid References of the two ends of the stretch fished are: SU 6369 7580 and SU 6368 7507.

The Grayling were removed to a gravel pit near Fairford (except for three small examples taken for Reading Museum), the Pike was killed and the remaining coarse fish were removed to the River Cole in west Berkshire.

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Coppicing for Conservation Management

by N. J. Phillips

Coppicing was once widely used as a method of providing a ready supply of small timber. If, for example, hazel was the tree to be coppiced, the end products could have been bean-poles, hurdles for use round the farm, stakes or, if it was crooked, fire-wood. In the Chilterns, beech was often coppiced to provide the furniture trade at High Wycombe with arms and legs for chairs. Beech coppice was also used to fuel brick kilns, such as the one on Nettlebed Green. Oak has also been coppiced, to provide very tough farm stakes for fencing and, like the beech, for furniture.

Coppicing is the action of cutting off the re-growth from the stool or stump of a tree on a regular basis at intervals of seven to twenty years depending on the species involved. If the coppice is well managed and the stools do not crowd each other, the shoots coming from the recently cut stump will grow straight and tall. The cutting takes place when the required diameter has been reached. This of course depends on the use the wood will be put to. Hazel

coppice for hurdles may be cut at seven years and oak for stakes at twenty.

Coppicing as a form of forest management, probably dates back to Neolithic times, although it was then undoubtedly done accidentally and haphazardly. In 1483 A.D. in the reign of Edward IV, a statute came into force authorising the enclosure of recently cleared woodlands for seven years, to exclude pigs, goats, sheep and cattle. This was to allow the coppice time to develop without browsing by animals. From this date until quite recently, coppiced woods played an ever increasing part in the economy of the countryside. However, at the present date of 1978, coppicing has virtually ceased because of the existence of mechanical saws which can cut timber to any size required, making it unnecessary to select carefully the right sized piece of timber for a particular job.

This brings us to the point of this paper. Why should we be concerned about re-establishing a type of woodland management now redundant? Whichever type of tree is coppiced, the effect is much the same. The crown of the tree is virtually growing straight from the ground without a trunk. Thus, there is a dense leafy cover providing food and shelter for many animals. Insects, birds and mammals have all come to utilise this habitat during the several thousand years it has been available, and since the decline of coppice woods in the last fifty years several animal species have also declined, including the nightingale, whitethroat, grasshopper-warbler and dormouse. Many other commoner species will use coppiced areas to nest and feed, and although they are not confined to coppice, it may be a preferred habitat if available.

Among coppiced areas that have been revived in recent years by Conservation bodies are Waterperry Woods near Oxford, managed by the Nature Conservancy, and the Warburg Reserve at Bix Bottom owned by BBONT. In both cases, the coppice cycle has been established to encourage local wildlife populations and the forest produce is of secondary importance. At the Warburg Reserve, an eleven-acre plot of hazel, ash and hawthorn is being coppiced on an eight-year cycle with the whole plot divided into eight sub-plots, one of which is cut each year. Any useful timber that comes from the coppice is trimmed and stacked for sale to the public. Bean-poles and ash stakes are the main products.

The actual cutting of the stools can be carried out in several different ways. At the Warburg Reserve, Yorkshire billhooks and small bow saws are used. Other methods include using 2½ lb Canadian axes and petrol-driven saws. Whichever method is chosen, it is important that the cut stump should end up with a clean top. If it is left with a ragged top, water and a variety of fungus spores will have easy access into the stump and it will rot very quickly.

Obviously, coppicing, if done correctly, is time consuming and when voluntary labour is used, as is often the case, need for instruction in the correct use of tools may double the time that has to be spent. However, a correctly carried-out coppice programme can produce a very rich habitat.

Mining for Chalk

by H. H. Carter

The accidental discovery in 1977 of an extensive series of chambers and galleries under ground at Emmer Green, in addition to those already long known to exist there, was featured in the local papers and attracted much attention. They are by no means unique, however, and similar excavations are known at Yattendon, at Holme Park near Sonning, and at Warren Row, between Henley and Bowsey Hill. Chalk was also dug from beneath the brick pits at Katesgrove in Reading, where Elgar Road now runs, though there is no record here of extensive lateral galleries.

In view of the numerous surface chalkpits in our area, it may seem strange that the trouble and expense of underground workings was thought worth while to extract so common a mineral. The explanation is to be found in the rapid advances in agricultural practice during the early eighteenth century when most of these excavations were started. Large landowners discovered that, by suitable treatment, hitherto unproductive soils could be made to yield a profit. Chemical fertilisers as used today were unknown, but it was obvious that some soils were too light and thin to produce good crops, particularly on chalk and gravel subsoils, while others, on clay, were unduly heavy, and although fertile, were difficult to plough without mechanical aid, sticky, cold and slow to dry out in winter, and apt to break up into brick-hard slabs in summer. In both states they were most discouraging to root growth. The ideal soils were those which were intermediate in character. The obvious solution was to add clay to the chalky and gravelly soils, and chalk to the gravel and clay soils. Farmers were convinced that weathered chalk from surface pits was inferior to fresh chalk from underground, especially when this had been protected from the elements by a blanket of impervious clay, and were willing to pay extra to get the best. Chalk was also burnt for lime, used to make mortar to bind the millions of bricks which went into the building of the fast

growing towns, and was the main ingredient of whiting, which had many industrial uses. Lime-burners, too, maintained that underground chalk produced a "fatter", stronger lime, and whiting-makers found it whiter and purer than surface chalk. The mines also yielded fresh unweathered flint, inferior for road-making but especially attractive to manufacturers of porcelain. It is after all not so surprising that several deep mines for chalk were sunk in the Reading area, all without exception located in places where the outcrop of the chalk disappears under the protective clay cover of the Reading Beds.

For small farmers who could not afford to lay out thirty or thirty-five shillings an acre for mining and carting chalk, there was an alternative, do-it-yourself method. If there was no convenient surface outcrop of chalk on their land, the local well-digger would no doubt be able to tell them where chalk might be expected at a reasonable depth (anything under thirty feet) and would be prepared to sink a chalk-well, as it was called. The rest of the operation could then be carried out using the ordinary farm labour and equipment. From the base of the well galleries known as angles were driven outwards and upwards until they reached the buried upper surface of the chalk and ran into clay or gravel. As the work proceeded, the loose chalk rolled away down the sloping floor of the angle to the bottom of the well-shaft, where it could be hauled out by means of a rope with a bucket on one end and a horse on the other. Whenever an angle ran out of chalk, another would be started, and finally, if necessary, the chalk between the angles could be removed until the roof showed signs of caving in. The well would then be abandoned and the roof would ultimately collapse, leaving a shallow bowl-shaped depression. Not far from the Yattendon chalk mines there is a small wood called Chalkangles which must mark the site of a chalk-well, inspired perhaps by the large-scale mining nearby, and some of the other Angle-, Angel- and Engle-place-names of our area may have a similar origin.

In the large mines the roof was left supported by pillars of chalk, but the entrance might become blocked and the site forgotten until rediscovered by chance, as happened at Yattendon and Emmer Green, so there are probably still a few more such mines awaiting a finder.

The possibility of reclaiming poor land by the methods here described led, in the later eighteenth and early nineteenth century, to the wave of enclosures of hitherto uncultivated common land by acts of parliament which transferred it into private ownership, to be parcelled out into the pattern of hedged fields now thought of as traditional and changing once more under the impact of further advances in agricultural method.

Fungi found in Reading area, 1978

by A. Brickstock

A poor season, owing to the unusual dryness, terminated by the heavy frosts during the week November 19th-26th. The nomenclature is that of the Biological Records Centre.

I AGARICALES

Agaricus campestris

Agrocybe cylindracea
praecox

Amanita citrina
citrina var alba
fulva
muscaria
pantherina
rubescens

Armillaria mellea

Bolbitius vitellinus

Boletus badius
chrysenteron
edulis
piperatus
subtomentosus
tridentinus

Cantharellula cyathiformis

Cantharellus cibarius

Clitocybe cerussata
clavipes
dicolor
nebularis
suaveolens

Collybia butyracea
confluens
fusipes
maculata

Conocybe tenera

Coprinus atramentarius
bisporus
comatus
disseminatus
micaceus
plicatilis

Cortinarius cinnamomeus
decipiens
elatior
saturninus

Drosella fracida

Flammulina velutipess

Galerina hypnorum
mycenopsis

Gomphidius viscidus

Gymnopilus penetrans

Hebeloma crustuliniforme
fastibile

Hygrophoropsis aurantiaca

Hygrophorus conicus
eburneus
psittacinus

Hypholoma fasciculare
sublateritium

Laccaria amethystea
laccata

Lacrymaria velutina

Lactarius blennius
chrysorrheus
glyciosmus
helvus
pyrogalus
quietus
rufus
subdulcis

Lactarius tabidus
terminosus

Leccinum scaber

Lepiota cristata
procera
sistrata

Lepista saeva

Lyophyllum decastes

Marasmius androsaceus
oreades

Melanoleuca melaleuca

Mycena fibula
galericulata
galopus
polygramma
pura
swartzii
vitilis

Nolanea sericea

Oudemansiella radicata

Panaeolus foenisecii

Paxillus involutus

Pholiota squarrosa

Pleurotus dryinus

Pluteus cervinus

Psathyrella conopilea
gracilis
hydrophila

Russula aeruginea
atropurpurea
densifolia
emetica
fragilis
integra
mairei
ochroleuca
pulchella

Stropharia aeruginosa

Suillus aeruginascens
bovinus
luteus
variegatus

Tricholomopsis platyphylla
rutilans

Tubaria furfuracea

II APHYLLOPHORALES

Clavaria helvola

Coriolus hirsuta
versicolor

Daedalea quercina

Fomes annosus

Grifola gigantea
sulphurea

Piptoporus betulinus

Polyporus brumalis
squamosus
varius

Stereum rugosum

III GASTEROMYCETALES

Lycoperdon caelatum
depressum
excipuliforme
perlatum
pyriforme

Mutinus caninus

Phallus impudicus

Scleroderma aurantium

IV HETEROBASIDIOMYCETES

Dacrymyces deliquescens

V ASCOMYCETES

Chlorosplenium aeruginascens Mitrula paludosa

Daldinia concentrica Xylaria hypoxylon

The Futupe of Aston Upthorpe

Most members will know about the small area of chalk grassland at Aston Upthorpe, sometimes called Juniper Valley, and many will have visited it in April, when the Pasqueflower Anemone pulsatilla, is in bloom. There are many other typical chalk grassland flowers in the valley, which is scheduled as a Grade 1 Site of Special Scientific Interest, mainly on account of the Juniper growing there. This shrub is now comparatively scarce and its habitat is also diminishing.

The Berkshire, Buckinghamshire and Oxfordshire Naturalists' Trust (BBONT) has managed a small area of the valley (about 1.1 acres) since 1964, on the basis of a 'gentleman's agreement' for fifteen years, expiring in April this year. The land has changed hands twice since then, and it is now very gratifying to report that on 15th January, a further Agreement was signed by the present owner for a five-year term of management by BBONT, not only for the present small enclosed area, but for the entire valley, consisting as it does of thirty-nine acres. After five years from January, the Agreement would be renewable annually. Certain conditions are attached to the Agreement, for example that the fencing erected by the Trust around the original area shall be removed, and no BBONT signs will be displayed, but unrestricted access to the valley will be available to BBONT members, who should carry their membership cards. Grazing with cattle or sheep will continue, but the Trust will be responsible for the major management tasks, such as ragwort pulling and rabbit control, also the clearance of scrub other than Juniper. An account of the area hitherto managed by the Trust appears in the Reading Naturalist no. 27 p. 26.

M. R. W. Sell

The Recorder's Report for Botany

1977-78

by B. M. Newman

Fewer records were received this year than last but they covered a wide range of families and habitats. Records were sent by the following members and are gratefully acknowledged:- Dr. J. Andrews (JA); Dr. H. J. M. Bowen (HJMB); Mr. H. Carter (HC); Miss L. E. Cobb (LEC); Mr. M. Dumbleton (MD); Mrs. B. Kay (B K); Mrs. A. M. Sandels (AMS) and Mrs. E. M. Trembath (EMT).

The nomenclature and order are according to the "Flora of the British Isles" by Clapham, Tutin and Warburg. An alien taxon is indicated by an asterisk (*). Most of the English Names are from "English Names of Wild Flowers", the recommended list of the Botanical Society of the British Isles, but if a different name is commonly used locally it is put in immediately after the scientific name in addition to the recommended one.

List of Members' Records

Dryopteris borreri Newm. Scaly Male-fern
Scarce, in woodland, Moor Copse. HJMB

Myosurus minimus L. Mousetail
Among shrubs in Whiteknights Park. HJMB

Papaver dubium L. Long-headed Poppy
Abbey Rugby Football Ground at Chalkhouse Green, north of Reading; seen throughout the flowering season. HC

Papaver argemone L. Prickly Poppy
Cornfields on top of Sulham Hill. HJMB

Papaver somniferum L. Opium Poppy
Well Barn Farm, Moulsford Downs, 14.7.78; Drayton St. Leonard, Oxon., 17.7.78. LEC

Corydalis claviculata (L.) DC Climbing Corydalis
Seen on N.H.S. excursion near Stanford Dingley; Hocketts Wood; Bucklebury fish ponds. HJMB

Diplotaxis tenuifolia (L.) DC Perennial Wall-rocket
One large plant, Amersham Road, Caversham. HJMB

Iberis amara L. Wild Candytuft
Well Barn Farm, 14.7.78. LEC

*Thlaspi alliaceum L. Garlic Penny-cress
Arable field south of Ludgrove School, Wokingham. MD

Teesdalia nudicaulis (L.) R.Br. Shepherd's Cress
Frilford Golf Course; first record for many years. Found by J. Milton. HJMB

*Sisymbrium austriacum Jacq.
Near Tate and Lyle building, Whiteknights Park. Casual. HJMB

Reseda luteola L. Weld
Hurley. 19.6.78. LEC

Hypericum androsaemum L. Tutsan
Seen on N.H.S. excursion, by path, Hocketts Wood. HJMB

Hypericum x desetangsii Lamotte
Lower part of Padworth Gully; N.H.S. excursion. HJMB

Hypericum humifusum L. Trailing St. John's Wort
Ashampstead, 15.7.78; Crowell Hill Farm, 26.8.78. LEC

Lychnis coronaria (L.) Desv.
Two or three healthy clumps in plantation near Hook End. BK

Spergularia rubra (L.) J. & C. Presl Sand-spurrey
Sutton's old trial grounds. HJMB

Malva neglecta Wallr. Dwarf Mallow
Drayton St. Leonard, 17.7.78. LEC

Geranium pyrenaicum Burm.f. Hedgerow Crane's-bill
Hurley, 19.6.78. LEC

Geranium rotundifolium L. Round-leaved Crane's-bill
Drayton St. Leonard, 17.7.78. LEC

Geranium pusillum L. Small-flowered Crane's-bill
Drayton St. Leonard, 17.7.78. LEC

Geranium robertianum L. Herb-Robert
White form, Ashampstead, 15.7.78. LEC

*Ononis natrix L.
On Membury airfield, S.W. Berks. Found by Mrs. Frankum and J. Gilbey. Possibly a survival from World War II. HJMB

Medicago arabica (L.) Huds. Spotted Medick
Grass verge, Wychwood Close, Earley. JA

*Coronilla varia L. Crown Vetch
Membury airfield. HJMB

Lathyrus nissolia L. Grass Vetchling
One plant, Hurley, 19.6.78. LEC

Sorbus torminalis (L.) Crantz. Wild Service-tree
Near Wyfold entrance to New Copse, identified by fallen leaves. HC
Young trees, possibly bird sown, near Bradfield. EMT

Chrysosplenium oppositifolium L. Opposite-leaved Golden-saxifrage
Seen on N.H.S. excursion in alder gully, Hocketts Wood. HJMB

Hippuris vulgaris L. Mare's-tail
Frequent in Blue Pool, Stanford Dingley. Seen on N. H. S. excursion. HJMB

Callitriche obtusangula Le Gall Blunt-fruited Water-starwort
In River Pang, Moor Copse. HJMB

Viscum album L. Mistletoe
On Tilia at the County Agricultural College, Burchett's Green; Midgham Park, 8.1.78. JA

Bupleurum sp. (presumably rotundifolium L.) Thorow-wax
Mrs. A. Wynne of 31, Reading Road, Cholsey, says "I reported a Thorow-wax in my garden a few years ago. It seeded, but there have been no further plants until this year when one appeared. Presumably the seeds have been dormant, as there are no other plants around, and it is within a few inches of the first". HC

Sison amomum L. Stone Parsley
On waste ground in central Reading. HJMB

Berula erecta (Huds.) Coville Lesser Water-parsnip
In river Pang, Moor Copse. HJMB

Oenanthe fluviatilis (Harb.) Coleman River Water-dropwort
In river Pang, Moor Copse. HJMB

Merculiaris annua L. Annual Mercury
Well Barn Farm. LEC

Quercus petraea (Mattuschka) Liebl. Sessile Oak
Near, but not in a row of planted Q. robur along the S.W. side of New Copse. Identified from fallen twigs as the trunk is clean and the crown high up in the canopy; leaves characteristic, with long petioles, no auricles and stellate pubescence beneath, but the tree apparently did not fruit this year. HC

Lysimachia nemorum L. Yellow Pimpernel
Footpath near Wyfold entrance to New Copse. HC

Lysimachia nummularia L. Creeping Jenny
Crowsley, 21.7.78. HC

Lysimachia vulgaris L. Yellow Loosestrife
Boggy pond at Kate's Castle entrance to New Copse, throughout the flowering season. HC

*Lysimachia punctata L.
A clump in scrub near Stanford Dingley. HJMB

Gentiana pneumonanthe L. Marsh Gentian
Still abundant on Hook Common, more than one hundred seen, 11.9.78. LEC

Symphytum officinale L. Comfrey
Some four or five plants on newly made gravel bank in Nipper's Grove, Hook End, and in wood about ten feet away. BK

Pentaglottis sempervirens (L.) Tausch Green Alkanet
Ashampstead, 15.7.78. LEC

Anchusa arvensis (L.) Bieb. Bugloss
On disturbed ground at junction of new peripheral road and Shinfield Road, 26.7.78. JA

Echium vulgare L. Viper's-bugloss
Well Barn Farm, 14.7.78. LEC